

OUR ECONOMY
North Country Regional Sustainability Plan

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A Consortium and Working Group Member List

North Country Cleaner Greener Sustainability Plan		
Consortium Member List		
County	Primary Contact	Secondary Contact
Essex County	Garrett Dague Associate Planner	Sue Montgomery Corey Board of Supervisors
Franklin County	Tom Leitz County Supervisor	Chastity C. Miller District Manager Franklin County Soil and Water Conservation District
Lewis County	Eric Virkler Economic Development and Planning Planner	Renee Beyer Senior Planner
Hamilton County	Ann Melious Economic Development and Tourism Director	Bill Farber
Clinton County	Rodney Brown Deputy County Administrator, Deputy Clerk of the Legislature	
Jefferson County	Don Canfield Director of Planning	Bob Hagemann County Administrator
St. Lawrence	Keith Zimmerman Director Planning Office	Jon Montan Retired Planner

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Energy	Clinton	Curt Gervich	SUNY Plattsburgh
Energy	Clinton	Curt Snyder	Crest Solar
Energy	Clinton	Jim Murray	Greenway Energy Solutions, Inc
Energy	Essex	Dan Mason	North Country Clean Energy Conference
Energy	Essex	Jeff Woods	North Country School
Energy	Essex	Jennifer Monroe	Community Power Network of NYS
Energy	Essex	John Culpepper	North Country Camp Treetops
Energy	Essex	Larry Masters	Biologist
Energy	Essex	Matt Foley	Riverrat Glass and Electric/Azure Mountain Power
Energy	Franklin	David Trudeau	Honeywell
Energy	Franklin	Greg Hart	Workforce Development Institute
Energy	Franklin	Jamie Rogers	ANCA
Energy	Franklin	Stephanie Ratcliffe	The Wild Center
Energy	Hamilton	Jack Valentine	Town of Indian Lake
Energy	Hamilton	Jon Voorheers	Indian Lake Hydro
Energy	Jefferson	Augustus Withington	Fourth Coast
Energy	Jefferson	Judy Drabicki	NYS DEC
Energy	Jefferson	Vanessa Lynn McKinney	Cornell Cooperative Extension
Energy	Jefferson/ Lewis	Kate Malinowski	NYS Tug Hill Commission
Energy	Lewis	Glen Gagnier	Lewis Co Development Corporation
Energy	Lewis	Joseph Lawrence	Cornell Cooperative Extension
Energy	Lewis	Katie Liendecker	Village of Lyons Falls
Energy	Regional	Jeff Forward	Yellow Wood
Energy	St. Lawrence	Art Garno	SUNY Canton
Energy	St. Lawrence	Dan Parker	Kruger Energy Inc.
Energy	St. Lawrence	Jason Clark	Business Development Corporation Greater Massena

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Energy	St. Lawrence	Amanda Lavigne	St. Lawrence University
Energy	St. Lawrence	Ben Dixon	St. Lawrence University
Energy	St. Lawrence	Doug Welch	SLS Energy Task Force
Energy	St. Lawrence	Jill Chamberlain Winters	NY Power Authority
Energy	St. Lawrence	Jon Montan	St. Lawrence County
Energy	St. Lawrence	Klaus Proemm	NYS Office of Temporary & Disability Assistance
Energy	St. Lawrence	Leigh Rodriguez	St Law Co Industrial Development Agency
Energy	St. Lawrence	Patrick Kelly	St Law Co Industrial Development Agency
Energy	St. Lawrence	Relani Prudhomme	The Occupational Health Clinical Center of the North Country
Energy	St. Lawrence	Richard Burns	National Grid
Energy	St. Lawrence	Robin McClellan	SUNY Canton
Energy	St. Lawrence	Stephen Bird	Clarkson University
Energy	St. Lawrence	Susan Powers	Clarkson University
Energy	St. Lawrence	Ann Heidenreich	SLC No Country Symposium/Energy Task Force
Energy	Regional	Carol Murphy	Alliance for Clean Energy New York
Energy	St. Lawrence	Fred Hanss	Potsdam Office of Planning and Economic Development
Energy	Regional	Maria Leonardi	Northern Forest Center
Energy	Jefferson	Rob Company	Fourth Coast
Energy	Regional	Sean Ross	Lyme Timber
Energy	Regional	Tom Beck	ReEnergy Holdings
Energy	Regional	Joe Short	Northern Forest Center
Economic Development	Clinton	Erin Hynes	The Development Corporation
Economic Development	Essex	Dave Mason	Keene Broadband Project
Economic Development	Essex	Jenn Holdereid	The Golden Arrow

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Economic Development	Franklin	Zoe Smith	Wildlife Conservation Society
Economic Development	Hamilton	J. Justin Woods	Ticonderoga Revitalization Alliance
Economic Development	Jefferson	Carl McLaughlin	Fort Drum Regional Liaison Organization
Economic Development	Jefferson	Dave Zembiec	JCIDA
Economic Development	Jefferson	Eric Constance	Small Business Development
Economic Development	Jefferson	John Bartow	Tug Hill Commission
Economic Development	Jefferson	Tom Sauter	DANC
Economic Development	Lewis	Rick Porter	Lewis Co. IDA
Economic Development	Regional	Dan Kelleher	The Adirondack Park Agency
Economic Development	Regional	Steve Erman	ANCA
Economic Development	Hamilton	Brian Wells	Town of Indian Lake
Economic Development	Essex	Craig Brashaer	Tahawus Lodge Center
Economic Development	Regional	David Dungate	ACT Bioenergy LLC
Economic Development	Franklin	Ernest Hohmeyer	Hohmeyer Lodge Lake Clear
Economic Development	Regional	Jim Murphy	Adirondack Economic Development Corporation
Economic Development	St. Lawrence	Pat Curran	Curran Renewable
Economic Development	Regional	Paul Shatsoff	Workforce Dev. Inst.
Economic Development	Essex	Rebecca Kelly	Tahawus Lodge Center
Economic Development	Regional	Scott Travers	Minas Basin Pulp & Power Co. Ltd.

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Livable Communities & Land Use	Clinton	Glen Cutter	Clinton County Planning Department
Livable Communities & Land Use	Essex	Alan Hipps	Housing Assistance Program of Essex Co
Livable Communities & Land Use	Essex	Emily Kilburn	Adk Community Housing Trust
Livable Communities & Land Use	Essex	Hilary Smith	The Nature Conservancy
Livable Communities & Land Use	Essex	Jim Herman	Adk Futures
Livable Communities & Land Use	Essex	Leslie Karasin	Wildlife Conservation Society
Livable Communities & Land Use	Essex	Ray Curran	Adirondack Sustainable Communities
Livable Communities & Land Use	Essex	Stu Baker	Ticonderoga Planning Board
Livable Communities & Land Use	Franklin	Boyce Sherwin	Regional Solutions
Livable Communities & Land Use	Franklin	Brett McLeod	Paul Smiths College
Livable Communities & Land Use	Franklin	Dan Spada	APA
Livable Communities & Land Use	Franklin	Ellen Beberman	Common Ground Garden/AFMC
Livable Communities & Land Use	Franklin	Mary Scharf	Town of Malone
Livable Communities & Land Use	Franklin	Todd Smith	Adirondack Sustainable Communities
Livable Communities & Land Use	Franklin/ Essex	Jesse Schwartzberg	Black Mountain Design Build LLC
Livable Communities & Land Use	Hamilton	Brenda Valentine	Indian Lake Main Street Revitalization Committee
Livable Communities & Land Use	Jefferson	Andrew Nevin	Jefferson County Planning Department
Livable Communities & Land Use	Jefferson	David Crandall	Environmental Design and Research
Livable Communities & Land Use	Jefferson	Denise Young	Fort Drum Regional Health Planning Organ.

North Country Cleaner Greener Sustainability Plan			
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Livable Communities & Land Use	Jefferson	Faith Lustik	Jefferson County Public Health
Livable Communities & Land Use	Jefferson	Jennifer Voss	Jefferson County Planning Department
Livable Communities & Land Use	Jefferson	Kristi Dippel	Clayton Local Development Corp
Livable Communities & Land Use	Jefferson	Phil Street	Tug Hill Commission
Livable Communities & Land Use	Jefferson	Vanessa Lynn McKinney	Cornell Cooperative Extension
Livable Communities & Land Use	Lewis	Renee Beyer	Lewis Co Planning Department
Livable Communities & Land Use	St Lawrence	Richard Grover	Earthworks
Livable Communities & Land Use	St Lawrence	Doug Welch	St Lawrence Co Planning Board/North Country Symposium
Livable Communities & Land Use	St Lawrence	Mark Dzwonczyk	Nicholville Telephone Co
Livable Communities & Land Use	St. Lawrence	Chelle Lindahl	Adk Sustainable Living Project
Livable Communities & Land Use	St. Lawrence	Kristen vanHodzeweche	SUNY Potsdam
Livable Communities & Land Use	St. Lawrence	Relani Prudhomme	The Occupational Health Clinical Center of the North Country
Livable Communities & Land Use	Clinton	David Wurzburg	United Helpers
Livable Communities & Land Use	Franklin	Greg Hill	Retired
Livable Communities & Land Use	Regional	James Martin	The LA group
Livable Communities & Land Use	Franklin	Jamie Konkoski	Public Health
Livable Communities & Land Use	Regional	Ron Testa	RJ Testa and Associates Architects
Transportation	Clinton	James Bosley	Clinton Co Public Transportation
Transportation	Essex	Nancy Dougal	Essex County

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Transportation	Essex Co	Randy Douglas	Town of Jay
Transportation	Franklin	Jim Ellis	Adirondack Scenic Railroad
Transportation	Franklin	Stephen DeHond	Green Circle
Transportation	Hamilton Co	Tracy Eldridge	Hamilton Co
Transportation	Jefferson	David Bradford	SUNY Canton
Transportation	Jefferson	Hartley Bonisteel	Jefferson County Planning Dept.
Transportation	Jefferson	Howard Ganter	Jefferson Rehabilitation Center
Transportation	Jefferson	Robert Freeman	Freeman Bus/Clarence Henry Coach
Transportation	Regional	Scott Docteur	DOT Region 7
Transportation	St. Lawrence	John Casserly	Yes 11!
Transportation	St. Lawrence	Toby Bogart	St. Lawrence Co
Transportation	Regional	John Danis	Development Authority of the North Country
Transportation	Franklin	John Hutchins	Frank Co
Transportation	Oneida	Dawn Klemm	Remsen-Lake Placid Travel Corridor NYSDOT
Transportation	Lewis	Joseph Langs	Lewis Co
Transportation	Jeff Co	James Lawrence	Jefferson Co
Transportation	Multiple	Gerardo Mendoza	NYSDOT
Transportation	Jefferson	Sam Purington	Volunteer Transportation Center
Transportation	Regional	Barbara Piersma	Adirondack Scenic Railroad
Transportation	Clinton	Albert Rascoe	Clinton Co
Transportation	St. Lawrence	Nancy Robert	St Lawrence Co
Transportation	Essex Co	David Rotella	Essex Co
Transportation	Franklin	Mary Shantie	Franklin County
Transportation	Regional	Denise Watso	Department of Transportation
Transportation	Jefferson	Kathy Webster	City of Watertown
Working Landscapes	Clinton	Anita Demming	Cornell Cooperative Extension
Working Landscapes	Clinton	Peter Hagar	Cornell Cooperative Extension

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Working Landscapes	Clinton	Tony LaPierre	Clinton Co Farm Bureau
Working Landscapes	Essex	Connie Prickett	Adirondack Land Trust
Working Landscapes	Essex	Daniel Spada	Adirondack Park Agency
Working Landscapes	Essex	Laurie Davis	Adirondack Harvest
Working Landscapes	Essex	Robert Stegeman	Department of Environmental Conservation
Working Landscapes	Franklin	Bernadette Logazar	Cornell Cooperative Extension
Working Landscapes	Franklin	Brett McLeod	Paul Smiths College
Working Landscapes	Franklin	Chastity Miller	Franklin Co SWCD
Working Landscapes	Franklin	Joe Orefice	Paul Smiths College
Working Landscapes	Franklin	Melinda Little	Farm to Family Food Network
Working Landscapes	Franklin	Sean Ross	Lyme Timber
Working Landscapes	Franklin	Travis Zedick	Sudexo
Working Landscapes	Franklin	Rich Redman	
Working Landscapes	Jefferson	Brian Wohnsiedler	Jefferson County Soil and Water Conservation District
Working Landscapes	Jefferson	Jay Matteson	Jeff County Ag Development Corp
Working Landscapes	Jefferson	Jennifer Harvill	NYS Tughill Commission
Working Landscapes	Jefferson	John Bartow	Tughill Commission
Working Landscapes	Jefferson	Michael Richardson	Fort Drum Plans, Analysis and Integration Office
Working Landscapes	Jefferson	Vanessa Lynn McKinney	Cornell Cooperative Extension
Working Landscapes	Lewis	Linda Garrett	Tughill Tomorrow Trust
Working Landscapes	Lewis	Michele Ledoux	Cornell Cooperative Extension
Working Landscapes	Regional	Colin Beier	SUNY ESF
Working Landscapes	Regional	Eric Dumond	RE Energy
Working Landscapes	Regional	Hilary Smith	The Nature Conservancy
Working Landscapes	Regional	Jeff Forward	Yellow Wood
Working Landscapes	Regional	Neil Woodworth	Adirondack Mountain Club
Working Landscapes	Regional	Sarah Metzgar Boggess	RE Energy

North Country Cleaner Greener Sustainability Plan			
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Working Landscapes	Regional	Sloane Crawford	Department of Environmental Conservation
Working Landscapes	Regional	Timothy Barnett	The Nature Conservancy
Working Landscapes	St. Lawrence	Thomas Cutter	
Working Landscapes	St. Lawrence	Chelle Lindahl	Adk Sustainable Living Project
Working Landscapes	St. Lawrence	Pat Curran	Curran Renewable Energy
Working Landscapes	St. Lawrence	Ross Whaley	ADK Landowners
Materials Management	Clinton	Jonathon Ruff	City of Plattsburgh
Materials Management	Essex	Dave Reckahn	Essex Co Solid Waste Department
Materials Management	Essex	Tammy Morgan	Lake Placid High School
Materials Management	Essex	Victor Putman	Greater Adirondack Resource Conservation and Development Council, Inc
Materials Management	Franklin	Jill Wood	Franklin Country Solid Waste
Materials Management	Hamilton	Tracy Eldridge	Hamilton County
Materials Management	Jefferson, Lewis, and St. Lawrence Region 6	Jennifer Lauzon	Department of Environmental Conservation
Materials Management	Jefferson	Eugene Hayes	City of Watertown
Materials Management	Jefferson	Jim Lawrence	Jefferson County Recycling
Materials Management	Jefferson	Richard LeClerc	DANC
Materials Management	Lewis	Sue Lyndaker	Lewis County Solid Waste
Materials Management	Regional	Richard Gast	Cornell Cooperative Extension
Materials Management	Regional	William Meyers	Casella Waste Management
Materials Management	St Lawrence	Scott Thornhill	St. Lawrence Co Solid Waste Dept
Materials Management	Regional	Rich Straut	Barton and Loguidice
Water Management	Lewis	Nichelle Billhardt	Lewis County SWCD
Water Management	Essex	Allison Buckley	Adirondack Council
Water Management	Jefferson	Kris Dimmick	Bernier Carr and Associates

North Country Cleaner Greener Sustainability Plan			
Working Group Member List			
Working Group	County	Name	Employer/Affiliation
Water Management	Clinton	Fred Dunlap	NY Department of Environmental Conservation
Water Management	Regional	Diane Fish	Adirondack Council
Water Management	Clinton	Nate Grue	Clinton Co SWCD
Water Management	St Lawrence	Bill Henninger	Village of Potsdam
Water Management	Franklin	Eric Holmlund	Paul Smiths College
Water Management	St Lawrence	Dawn Howard	St. Lawrence County
Water Management	Clinton	John Kanoza	Clinton Co Department of Health
Water Management	Franklin	Dan Kelting	Paul Smiths College
Water Management	Regional	Bill Lupo	Department of Environmental Conservation
Water Management	Hamilton	Elizabeth Mangle	Hamilton Co SWCD
Water Management	Franklin	Chastity Miller	Franklin Co SWCD
Water Management	Essex	Corrie Miller	Ausable River Association
Water Management	Jefferson	Bryon Perry	Development Authority of the North Country
Water Management	Regional	Vic Putman	Greater Adirondack RC&D Council
Water Management	Essex	David Reckahn	Essex County
Water Management	Essex	Debbie Rice	
Water Management	Jefferson	Michael Sligar	City of Watertown
Water Management	Regional	Rich Straut	Barton and Loguidice
Water Management	Jefferson	Brian Wohnsiedler	Jefferson County Soil and Water Conservation District

B Summary of Baseline Data

Greenhouse Gas Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Reduce Greenhouse gas emissions by source	Total CO2e emitted, (metric tons [MT], and MT per capita) *refer to: E & E 2012 North Country Greenhouse Gas Inventory, Prepared for NYSERDA, for calculations. Source: 2010b. NYSDEC. New York State Climate Action Plan Interim Report. 2010. Web. 9 Nov 2010. <http://www.dec.ny.gov/energy/80930.html>	254 MT tons CO2e 15.5 MT CO2e per person			Reduce by 80%

Energy Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Increase the local generation and distribution of renewable energy	1. Number of public buildings that have installed a renewable thermal energy (heat) fuel source to replace or supplement fossil fuel use. 2. Kilowatt-hours of electricity produced from renewable energy and percentage of total electricity generated in the region. Calculation: $\sum$ (capacity of all renewable energy sources) = Hydro Capacity+ Solar PV Capacity + Solar Thermal Capacity + Wind Turbine Capacity + Capacity of Other Renewable Sources	12 94%	Increase to 20% of building stock Increase Class 2 and Class 3 renewable electricity generation to 45%	Increase to 35% of building stock Increase Class 2 and Class 3 renewable electricity generation to 55%	Increase to 50% of building stock Increase Class 2 and Class 3 renewable electricity generation to 60%

Energy Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
	<i>Sources:</i> <i>1. NYSDEC, New York State Facilities using low-grade/underutilized timber products and wood residue products; Biomass Energy Resource Center; regional stakeholder input.</i> <i>2. The New York State Renewable Portfolio Standard Performance Report, NYSERDA, December 2011.</i>				
Increase energy efficiency of the region's building stock	1. Existing buildings enrolled in an energy efficiency program (e.g., Energy Star).	15	Increase by 20%	Increase by 50%	Increase by 100%
	2. Number of NYSERDA Energy Efficiency Funded Program Projects, and annual kWh savings. (Targets beyond 2020 will be re-evaluated based on 2020 progress and available programs)	216 projects, 68 kWh	Increase kWh savings by 20%	TBD	TBD
	3. New construction built to LEED or similar energy efficiency standards.	15	Increase to 25% of new building stock	Increase to 35% of new building stock	Increase to 50% of new building stock
	No calculation needed for these indicators. Count only. Data sources provided. <i>Sources:</i> <i>1. EnergyStar. Data retrieved on January 16, 2013 from: http://www.energystar.gov/index.cfm?fu seaction=labeled_buildings.locator</i> <i>2. NYSERDA Program Participation2010-11.xlsx, file provided by NYSERDA</i> <i>3. United States Green Building Council. Retrieved on January 17, 2013 from: http://new.usgbc.org/projects</i>	(37 are pursuing LEED)			

Energy Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
3. Reduce energy use through consumer decision-making and behavioral changes	Regional energy consumption per capita (MMBtu). Calculation: Regional energy consumption per capita = $\Sigma (\text{regional energy consumption}) \div \text{regional population}$ $\Sigma (\text{regional energy consumption}) =$ Residential Energy Consumption + Commercial Energy Consumption + Industrial Energy Consumption + Transportation Energy Consumption <i>Source: Ecology and Environment, Inc. (E & E) 2012. North Country Greenhouse Gas Inventory. Prepared for New York State Energy Research and Development Authority (NYSERDA). Print. 2012.</i>	215 MMBTu	Reduce by 20%	Reduce by 30%	Reduce by 40%

Livable Communities and Land Use Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Prevent sprawl by focusing revitalization on existing main streets and downtown areas	1. Percentage of population living in areas defined as hamlets, villages, city centers, and downtown areas. Calculation: (Total 2010 Population in Cities, CDPs, and Villages/Total 2010 North Country Population) x 100	46.41%	50%	60%	70%

Livable Communities and Land Use Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
	2. Area of developed land within region and per capita land consumption (% , acres per person). Calculation: Total North Country Developed Land (acres)/North Country Population, 2010	2.68% (0.47 acres consumed per person)	Reduce per capita consumption by 5%	Reduce per capita consumption by 8%	Reduce per capita consumption by 10%
	3. Number of municipalities with Main Street Revitalization Programs. No calculation needed. Data sources provided.	0	10	20	30
	4. Percentage of municipalities with tax policies and incentives to encourage development in municipal centers. Calculation: (Total number of region's municipalities with tax policies and incentives / total number of region's municipalities) x 100 Sources: 1. U.S. Census 2010 2. U.S. Census Factfinder 3. MRLC – Multi-Resolution Land Characteristics Consortium - National Land Cover Database - http://www.mrlc.gov/ 4. New York Main Street Awards: Funding History 2004-2011 5. New York Main Street Program	0%	10%	20%	30%

Livable Communities and Land Use Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
2. Create and update comprehensive plans as a means to improve sustainable practice	Municipalities with a Comprehensive Plan that has been updated within the last 5 years.	54%	60%	75%	85%
	No calculation needed. Data sources provided. <i>Source: Land Use Planning and Regulations NYS 2008 (Appendix B and C)</i>				
3. Improve the resiliency and adaptability of communities to climate-related impacts	1. The number of communities participating in FEMA's National Flood Insurance Program (NFIP) Community Rating System (CRS).	0	50%	75%	100%
	No calculation needed. Data sources provided. 2. The degree to which climate adaptation is discussed within the region's hazards mitigation plans and their 5-year updates. Calculation: % of Hazard Mitigation Plans (HMPs) that discuss specific vulnerabilities and suggest adaptation options= # of HMPs that mention adaptation / total # of completed HMPs in the region <i>Sources:</i> 1. FEMA's NFIP Community Rating System (CRS) 2. Stakeholder contacts (via email, phone)	0	25%	50%	100%

Livable Communities and Land Use Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
4. Include public health in land use planning and sustainability initiatives to encourage healthy communities	1. Grocery stores per capita	0.35 per 1000 persons (121 stores)	0.36 (124 stores)	0.38 (131 stores)	0.4 (138 stores)
	No calculation needed. Data sources provided				
	2. Farmer's markets per capita	0.12 per 1000 persons (41 markets)	0.15 (51 markets)	0.18 (61 markets)	0.2 (68 markets)
	No calculation needed. Data sources provided				
	* Number of stores and markets are based on baseline population data.				
	Sources:				
	1. Economic Research Service (ERS), U.S. Department of Agriculture (USDA) Food Environment Atlas. http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas				
	2. USDA Economic Research Service Food Desert Locations http://www.ers.usda.gov/data-products/food-desert-locator/go-to-the-locator.aspx				
5. Develop sustainability programs in local schools and colleges	Percentage of schools with sustainability outreach and education.	Limited data available	25%	50%	75%
	No calculation. Data not available.				

Working Landscapes Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Promote development of the agricultural and forestry industries, including expansion operations and starting new operations	1. Farm acreage and products				
	a. Number of farms	4,288	4,500	4,800	5,000
	b. Farmland (acres)	1,107,573	1,100,000	1,100,000	1,100,000
	c. Total cropland (acres)	598,126	595,000	593,000	592,000
	d. Harvested cropland (acres)	514,867	Hold at 515,000	Hold at 515,000	Hold at 515,000
	e. Market value of agricultural products sold (\$)	\$596 million	\$890 million	\$1.34 billion	\$2 billion
	2. Economically productive forests				
	a. Privately owned forest land within Adirondack Park, including land under State Working Forest Conservation Easements (acres)	1,724,042	1,720,000	1,718,000	1,716,000
	b. Timberland (i.e. available for wood production and harvest) (acres)	4,058,333	4,055,000	4,053,000	4,051,000
	No calculations needed. Data sources provided				
	Sources:				
	1. Land Use/Land Cover Dataset: www.mrlc.gov/nlcd06_data.php 2. USDA National Agricultural Statistics Service Census of Agriculture, 2007 3. US Forest Service Forest Inventory and Analysis Program: http://www.fia.fs.fed.us/tools-data/default.asp				

Working Landscapes Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
2. Increase local food and forest product processing and sales within the region	1. Number of wood-processing facilities in the region				
	a. Primary	40	50	60	70
	b. Secondary	55	65	75	85
	2. Number of permitted food-processing facilities in the region				
	a. NYS Dept. of Ag and Markets 5A permits 20C permits	0 541	10 590	25 640	40 690
	b. USDA permitted facilities for processing meat, poultry, and eggs	1	3	6	12
	No calculations needed. Data sources provided				
	Sources: 1. NYS Dept. of Agriculture and Markets. USDA FSIS Meat, Poultry and Egg Product Inspection Directory 2. NYSDEC Directory of Primary Wood-Using Industry in New York State, 2009. NYSDEC Directory of Secondary Wood-Using Industry in New York State, 2009.				
3. Increase the use of biomass to meet the thermal energy needs of the region and beyond.	1. Number of utility and community facilities using biomass for energy.	16	30	70	90
	2. Number of biomass manufacturing facilities in the region.	3	8	12	15
	No calculations needed. Data sources provided				
	Source: NYSDEC, New York State Facilities using low-grade/underutilized				

Working Landscapes Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
	<i>timber products and wood residue products. Biomass Energy Resource Center (BERC). Regional stakeholder input.</i>				
4. Promote tourism and recreation based on the region's natural resources while providing for the long-term maintenance of the region's recreational resources.	1. Numbers of Users of Recreational Lands by type: a) Hikers/climbers b) Water sports (non-motorized) c) Water (motorized) d) Snowmobiles e) Skiing (Alpine and Nordic)	Not available	No Target Established		
	2. Conditions of recreation infrastructure (trails, skiing facilities, water-based recreation facilities) and levels of resources allocated to infrastructure improvement and upkeep. No calculations needed. No data sources found.	Not available	No Target Established		
5. Enhance forest management through increased use of best management forestry practices, encouraging third-party certifications for sustainability where applicable, and implementing invasive species prevention, and management	1. Acres of forest land enrolled in forest stewardship programs of under third party certification for sustainable management.	Not available	No Target Established		
	2. Number of professional foresters in active practice in the region. No calculations needed. No data sources found.	Not available	No Target Established		
6. Upgrade and maintain existing farming infrastructure to improve energy efficiency and reduce farm operating costs	Number of farms with completed energy audits. No calculations needed. Data sources provided. <i>Source: EnSave Inc. for NYSERDA</i>	10 of 4,288	5%	20%	50%

Working Landscapes Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
	<i>sponsored audits. USDA NRCS for Environmental Quality Incentives Program sponsored audits.</i>				

Transportation Baseline Summary					
Goal	Indicators	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Expand and promote the use of alternatives to single-occupant vehicle travel for residents and tourists.	Percentage of people commuting via walking, biking, transit, and carpooling. Calculation: For each mode, Percent of workers commuting by mode X = (Number of workers traveling by mode X in region ÷ Total number of workers in region) x 100 Sources: 1. American Community Survey (ACS) Table B08301: Means of Transportation to Work 2. Clinton: 2011 American Community Survey 1-Year Estimates. 3. Essex, Franklin, Hamilton, Lewis: 2006-2010 American Community Survey 5-Year Estimates. 4. Jefferson, St. Lawrence: 2009-2011 American Community Survey 3-Year Estimates.	18.5%	20%	25%	Maintain 2035 target
2. Reduce trip lengths and improve transportation and fuel efficiency	1. Vehicle miles traveled per capita Vehicle miles traveled in region ÷ Total population of region 2. Housing and Transportation Affordability Index No calculation needed. Data sources	9,775 annually 56.81% of average household income spent on housing and transportation	No Target Established No Target Established		

Transportation Baseline Summary					
Goal	Indicators	Current Value	Target – 2020	Target – 2035	Target – 2050
	provided. Sources: 1. Center for Neighborhood Technology, http://htaindex.cnt.org/map/ 2. VMT data provided by NYSDOT, Analysis Year 2009 3. U.S. Census 2010				
3. Preserve and improve aging transportation infrastructure	Percentage of state, local, and other bridges categorized as deficient Calculation: (Number of deficient bridges/ total bridges in region) x 100 Sources: 1. NCREDC Website 2. Data provided by NYSDOT	37% of bridges categorized as deficient	No Target Established		
4. Concentrate freight and manufacturing development and shipping at prioritized intermodal sites to support sustainable business development.	Inclusion of shipping and distribution plans and strategies in County comprehensive plans. No calculation needed. Data sources provided. Source: County Comprehensive Plans	0 of 7 Counties currently include freight strategies in their comprehensive plans.	100% by 2050		

Water Management Baseline Summary					
Goal	Indicators	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Maintain adequate water supply for future needs	1. Water use per capita: Gallons per capita per day (gpcd)				
	a. Domestic Self Supply	75	Maintain	Maintain	Maintain
	b. Public Supply	100	90	80	70

Water Management Baseline Summary					
Goal	Indicators	Current Value	Target – 2020	Target – 2035	Target – 2050
	Calculation 1: Water withdrawn per public supply / public supply population Calculation 2: Calculation: Water withdrawn per domestic self supply/ domestic self supply population 2. Water use per sector: million gallons per day (MGD) 38.5 a. Public Supply 10.5 b. Domestic Self Supply 13.0 c. Aquaculture 11.0 d. Industrial Self Supply 5.5 e. Livestock 2.5 f. Irrigation 2.0 g. Mining 0.0 h. Thermoelectric No calculation needed. Data sources provided. <i>Source: United States Geological Survey (USGS), Estimated Use of Water in the United States, County-Level Data for 2005.</i>		No Target Established		
2. Promote watershed management planning on a regional or watershed scale	1. Percentage of regional watersheds with a watershed management plan. 33% Calculation: Number of watershed plans/ total number of watersheds		50%	75%	100%
			Maintain below 5%	Maintain below 5%	Maintain below 5%

Water Management Baseline Summary					
Goal	Indicators	Current Value	Target – 2020	Target – 2035	Target – 2050
	2. Impervious surface area (acres, %) Calculation: Impervious surface area / total surface area <i>Sources:</i> 1. <i>USDA Watershed Boundary Dataset in HUC-8, 10, and 12, 2012. ESRI 2010.</i> 2. <i>USGS - NLCD2006 Percent Developed Imperviousness - http://www.mrlc.gov/nlcd06_data.php.</i>	208,522, 3.6%			
3. Maintain and/or improve the quality of the region's water bodies and supply sources	1. Stream biological impairments (NYSDEC)	12%	Reduce by 5%	Reduce by 10%	Reduce by 25%
	2. Water body and stream impairments (NYSDEC 303(d) list)	25.2% impaired	Reduce by 5%	Reduce by 10%	Reduce by 25%
	No calculations needed. Data sources provided. <i>Sources:</i> 1. <i>NYSDEC Biomonitoring Program</i> 2. <i>NYSDEC Section 303(d) List of Impaired/TMDL Waters</i>	52% assessed	Assess 60%	Assess 75%	Assess 100%
4. Reduce the energy used for water supply, distribution, and treatment	Cost per gallon per day(gpd) treated a. water b. wastewater <i>Sources:</i> 1. <i>United States Environmental Protection Agency (USEPA) Enforcement and Compliance</i>	\$1.41 \$2.37	No Target Established		

Water Management Baseline Summary					
Goal	Indicators	Current Value	Target – 2020	Target – 2035	Target – 2050
	<i>Online Database</i> http://www.epa-echo.gov/echo/compliance_report.html <i>2. United States Geological Survey (USGS) Estimated Use of Water in the United States, County-Level Data for 2005.</i> <i>3. 2010 NYS Comptrollers Office - Annual Public Expenditures for Water and Wastewater.</i>				

Materials Management Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
1. Reduce the amount of solid waste generated	MSW disposal rate per capita (lbs/person/day) Calculation: (Total MSW generated per day – recycled material) / generating population Sources: <i>1. Clinton County: Integrated Solid Waste Management Plan 2012. High disposal rate attributed to large seasonal population flux and the inclusion of C&D materials in reported MSW values.</i> <i>2. Essex County: Data not available. Estimated based on average of neighboring counties and counties of similar population density.</i> <i>3. Franklin County: Franklin County Solid Waste Management Plan 2006,</i>	3.2	1.7	0.5	0.1

Materials Management Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
	<i>Disposal and recycling data based on 2004 values.</i> 4. <i>Hamilton County: Draft Solid Waste Management Plan Update 2012. High disposal rate attributed to large seasonal population flux and the inclusion of C&D materials in reported MSW values.</i> 5. <i>Jefferson, Lewis, and St. Lawrence counties: Regional Solid Waste Management Plan 2011.</i> 6. <i>New York State: Beyond Waste, NYSDEC 2010.</i>				
2. Increase the percentage of materials recycled or reused	Percent of total solid waste stream that is recycled. Calculation: (Total MSW + C&D generated) / (Total MSW and C&D recycled) Sources: 1. <i>Clinton County: Integrated Solid Waste Management Plan 2012.</i> 2. <i>Essex County: Data not available. Estimated based on average of neighboring counties and counties of similar population density.</i> 3. <i>Franklin County: Franklin County Solid Waste Management Plan 2006, Disposal and recycling data based on 2004 values.</i> 4. <i>Hamilton County: Draft Solid Waste Management Plan</i>	8%	50%	70%	85%

Materials Management Baseline Summary					
Goal	Indicator	Current Value	Target – 2020	Target – 2035	Target – 2050
	<i>Update 2012.</i> 5. Jefferson, Lewis, and St. Lawrence counties: <i>Regional Solid Waste Management Plan 2011.</i> 6. New York State: <i>Beyond Waste, NYSDEC 2010.</i>				

C Greenhouse Gas Inventory Template

Cover Sheet

NYSDERDA

Cleaner Greener Communities / Climate Smart Communities Regional Level GHG Reporting Template

Instructions

Please use this template to report summary regional GHG inventories to NYSDERDA as part of your final deliverables for the regional GHG inventory. Fill it out and rename the sheet "**REDC_NAME.CGC Final GHG Inventory.2010.xlsx**".

In this template there are two tabs, "Emissions by Source" and the "Roll Up Report". Emissions by Source shows all direct and indirect emissions sources considered by the GHG Working Group for inclusion in the inventory, and the Roll Up Report reflects the consensus decision for which sources are to be included when totaling the regions GHG inventory into a single number. The final submission should have the two tabs for the REDC in total, and two additional tabs for each county separately. For county tab names, please rename "REDC" to the name of the county.

We understand each region will have its own custom way of managing data and calculations so please cut and paste summary results from your own data sheets into this template. Although you may create dynamic links to this template from your analysis sheets when filling it out, please submit this template without these links.

Protocol Compliance Statements. In the REDC level tabs only, please fill in Columns P through R, and indicate if your methods adhered to methods in Column O that summarize NY GHG Working Group consensus decisions with "Rec" standing for the recommended methods and "Alt" standing for an acceptable alternative methods. It is not required that all methods adhere to the recommended or alternate methods, but please indicate any deviations, justifications, findings, or recommendations you have for additional methods to consider. It may help you to select Columns O-P and choose the "wrap text" format to help you read the methods.

Please Fill in the Summary Table on the Cover Sheet tab to the right at the conclusion of filling out these data sheets. You may dynamically link these numbers to the other sheets in this template.

Color Coding- in general a Green cell requires a value or entry, a white cell is optional.

Reporting Region	North Country
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REDC Emissions Summary, by County	Roll Up Numbers, MTCDE (MT CO2e)	Population	MTCO2e per capita
Clinton	1,179,287	82,128	14.36
Essex	868,508	39,370	22.06
Franklin	604,809	51,599	11.72
Hamilton	178,906	4,836	36.99
Jefferson	1,537,205	116,229	13.23
Lewis	606,948	27,087	22.41
St. Lawrence	1,747,699	111,944	15.61
REDC in Total (w/out aircraft)	6,723,362	433,193	15.52
REDC in Total (w/out aircraft)	6,723,362	433,193	15.52
REDC in Total (w/ aircraft)	6,734,758	433,193	15.55

REDC Emissions By Source

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **North Country**

Color Code

	REQUIRED, though some data may be zero or considered small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment	Residential Energy Consumption								
	NC Electricity Consumption		325,724			Yes	Consumption	MMBTU	4,896,765
	NC Direct Residential Fuel Consumption	290,410				Yes	Consumption	MMBTU	5,471,996
	NC Direct Residential Fuel Consumption	103,286				Yes	Consumption	MMBTU	1,428,293
	NC Direct Residential Fuel Consumption	432,290				Yes	Consumption	MMBTU	5,825,306
	NC Direct Residential Fuel Consumption	16,477			323,887	Yes	Consumption	MMBTU	8,347,161
	Commercial Energy Consumption								
	NC Electricity Consumption		178,964			Yes	Consumption	MMBTU	2,690,450
	NC Commercial Direct Fuel Consumption	204,913				Yes	Consumption	MMBTU	3,861,032
	NC Commercial Direct Fuel Consumption	40,396				Yes	Consumption	MMBTU	638,891
	NC Commercial Direct Fuel Consumption	395,820				Yes	Consumption	MMBTU	5,333,853
	NC Commercial Direct Fuel Consumption					Yes	Consumption	MMBTU	
	NC Commercial Direct Fuel Consumption	357				Yes	Consumption	MMBTU	3,478
	NC Commercial Direct Fuel Consumption	6,474			307,647	Yes	Consumption	MMBTU	3,279,824
	Industrial Energy Consumption								
	NC Electricity Consumption		269,206			Yes	Consumption	MMBTU	4,047,096
	NC Industrial Title V Consumption	186,750				Yes	Consumption	MMBTU	3,518,810
	NC Industrial Title V Consumption	1,701				Yes	Consumption	MMBTU	26,909
	NC Industrial Title V Consumption	1,285				Yes	Consumption	MMBTU	17,318
	NC Industrial Title V Consumption	262,255				Yes	Consumption	MMBTU	3,480,538
	NC Industrial Title V Consumption					Yes	Consumption	MMBTU	

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **North Country**

Color Code

	REQUIRED, though some data may be zero or considered small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
NC Industrial Title V Consumption Energy Generation and Supply	Wood	1,928			91,613	Yes	Consumption	MMBTU	976,685
	Energy Generation and Supply								
	NC Elec Generation GHG Analysis	106,709				No	Consumption	MMBTU	1,111,229
	NC Elec Generation GHG Analysis	214,993				No	Consumption	MMBTU	4,050,971
	NC Elec Generation GHG Analysis	954				No	Consumption	MMBTU	12,861
	NC Elec Generation GHG Analysis	81,846				No	Consumption	MMBTU	1,086,225
	NC Elec Generation GHG Analysis	7,106			337,659	No	Consumption	MMBTU	3,599,772
	NC Elec Generation GHG Analysis	223			44,300	No	MSW Combusted	MMBTU	850,779
	NC Elec Generation GHG Analysis	2,978							33,859
	NC Elec Generation GHG Analysis		45,041			Yes	Losses	MMBTU	677,117
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	126,913				Yes	Losses	MMBTU	
	Use of SF6 in the Utility Industry	10,359				Yes	Consumption	MMBTU	
	Industrial Processes								
	Not Reported					Yes			
	NC Industrial Sources					Yes			
	NC Industrial Sources					Yes			
	Not Reported	234,165				Yes			
	Not Reported	33,205				Yes			
	Not Reported					Yes			
	Not Reported					Yes			
NC Electricity Consumption Industrial Processes	Cement Production					Yes			
	Iron and Steel Production					Yes			
	NC Industrial Sources					Yes			
	NC Industrial Sources					Yes			
	Not Reported	234,165				Yes			
	Not Reported	33,205				Yes			
	Not Reported					Yes			
	Not Reported					Yes			
	Not Reported					Yes			
	Not Reported					Yes			
NC Emission Summary - Onroad	Product Use (Ozone Depleting Substances)								
	NC Industrial Sources	99,181				Yes			
	Transportation Energy								
	On-road								
	NC Emission Summary - Onroad	1,545,164			112,144	Yes	Consumption	MMBTU	23,564,075
	NC Emission Summary - Onroad	421,448				Yes	Consumption	MMBTU	5,679,245

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **North Country**

Color Code

	REQUIRED, though some data may be zero or considered small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	Rail								
NC Emission Summary - Rail	Diesel	71,649				Yes	Consumption	MMBTU	965,503
NC Emission Summary - Rail	Electricity Consumption					Yes	Consumption	MMBTU	
	Marine								
NC Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	28,744				Yes	Consumption	MMBTU	387,332
NC Emission Summary -Com Marine	Residual Fuels	27,070				Yes	Consumption	MMBTU	359,267
	Air								
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	11,396				No	Consumption	MMBTU	157,352
	Non-road Mobile								
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	566,620				Yes	Consumption	MMBTU	7,930,171
Waste Management	Solid Waste Management								
NC Waste	Landfill Methane and Combustion	120,749		97,305		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	318,273
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	394,956
	Sewage Treatment						MSW Sent for Incineration	Tonnes	
NC Waste water	Central WWTPs and Septic Systems	40,000				Yes	MSW incinerated in Boundary	Tonnes	
Agriculture	Livestock								
GHG_NC_Agriculture	Enteric Fermentation	519,547				Yes			
GHG_NC_Agriculture	Manure management	107,207				Yes			
	Crop Production and Soil Management								
GHG_NC_Agriculture	Use of Fertilizer	31,506				Yes			
Not Reported	Crop Residue Incineration					No			
Land Use and Forestry									
GHG_NC_Forest	Urban Forest Annual Reserve	189,177				No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	1,098,222,727				No			
Grand Totals									
	Gross Totals	5,807,122	818,935	97,305					6,723,362
	Total with Aircraft (as reported in NC Sustainability Plan)	5,818,518	818,935	97,305					6,734,758
	Net Totals								

Protocol Compliance Report				
	Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence		
		Yes	No	Brief Description of Method and Issues
Built Environment				Actual electricity sales data is provided by National Grid, NYSEG, and municipal utilities.
NC Electricity Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		
NC Direct Residential Fuel Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		As stated
NC Direct Residential Fuel Consumption	(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
NC Direct Residential Fuel Consumption	(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
NC Direct Residential Fuel Consumption	(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			
NC Electricity Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		Actual electricity sales data is provided by National Grid, NYSEG, and municipal utilities.
NC Commercial Direct Fuel Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Electricity Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) allocate SEDS EIA data based allocated by industrial employment	X		Actual electricity sales data is provided by National Grid, NYSEG, and municipal utilities.
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	

Protocol Compliance Report			
	Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.	X	
Energy Generation and Supply			
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. Wood CO2 emissions reported optionally as biogenic CO2, CH4 and N2 Emissions required to be reported to Scope 1	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. MSW CO2 emissions split as 44% reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html . All CH4 and N2O shall be reported under required Scope 1.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Acquire utility specific estimate of T/D (in %) and apply that to all consumption (res/commercial/industrial). Report emissions as Scope 2 using regional EGRID emission factors consistent with all Scope 2 calculations. (Alt) use a statewide average T/D loss of 5.28% as documented by EPA's EGRID reporting for New York.	X	Alternative Method As stated
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	(Rec) - Acquire utility specific estimate of T/D (in %), compute as percentage of total residential/commercial/industrial/energy generation. Report as Scope 1 CH4 emissions. (Alt) use a statewide average of 1.8% as documented by National Grid in 2010 PSC Reporting.		
NC Electricity Consumption	(Rec) - acquire utility specific estimate and report as SF6. (Alt) Apportion NYSEERDA 2009 Emission Inventory Total for the state to counties based ration of EIA reported total electricity demand to computed regional or county demand for all sectors.	X	Based on conversations with P Groth and J Yienger, used national 2010 emission inventory total
Industrial Processes			
Not Reported		X	Nothing to report
NC Industrial Sources		X	Nothing to report
NC Industrial Sources		X	Nothing to report
Not Reported		X	As stated
Not Reported		X	As stated
Not Reported	(Rec) Direct Allocation from from EPA MMR only. Small Sources to not to be included at this time.	X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Product Use (Ozone Depleting Substances)			
NC Industrial Sources	(Rec) Use EPA 2009 Draft Guidance method. Allocate national per/capita emissions to counties based on population. Methods include mobile refrigeration	X	As stated
Transportation Energy			
NC Emission Summary - Onroad	(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region- appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions.	X	As stated
NC Emission Summary - Onroad	(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region- appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions on the ethanol line item.	X	As stated

Protocol Compliance Report			
	Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence	
Not Reported	Optional- Include regional E-85 consumption if you have it, and debit against your gasoline estimate create using VMT. Allocate 15% as gasoline to be reported as Scope 1, and 85% as ethanol to be reported as optional biogenic.	X	Not available
Not Reported	Optional- Include regional biodiesel consumption if you have it, and debit against your diesel estimate create using VMT. Because biodiesel blends change, allocate option biogenic component on this line item only, and retain the diesel fraction on the diesel line item.	X	Not available
Not Reported	Today this will be zero, but as NYSERDA pushes to electrify on-road transportation we will want to report here, debiting against electricity consumption in the other sectors as appropriate.	X	Not available
NC Emission Summary - Rail	Freight and Passenger. (Rec) Use direct provider fuel consumption data allocated spatially to location of routes (Alt) Use Nysierda 2002 estimates of Diesel consumption by county directly.	X	As stated
NC Emission Summary - Rail	Passenger and Commuter (Rec) Use direct provider electricity consumption data allocated spatially to location of routes (Alt) None identified.	X	Not applicable
NC Emission Summary -Com Marine		X	As stated, except recreational boating included in non-road data
NC Emission Summary -Com Marine	Rec - USE NYSDEC 2007 data from the state emission inventory for the small and pleasure craft categories reported by county (data on Wiggio). For commercial distillate and bunkers, No consensus method identified- please document methods used.	X	As stated, except recreational boating included in non-road data
NC Emission Summary -Com Marine		X	As stated, except recreational boating included in non-road data
NC Emission Summary-Aircraft	Optional Scope 1- Estimate Landing and Take off Cycle emissions using a dispersion model such as EDMS, or with related data from the NYSDEC for the 2007 state emission inventory. Optional Scope 3, use FAA statistics on departure miles from regional airport, allocate jet fuel use to it, then allocate to counties by fraction of population served	X	Scope 1 option, using EDMS. Total added to roll up totals discussed within Sustainability Plan
NC Emission Summary-Nonroad	Rec - USE NYSDEC 2007 NONROAD data from the state emission inventory (data on Wiggio) for all categories except small marine.	X	As stated, but includes recreational marine
Waste Management			
NC Waste	This is fugitive CH4 emissions from landfills. There are two required Scopes. Scope 1 - Estimate of actual emissions in regional boundary. (rec) use MMR or Title 5 (annual landfill reporting) data directly for facilities (data on Wiggio). For recently closed landfills or for areas without reported data, use a First Order Decay model to estimate emissions. Scope 3- emissions footprint attributed to current waste generation regardless of where it is treated. (rec) Estimate county level MSW and C/D waste generation and apply a representative FOD model with prevailing CH4 captures rates forward-casted 50 years to estimate the footprint.	X	Actual 2010 treatment emissions reported, allocated to counties in region based on average tonnage per capita
Not Reported	Rec - for any MSW incinerated that does not generate grid connected power, compute emissions. MSW CO2 emissions split. 44% shall be reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html . All Ch4 and N2O shall be reported under required Scope 1	X	Not reported, no non-grid incinerators reported in DEC data.
NC Waste water	Determine population covered by WWTPs. (Rec)- Use the ICLEI Local Government Operations Protocol and apply to all facilities in the region. (Alt) use methods as described in the EPA 2009 Draft GHG guidance to translate populations served into emissions using default data. Determine population covered by Septic Systems, and apply the default emissions / capita as described in the ICLEI Local Government Operations Protocol.	X	Based on conversations with P. Groth and J. Yienger, used State Inventory Tool and regional population, allocated to county by population
Agriculture			
GHG_NC_Agriculture	(Rec) Methods as described in the EPA 2009 guidance and executed in the EPA's State Inventory Tool. Use locally resolved fertilizer, crop, and livestock population from either the 2007 Ag census or the US NASS system to get county-level data and make calculations for each county.	X	As stated
GHG_NC_Agriculture		X	As stated
GHG_NC_Agriculture		X	As stated
Not Reported		X	None reported
Land Use and Forestry			
GHG_NC_Forest	Optional Source and Sink. Use methods described in the EPA 2009 Guidance. Use local forest inventory data, or use the US Forest Services online inventory tool for forests. For carbon stock factors use the National Council for Air and Stream Improvement's Carbon On-Line Estimator.	X	As stated
GHG_NC_Forest	(NCASI 2008) Use the	X	Total reported for information, change is not relevant to WG discussions
Grand Totals	Sum Totals in columns for all EXCEPT ANY FORESTRY SINKS. Totals in the Scope 1 column can be a considered a physical roll up of emissions that occur in boundary, and is analogous to reporting that is done for state and federal GHG inventories, and for air quality management. Value above MINUS and reported optional forestry sinks.		

REDC Roll Up Report

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name North Country

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE							
		CO2e	CO2	CH4	N2O	PFC	SF6
Built Environment	Residential Energy Consumption						
	Electricity / Steam	325,724	324,140	218	1,366		
	Natural Gas	290,410	290,125	115	170		
	Propane / LPG	103,286	102,880	103	304		
	Distillate Fuel Oil (#1, #2, Kerosene)	432,290	430,840	367	1,084		
	Wood	16,477	-	5,609	10,868		
	Commercial Energy Consumption						
	Electricity / Steam	178,964	178,094	120	751		
	Natural Gas	204,913	204,712	81	120		
	Propane / LPG	40,396	40,237	40	119		
	Distillate Fuel Oil (#1, #2, Kerosene)	395,820	394,492	336	992		
	Residual Fuel Oil (#4 and #6)	-					
	Coal	357	355	1	2		
	Wood	6,474	-	2,204	4,270		
	Industrial Energy Consumption						
	Electricity / Steam	269,206	267,897	180	1,129		
	Natural Gas	186,750	186,567	74	109		
	Propane / LPG	1,701	1,695	2	5		
	Distillate Fuel Oil (#1, #2, Kerosene)	1,285	1,281	1	3		
	Residual Fuel Oil (#4 and #6)	262,255	261,388	219	647		
	Coal	-					
	Wood	1,928		656	1,272		
	Energy Generation and Supply						
	Electricity T/D Losses	45,041	44,822	30	189		
	Natural Gas T/D Losses	126,913		126,913			
	Use of SF6 in the Utility Industry	10,359					10,359
	Industrial Processes						
	Cement Production	-					

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name North Country

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Iron and Steel Production	-						
	Ferroalloy Production	-						
	Aluminum Production	234,165	211,169			22,996		
	Paper and Pulp	33,205						
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	99,181					99,181	
Transportation Energy	On-road: ALL(Total not ethanol)							
	Motor Gasoline (E-10)	1,545,164	1,539,705	4,078	1,381			
	Diesel	421,448	420,037	1,053	358			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	71,649	71,409	180	61			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	28,744	28,647	72	24			
	Residual Fuel Oil	27,070	26,981	67	23			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	566,620	564,649	1,472	499			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	97,305	134	97,170	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	40,000		30,000	10,000			
	Livestock							
	Enteric Fementation	519,547		519,547				
	Manure management	107,207		88,631	18,577			
	Crop Production and Soil Management							
	Use of Fertilizer	31,506			31,506			
	Crop Residue Incineration	-						
Grand Totals		6,723,362	5,592,254	879,538	85,828	22,996	99,181	10,359

Clinton Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Clinton**

Color Code

	REQUIRED, though some data may be zero or considered small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment									
NC Electricity Consumption	Residential Energy Consumption		100,623			Yes	Consumption	MMBTU	1,512,719
NC Direct Residential Fuel Consumption	Natural Gas	22,614				Yes	Consumption	MMBTU	426,109
NC Direct Residential Fuel Consumption	Propane / LPG	7,618				Yes	Consumption	MMBTU	120,481
NC Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	89,386				Yes	Consumption	MMBTU	1,204,518
NC Direct Residential Fuel Consumption	Wood	2,101			99,826	Yes	Consumption	MMBTU	1,064,247
Commercial Energy Consumption									
NC Electricity Consumption	Electricity / Steam		78,426			Yes	Consumption	MMBTU	1,179,013
NC Commercial Direct Fuel Consumption	Natural Gas	15,344				Yes	Consumption	MMBTU	289,112
NC Commercial Direct Fuel Consumption	Propane / LPG	2,505				Yes	Consumption	MMBTU	39,622
NC Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	72,207				Yes	Consumption	MMBTU	973,021
NC Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)					Yes	Consumption	MMBTU	
NC Commercial Direct Fuel Consumption	Coal	64				Yes	Consumption	MMBTU	619
NC Commercial Direct Fuel Consumption	Wood	600			28,523	Yes	Consumption	MMBTU	304,083
Industrial Energy Consumption									
NC Electricity Consumption	Electricity / Steam		68,006			Yes	Consumption	MMBTU	1,022,364
NC Industrial Title V Consumption	Natural Gas	33,400				Yes	Consumption	MMBTU	629,340
NC Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	608				Yes	Consumption	MMBTU	8,197
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply									
NC Elec Generation GHG Analysis	Energy Generation and Supply					No	Consumption	MMBTU	-
	Coal and Coke	-							

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Clinton**
Color Code

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	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data			
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value	
NC Elec Generation GHG Analysis	Natural Gas	203,889			23,068	No	Consumption	MMBTU	3,841,742	
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Consumption	MMBTU	-	
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Consumption	MMBTU	-	
NC Elec Generation GHG Analysis	Wood / Biomass	-				No	Consumption	MMBTU	-	
NC Elec Generation GHG Analysis	MSW and landfill emissions	116				No	MSW Combusted	MMBTU	443,027	
NC Elec Generation GHG Analysis	Other	-				-	-	-		
NC Elec Generation GHG Analysis	Electricity T/D Losses					14,379	Yes	Losses	MMBTU	216,160
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	39,376				Yes	Losses	MMBTU		
NC Electricity Consumption	Use of SF6 in the Utility Industry	3,307				Yes	Consumption	MMBTU		
Industrial Processes	Industrial Processes									
Not Reported	Cement Production					Yes				
NC Industrial Sources	Iron and Steel Production					Yes				
NC Industrial Sources	Ferroalloy Production					Yes				
Not Reported	Aluminum Production					Yes				
Not Reported	Paper and Pulp					Yes				
Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
Not Reported	Glass Production					Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)									
NC Industrial Sources	All Refrigerants- except SF6	18,804				Yes				
Transportation Energy	On-road									
NC Emission Summary - Onroad	Motor Gasoline (E-10)	315,834			22,922	Yes	Consumption	MMBTU	4,816,540	
NC Emission Summary - Onroad	Diesel	96,124				Yes	Consumption	MMBTU	1,295,316	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
NC Emission Summary - Rail	Diesel	6,776				Yes	Consumption	MMBTU	91,303	
NC Emission Summary - Rail	Electricity Consumption					Yes	Consumption	MMBTU		
	Marine									

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Clinton**

Color Code

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	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3		Metric	Unit	Value
NC Emission Summary -Com Marine	Gasoline				Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	-			Yes	Consumption	MMBTU	-
NC Emission Summary -Com Marine	Residual Fuels	-			Yes	Consumption	MMBTU	-
	Air							
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	2,566			No	Consumption	MMBTU	35,933
	Non-road Mobile							
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	69,471			Yes	Consumption	MMBTU	974,219
Waste Management	Solid Waste Management							
NC Waste	Landfill Methane and Combustion	120,749		19,963	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	65,296
Not Reported	MSW incineration (non grid connected)				Yes	MSW+CD Processed	Tonnes	153,644
	Sewage Treatment					MSW Sent for Incineration	Tonnes	
NC Waste water	Central WWTPs and Septic Systems	9,717			Yes	MSW incinerated in Boundary	Tonnes	
Agriculture	Livestock							
GHG_NC_Agriculture	Enteric Fermentation	72,623			Yes			
GHG_NC_Agriculture	Manure management	15,609			Yes			
	Crop Production and Soil Management							
GHG_NC_Agriculture	Use of Fertilizer	3,796			Yes			
Not Reported	Crop Residue Incineration				No			
Land Use and Forestry								
GHG_NC_Forest	Urban Forest Annual Reserve	44,191			No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	87,724,751			No			
Grand Totals		897,890	261,434	19,963				1,179,287
	Gross Totals							
	Total with Aircraft (as reported in NC Sustainability Plan)	900,456	261,434	19,963				1,181,853
	Net Totals							

Clinton Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Clinton**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	Residential Energy Consumption							
	Electricity / Steam	100,623	100,134	67	422			
	Natural Gas	22,614	22,592	9	13			
	Propane / LPG	7,618	7,588	8	22			
	Distillate Fuel Oil (#1, #2, Kerosene)	89,386	89,086	76	224			
	Wood	2,101	-	715	1,386			
	Commercial Energy Consumption							
	Electricity / Steam	78,426	78,044	52	329			
	Natural Gas	15,344	15,329	6	9			
	Propane / LPG	2,505	2,495	2	7			
	Distillate Fuel Oil (#1, #2, Kerosene)	72,207	71,965	61	181			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	64	63	0	0			
	Wood	600	-	204	396			
	Industrial Energy Consumption							
	Electricity / Steam	68,006	67,675	45	285			
	Natural Gas	33,400	33,368	13	20			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	608	606	1	2			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-						
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	14,379	14,309	10	60			
	Natural Gas T/D Losses	39,376		39,376				
	Use of SF6 in the Utility Industry	3,307						3,307
	Industrial Processes							
	Cement Production	-						
	Iron and Steel Production	-						
	Ferroalloy Production	-						
	Aluminum Production	-	-	-	-	-		
	Paper and Pulp	-						

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Clinton**

Color Code

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Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	18,804					18,804	
Transportation Energy	On-road: ALL (Total not ethanol)							
	Motor Gasoline (E-10)	315,834	314,718	834	282			
	Diesel	96,124	95,802	241	82			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	6,776	6,753	17	6			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	69,477	69,236	180	61			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	19,963	28	19,935	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	9,717		7,288	2,429			
	Livestock							
	Enteric Fermentation	72,623		72,623				
	Manure management	15,609		12,881	2,728			
	Crop Production and Soil Management							
	Use of Fertilizer	3,796			3,796			
	Crop Residue Incineration	-						
Grand Totals		1,179,287	989,791	154,644	12,741	-	18,804	3,307

Essex Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Essex**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Related GHG Metrics / Activity Data				
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value	
Built Environment	Residential Energy Consumption									
	NC Electricity Consumption		27,992			Yes	Consumption	MMBTU	420,818	
	NC Direct Residential Fuel Consumption	9,661				Yes	Consumption	MMBTU	182,028	
	NC Direct Residential Fuel Consumption	13,738				Yes	Consumption	MMBTU	12,040	
	NC Direct Residential Fuel Consumption	61,196				Yes	Consumption	MMBTU	824,645	
	NC Direct Residential Fuel Consumption	1,961			93,180	Yes	Consumption	MMBTU	993,385	
	Commercial Energy Consumption									
	NC Electricity Consumption		17,178			Yes	Consumption	MMBTU	258,250	
	NC Commercial Direct Fuel Consumption	5,317				Yes	Consumption	MMBTU	100,186	
	NC Commercial Direct Fuel Consumption	3,667				Yes	Consumption	MMBTU	57,994	
	NC Commercial Direct Fuel Consumption	40,127				Yes	Consumption	MMBTU	540,726	
	NC Commercial Direct Fuel Consumption					Yes	Consumption	MMBTU		
	NC Commercial Direct Fuel Consumption	20				Yes	Consumption	MMBTU	191	
	NC Commercial Direct Fuel Consumption	455			21,610	Yes	Consumption	MMBTU	230,379	
	Industrial Energy Consumption									
	NC Electricity Consumption	Electricity / Steam		27,869			Yes	Consumption	MMBTU	418,968
NC Industrial Title V Consumption	Natural Gas	-				Yes	Consumption	MMBTU	-	
NC Industrial Title V Consumption	Propane / LPG	221				Yes	Consumption	MMBTU	3,492	
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	485				Yes	Consumption	MMBTU	6,538	
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	236,076				Yes	Consumption	MMBTU	3,133,104	
NC Industrial Title V Consumption	Coal					Yes	Consumption	MMBTU		
NC Industrial Title V Consumption	Wood	1,928			91,613	Yes	Consumption	MMBTU	976,685	
Energy Generation and Supply	Energy Generation and Supply									
NC Elec Generation GHG Analysis	Coal and Coke	-				No	Consumption	MMBTU	-	
NC Elec Generation GHG Analysis	Natural Gas	-				No	Consumption	MMBTU	-	
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	86				No	Consumption	MMBTU	1,159	
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	81,846				No	Consumption	MMBTU	1,086,225	
NC Elec Generation GHG Analysis	Wood / Biomass	3,100			147,327	No	Consumption	MMBTU	1,570,652	

REDC Emissions By Source and Sector

Year: 2010

REDC / County Name

Essex

Color Code

REQUIRED, though some data may be zero or considered to small to count

OPTIONAL

DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MT/CDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
NC Elec Generation GHG Analysis	MSW and landfill emissions	-			-	No	MSW Combusted	MMBTU	-
NC Elec Generation GHG Analysis	Other	-							-
NC Elec Generation GHG Analysis	Electricity T/D Losses		4,251			Yes	Losses	MMBTU	63,906
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	2,109				Yes	Losses	MMBTU	
NC Electricity Consumption	Use of SF6 in the Utility Industry	978				Yes	Consumption	MMBTU	
Industrial Processes	Industrial Processes								
Not Reported	Cement Production					Yes			
NC Industrial Sources	Iron and Steel Production					Yes			
NC Industrial Sources	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp	33,205				Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
Not Reported	Glass Production					Yes			
Not Reported	Chemical Manufacturing					Yes			
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)								
NC Industrial Sources	All Refrigerants- except SF6	9,014				Yes			
Transportation Energy	On-road								
NC Emission Summary - Onroad	Motor Gasoline (E-10)	208,370			15,123	Yes	Consumption	MMBTU	3,177,685
NC Emission Summary - Onroad	Diesel	56,529				Yes	Consumption	MMBTU	761,748
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	

REDC Emissions By Source and Sector

Year: 2010

REDC / County Name **Essex**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
NC Emission Summary - Rail	Rail	8,281				Yes	Consumption	MMBTU	111,592
NC Emission Summary - Rail	Diesel					Yes	Consumption	MMBTU	
	Electricity Consumption								
	Marine								
NC Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
NC Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	Air								
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	601				No	Consumption	MMBTU	6,078
	Non-road Mobile								
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	75,405				Yes	Consumption	MMBTU	1,057,070
Waste Management	Solid Waste Management								
NC Waste	Landfill Methane and Combustion	32,066		6,866		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	22,458
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	
NC Waste water	Central WWTPs and Septic Systems	4,206				Yes	MSW incinerated in Boundary	Tonnes	
Agriculture	Livestock								
GHG_NC_Agriculture	Enteric Fermentation	8,834				Yes			
GHG_NC_Agriculture	Manure management	1,572				Yes			
	Crop Production and Soil Management								
GHG_NC_Agriculture	Use of Fertilizer	1,000				Yes			
Not Reported	Crop Residue Incineration					No			
Land Use and Forestry									
GHG_NC_Forest	Urban Forest Annual Reserve	15,548				No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	196,171,820				No			
Grand Totals	Gross Totals	784,352	77,290	6,866					868,508
	Total with Aircraft (as reported in NC Sustainability Plan)	784,952	77,290	6,866	-				869,109
	Net Totals								

Essex Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Essex**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	Residential Energy Consumption							
	Electricity / Steam	27,992	27,856	19	117			
	Natural Gas	9,661	9,651	4	6			
	Propane / LPG	13,738	13,684	14	40			
	Distillate Fuel Oil (#1, #2, Kerosene)	61,196	60,991	52	153			
	Wood	1,961	-	668	1,293			
	Commercial Energy Consumption							
	Electricity / Steam	17,178	17,095	11	72			
	Natural Gas	5,317	5,312	2	3			
	Propane / LPG	3,667	3,652	4	11			
	Distillate Fuel Oil (#1, #2, Kerosene)	40,127	39,992	34	101			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	20	20	0	0			
	Wood	455	-	155	300			
	Industrial Energy Consumption							
	Electricity / Steam	27,869	27,734	19	117			
	Natural Gas	-	-	-	-			
	Propane / LPG	221	220	0	1			
	Distillate Fuel Oil (#1, #2, Kerosene)	485	483	0	1			
	Residual Fuel Oil (#4 and #6)	236,076	235,296	197	583			
	Coal	-						
	Wood	1,928		656	1,272			
	Energy Generation and Supply							
	Electricity T/D Losses	4,251	4,230	3	18			
	Natural Gas T/D Losses	2,109		2,109				
	Use of SF6 in the Utility Industry	978						978
	Industrial Processes							
	Cement Production	-						
	Iron and Steel Production	-						
	Ferroalloy Production	-						
	Aluminum Production	-	-	-	-	-		
	Paper and Pulp	33,205						

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Essex**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	9,014					9,014	
Transportation Energy	On-road: ALL (Total not ethanol)							
	Motor Gasoline (E-10)	208,370	207,634	550	186			
	Diesel	56,529	56,339	142	48			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	8,281	8,253	21	7			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	75,405	75,142	196	67			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	6,866	9	6,857	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	4,206		3,155	1,052			
	Livestock							
	Enteric Fermentation	8,834		8,834				
	Manure management	1,572		1,310	262			
	Crop Production and Soil Management							
	Use of Fertilizer	1,000			1,000			
	Crop Residue Incineration	-						
Grand Totals		868,508	793,593	25,010	6,709	-	9,014	978

Franklin Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Franklin**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Related GHG Metrics / Activity Data			
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment									
NC Electricity Consumption	Residential Energy Consumption		29,753			Yes	Consumption	MMBTU	447,284
NC Direct Residential Fuel Consumption	Natural Gas	10,188				Yes	Consumption	MMBTU	191,958
NC Direct Residential Fuel Consumption	Propane / LPG	10,108				Yes	Consumption	MMBTU	159,856
NC Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	84,036				Yes	Consumption	MMBTU	1,132,428
NC Direct Residential Fuel Consumption	Wood	2,114			100,435	Yes	Consumption	MMBTU	1,070,733
Commercial Energy Consumption									
NC Electricity Consumption	Electricity / Steam		13,252			Yes	Consumption	MMBTU	199,221
NC Commercial Direct Fuel Consumption	Natural Gas	5,585				Yes	Consumption	MMBTU	105,229
NC Commercial Direct Fuel Consumption	Propane / LPG	2,686				Yes	Consumption	MMBTU	42,474
NC Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	54,848				Yes	Consumption	MMBTU	739,101
NC Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)					Yes	Consumption	MMBTU	
NC Commercial Direct Fuel Consumption	Coal	110				Yes	Consumption	MMBTU	1,066
NC Commercial Direct Fuel Consumption	Wood	488			23,186	Yes	Consumption	MMBTU	247,181
Industrial Energy Consumption									
NC Electricity Consumption	Electricity / Steam		20,741			Yes	Consumption	MMBTU	311,813
NC Industrial Title V Consumption	Natural Gas	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply									
NC Elec Generation GHG Analysis	Coal and Coke	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Natural Gas	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Wood / Biomass	4,005			190,331	No	Consumption	MMBTU	2,029,120
NC Elec Generation GHG Analysis	MSW and landfill emissions	-			-	No	MSW Combusted	MMBTU	-
NC Elec Generation GHG Analysis	Other	-							-
NC Elec Generation GHG Analysis	Electricity T/D Losses		3,710			Yes	Losses	MMBTU	55,774
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	2,221				Yes	Losses	MMBTU	
NC Electricity Consumption	Use of SF6 in the Utility Industry	853				Yes	Consumption	MMBTU	
Industrial Processes									
Not Reported	Cement Production					Yes			
NC Industrial Sources	Iron and Steel Production					Yes			
NC Industrial Sources	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
Not Reported	Glass Production					Yes			
Not Reported	Chemical Manufacturing					Yes			
Product Use (Ozone Depleting Substances)									
NC Industrial Sources	All Refrigerants- except SF6	11,814				Yes			

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Franklin**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Related GHG Metrics / Activity Data				
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value	
Transportation Energy	On-road									
	NC Emission Summary - Onroad	Motor Gasoline (E-10)	162,809			11,816	Yes	Consumption	MMBTU	2,482,864
	NC Emission Summary - Onroad	Diesel	37,507				Yes	Consumption	MMBTU	505,430
	Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
	Not Reported	Biodiesel					No	Consumption	MMBTU	
	Not Reported	Electricity Consumption					No	Consumption	MMBTU	
		Rail								
	NC Emission Summary - Rail	Diesel	3,343				Yes	Consumption	MMBTU	45,052
	NC Emission Summary - Rail	Electricity Consumption					Yes	Consumption	MMBTU	
		Marine								
NC Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
NC Emission Summary -Com Marine	Distillate Fuels	1,672				Yes	Consumption	MMBTU	22,527	
NC Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	356				No	Consumption	MMBTU	5,013	
	Non-road Mobile									
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	51,725				Yes	Consumption	MMBTU	722,521	
Waste Management	Solid Waste Management									
NC Waste	Landfill Methane and Combustion	-		11,064		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	36,191	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	49,181	
	Sewage Treatment						MSW Sent for Incineration	Tonnes		
NC Waste water	Central WWTPs and Septic Systems	3,425				Yes	MSW incinerated in Boundary	Tonnes		
Agriculture	Livestock									
GHG_NC_Agriculture	Enteric Fermentation	64,166				Yes				
GHG_NC_Agriculture	Manure management	12,985				Yes				
	Crop Production and Soil Management									
GHG_NC_Agriculture	Use of Fertilizer	3,608				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_NC_Forest	Urban Forest Annual Reserve	24,981				No				
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	157,855,694				No				
Grand Totals	Gross Totals	526,289	67,456	11,064		604,809				
	Total with Aircraft (as reported in NC Sustainability Plan)	526,645	67,456	11,064	-	605,165				
	Net Totals									

Franklin Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Franklin**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE							
		CO2e	CO2	CH4	N2O	PFC	SF6
Built Environment	Residential Energy Consumption						
	Electricity / Steam	29,753	29,608	20	125		
	Natural Gas	10,188	10,178	4	6		
	Propane / LPG	10,108	10,068	10	30		
	Distillate Fuel Oil (#1, #2, Kerosene)	84,036	83,754	71	211		
	Wood	2,114	-	720	1,394		
	Commercial Energy Consumption						
	Electricity / Steam	13,252	13,187	9	56		
	Natural Gas	5,585	5,579	2	3		
	Propane / LPG	2,686	2,675	3	8		
	Distillate Fuel Oil (#1, #2, Kerosene)	54,848	54,664	47	137		
	Residual Fuel Oil (#4 and #6)	-					
	Coal	110	109	0	1		
	Wood	488	-	166	322		
	Industrial Energy Consumption						
	Electricity / Steam	20,741	20,640	14	87		
	Natural Gas	-	-	-	-		
	Propane / LPG	-	-	-	-		
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-		
	Residual Fuel Oil (#4 and #6)	-	-	-	-		
	Coal	-					
	Wood	-		-	-		
	Energy Generation and Supply						
	Electricity T/D Losses	3,710	3,692	2	16		
	Natural Gas T/D Losses	2,221		2,221			
	Use of SF6 in the Utility Industry	853					853
	Industrial Processes						
	Cement Production	-					
	Iron and Steel Production	-					
	Ferroalloy Production	-					

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name Franklin

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Aluminum Production	-	-			-		
	Paper and Pulp	-						
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	11,814					11,814	
Transportation Energy	On-road: ALL (Total not ethanol)							
	Motor Gasoline (E-10)	162,809	162,233	430	146			
	Diesel	37,507	37,382	94	32			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	3,343	3,332	8	3			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	1,672	1,666	4	1			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	51,725	51,545	134	45			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	11,064	15	11,049	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	3,425		2,569	856			
	Livestock							
	Enteric Fermentation	64,166		64,166				
	Manure management	12,985		10,745	2,240			
	Crop Production and Soil Management							
	Use of Fertilizer	3,608			3,608			
	Crop Residue Incineration	-						
Grand Totals		604,809	490,328	92,488	9,326	-	11,814	853

Hamilton Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Hamilton**

Color Code

	REQUIRED, though some data may be zero or considered small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment									
Residential Energy Consumption									
NC Electricity Consumption	Electricity / Steam		6,406			Yes	Consumption	MMBTU	96,304
NC Direct Residential Fuel Consumption	Natural Gas	925				Yes	Consumption	MMBTU	17,434
NC Direct Residential Fuel Consumption	Propane / LPG	3,893				Yes	Consumption	MMBTU	61,564
NC Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	8,845				Yes	Consumption	MMBTU	119,195
NC Direct Residential Fuel Consumption	Wood	433			20,577	Yes	Consumption	MMBTU	219,375
Commercial Energy Consumption									
NC Electricity Consumption	Electricity / Steam		3,360			Yes	Consumption	MMBTU	50,516
NC Commercial Direct Fuel Consumption	Natural Gas	452				Yes	Consumption	MMBTU	8,513
NC Commercial Direct Fuel Consumption	Propane / LPG	921				Yes	Consumption	MMBTU	14,570
NC Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	5,142				Yes	Consumption	MMBTU	69,292
NC Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)					Yes	Consumption	MMBTU	
NC Commercial Direct Fuel Consumption	Coal	-				Yes	Consumption	MMBTU	-
NC Commercial Direct Fuel Consumption	Wood	89			4,231	Yes	Consumption	MMBTU	45,108
Industrial Energy Consumption									
NC Electricity Consumption	Electricity / Steam		565			Yes	Consumption	MMBTU	8,488
NC Industrial Title V Consumption	Natural Gas	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply									
NC Elec Generation GHG Analysis	Coal and Coke	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Natural Gas	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	MSW and landfill emissions	-			-	No	MSW Combusted	MMBTU	-

REDC Emissions By Source and Sector

Year: 2010

REDC / County Name

Hamilton

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3		Metric	Unit	Value
NC Elec Generation GHG Analysis	Other	-						-
NC Elec Generation GHG Analysis	Electricity T/D Losses		601		Yes	Losses	MMBTU	9,039
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	194			Yes	Losses	MMBTU	
NC Electricity Consumption	Use of SF6 in the Utility Industry	138			Yes	Consumption	MMBTU	
Industrial Processes	Industrial Processes							
Not Reported	Cement Production				Yes			
NC Industrial Sources	Iron and Steel Production				Yes			
NC Industrial Sources	Ferroalloy Production				Yes			
Not Reported	Aluminum Production				Yes			
Not Reported	Paper and Pulp				Yes			
Not Reported	Limestone Use				Yes			
Not Reported	Soda Ash Use				Yes			
Not Reported	Semi-Conductor Manufacturing				Yes			
Not Reported	Glass Production				Yes			
Not Reported	Chemical Manufacturing				Yes			
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)							
NC Industrial Sources	All Refrigerants- except SF6	1,107			Yes			
Transportation Energy	On-road							
NC Emission Summary - Onroad	Motor Gasoline (E-10)	35,295		2,562	Yes	Consumption	MMBTU	538,259
NC Emission Summary - Onroad	Diesel	8,154			Yes	Consumption	MMBTU	109,932
Not Reported	Ethanol (E-85)				No	Consumption	MMBTU	
Not Reported	Biodiesel				No	Consumption	MMBTU	

REDC Emissions By Source and Sector

Year: 2010

REDC / County Name	Hamilton
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Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	Rail								
NC Emission Summary - Rail	Diesel	29				Yes	Consumption	MMBTU	390
NC Emission Summary - Rail	Electricity Consumption					Yes	Consumption	MMBTU	
	Marine								
NC Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
NC Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	Air								
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	75				No	Consumption	MMBTU	1,065
	Non-road Mobile								
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	99,802				Yes	Consumption	MMBTU	1,411,596
Waste Management	Solid Waste Management								
NC Waste	Landfill Methane and Combustion	43,396		2,426		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	7,936
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-
	Sewage Treatment						MSW Sent for Incineration	Tonnes	
NC Waste water	Central WWTPs and Septic Systems	100				Yes	MSW incinerated in Boundary	Tonnes	
	Livestock								
GHG_NC_Agriculture	Enteric Fermentation	19				Yes			
GHG_NC_Agriculture	Manure management	1				Yes			
	Crop Production and Soil Management								
GHG_NC_Agriculture	Use of Fertilizer	7				Yes			
Not Reported	Crop Residue Incineration					No			
	Land Use and Forestry								
GHG_NC_Forest	Urban Forest Annual Reserve	-				No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	212,743,029				No			
Grand Totals	Gross Totals	165,547	10,932	2,426		178,906			
	Total with Aircraft (as reported in NC Sustainability Plan)	165,623	10,932	2,426	-	178,981			
	Net Totals								

Hamilton Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Hamilton**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE							
		CO2e	CO2	CH4	N2O	PFC	SF6
Built Environment	Residential Energy Consumption						
	Electricity / Steam	6,406	6,375	4	27		
	Natural Gas	925	924	0	1		
	Propane / LPG	3,893	3,877	4	11		
	Distillate Fuel Oil (#1, #2, Kerosene)	8,845	8,816	8	22		
	Wood	433	-	147	286		
	Commercial Energy Consumption						
	Electricity / Steam	3,360	3,344	2	14		
	Natural Gas	452	451	0	0		
	Propane / LPG	921	918	1	3		
	Distillate Fuel Oil (#1, #2, Kerosene)	5,142	5,125	4	13		
	Residual Fuel Oil (#4 and #6)	-					
	Coal	-	-	-	-		
	Wood	89	-	30	59		
	Industrial Energy Consumption						
	Electricity / Steam	565	562	0	2		
	Natural Gas	-	-	-	-		
	Propane / LPG	-	-	-	-		
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-		
	Residual Fuel Oil (#4 and #6)	-	-	-	-		
	Coal	-					
	Wood	-		-	-		
	Energy Generation and Supply						
	Electricity T/D Losses	601	598	0	3		
	Natural Gas T/D Losses	194		194			
	Use of SF6 in the Utility Industry	138					138
	Industrial Processes						
	Cement Production	-					
	Iron and Steel Production	-					
	Ferroalloy Production	-					
	Aluminum Production	-	-	-	-	-	

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name Hamilton

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Paper and Pulp	-						
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	1,107					1,107	
Transportation Energy	On-road: ALL(Total not ethanol)							
	Motor Gasoline (E-10)	35,295	35,170	93	32			
	Diesel	8,154	8,131	17	7			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	29	29	0	0			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	99,802	99,450	263	89			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	2,426	3	2,423	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	100		75	25			
	Livestock							
	Enteric Fermentation	19		19				
	Manure management	1		1	0			
	Crop Production and Soil Management							
	Use of Fertilizer	7			7			
	Crop Residue Incineration	-						
Grand Totals		178,906	173,774	3,287	600	-	1,107	138

Jefferson Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Jefferson**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Related GHG Metrics / Activity Data			
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	Residential Energy Consumption								
	NC Electricity Consumption		64,472			Yes	Consumption	MMBTU	969,244
	NC Direct Residential Fuel Consumption	Natural Gas	120,792			Yes	Consumption	MMBTU	2,275,993
	NC Direct Residential Fuel Consumption	Propane / LPG	33,430			Yes	Consumption	MMBTU	528,711
	NC Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	53,496			Yes	Consumption	MMBTU	720,878
	NC Direct Residential Fuel Consumption	Wood	2,137		2,137	Yes	Consumption	MMBTU	1,082,607
	Commercial Energy Consumption								
	NC Electricity Consumption	Electricity / Steam		35,171		Yes	Consumption	MMBTU	528,745
	NC Commercial Direct Fuel Consumption	Natural Gas	80,706			Yes	Consumption	MMBTU	1,520,698
	NC Commercial Direct Fuel Consumption	Propane / LPG	10,826			Yes	Consumption	MMBTU	171,221
	NC Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	42,555			Yes	Consumption	MMBTU	573,451
	NC Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)				Yes	Consumption	MMBTU	
	NC Commercial Direct Fuel Consumption	Coal	91			Yes	Consumption	MMBTU	885
	NC Commercial Direct Fuel Consumption	Wood	601		28,573	Yes	Consumption	MMBTU	304,611
	Industrial Energy Consumption								
	NC Electricity Consumption	Electricity / Steam		77,665			Yes	Consumption	MMBTU
NC Industrial Title V Consumption	Natural Gas	10,015				Yes	Consumption	MMBTU	188,700
NC Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
NC Industrial Title V Consumption									
Energy Generation and Supply	Energy Generation and Supply								
NC Elec Generation GHG Analysis	Coal and Coke	106,709				No	Consumption	MMBTU	1,111,229
NC Elec Generation GHG Analysis	Natural Gas	6,411				No	Consumption	MMBTU	120,803
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	380				No	Consumption	MMBTU	5,126
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Consumption	MMBTU	-

REDC Emissions By Source and Sector

Year: 2010

REDC / County Name Jefferson

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC: Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data			
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value	
NC Elec Generation GHG Analysis	MSW and landfill emissions	107			21,232	No	MSW Combusted	MMBTU	407,752	
NC Elec Generation GHG Analysis	Other	2,978								33,859
NC Elec Generation GHG Analysis	Electricity T/D Losses			10,319			Yes	Losses	MMBTU	155,136
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	30,712					Yes	Losses	MMBTU	
NC Electricity Consumption	Use of SF6 in the Utility Industry	2,373					Yes	Consumption	MMBTU	
Industrial Processes	Industrial Processes									
Not Reported	Cement Production						Yes			
NC Industrial Sources	Iron and Steel Production						Yes			
NC Industrial Sources	Ferroalloy Production						Yes			
Not Reported	Aluminum Production					Yes				
Not Reported	Paper and Pulp					Yes				
Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
Not Reported	Glass Production					Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)									
NC Industrial Sources	All Refrigerants- except SF6	26,611				Yes				
Transportation Energy	On-road									
NC Emission Summary - Onroad	Motor Gasoline (E-10)	418,440			30,369	Yes	Consumption	MMBTU	6,381,302	
NC Emission Summary - Onroad	Diesel	129,875				Yes	Consumption	MMBTU	1,750,127	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		

REDC Emissions By Source and Sector

Year: 2010

REDC / County Name Jefferson

Color Code

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	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
NC Emission Summary - Rail	Rail	22,068				Yes	Consumption	MMBTU	297,383
NC Emission Summary - Rail	Diesel					Yes	Consumption	MMBTU	
	Electricity Consumption								
	Marine								
NC Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	15,673				Yes	Consumption	MMBTU	211,203
NC Emission Summary -Com Marine	Residual Fuels	15,672				Yes	Consumption	MMBTU	207,997
	Air								
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	7,107				No	Consumption	MMBTU	99,548
	Non-road Mobile								
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	128,777				Yes	Consumption	MMBTU	1,792,552
Waste Management	Solid Waste Management								
NC Waste	Landfill Methane and Combustion			30,721		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	100,486
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	192,131
	Sewage Treatment						MSW Sent for Incineration	Tonnes	
NC Waste water	Central WWTps and Septic Systems	11,379				Yes	MSW incinerated in Boundary	Tonnes	
Agriculture	Livestock								
GHG_NC_Agriculture	Enteric Fermentation	127,471				Yes			
GHG_NC_Agriculture	Manure management	26,132				Yes			
	Crop Production and Soil Management								
GHG_NC_Agriculture	Use of Fertilizer	9,022				Yes			
Not Reported	Crop Residue Incineration					No			
Land Use and Forestry									
GHG_NC_Forest	Urban Forest Annual Reserve	61,989				No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	73,072,453				No			
Grand Totals	Gross Totals	1,318,856	187,628	30,721					1,537,205
	Total with Aircraft (as reported in NC Sustainability Plan)	1,325,962	187,628	30,721	-				1,544,312
	Net Totals								

Jefferson Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Jefferson**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE							
		CO2e	CO2	CH4	N2O	PFC	SF6
Built Environment	Residential Energy Consumption						
	Electricity / Steam	64,472	64,159	43	270		
	Natural Gas	120,792	120,673	48	71		
	Propane / LPG	33,430	33,298	33	98		
	Distillate Fuel Oil (#1, #2, Kerosene)	53,496	53,316	45	134		
	Wood	2,137	-	728	1,410		
	Commercial Energy Consumption						
	Electricity / Steam	35,171	35,000	24	148		
	Natural Gas	80,706	80,627	32	47		
	Propane / LPG	10,826	10,783	11	32		
	Distillate Fuel Oil (#1, #2, Kerosene)	42,555	42,412	36	107		
	Residual Fuel Oil (#4 and #6)	-					
	Coal	91	90	0	0		
	Wood	601	-	205	397		
	Industrial Energy Consumption						
	Electricity / Steam	77,665	77,287	52	326		
	Natural Gas	10,015	10,005	4	6		
	Propane / LPG	-	-	-	-		
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-		
	Residual Fuel Oil (#4 and #6)	-	-	-	-		
	Coal	-					
	Wood	-		-	-		
	Energy Generation and Supply						
	Electricity T/D Losses	10,319	10,269	7	43		
	Natural Gas T/D Losses	30,712		30,712			
	Use of SF6 in the Utility Industry	2,373					2,373
	Industrial Processes						
	Cement Production	-					
	Iron and Steel Production	-					

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name Jefferson

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Ferroalloy Production	-	-	-	-	-	-	-
	Aluminum Production	-	-	-	-	-	-	-
	Paper and Pulp	-	-	-	-	-	-	-
	Limestone Use	-	-	-	-	-	-	-
	Soda Ash Use	-	-	-	-	-	-	-
	Semi-Conductor Manufacturing	-	-	-	-	-	-	-
	Chemical Manufacturing	-	-	-	-	-	-	-
	Product Use (ODS Substitutes)	-	-	-	-	-	-	-
	All Refrigerants- except utility SF6	26,611	-	-	-	-	26,611	-
	On-road: ALL(Total not ethanol)	-	-	-	-	-	-	-
Transportation Energy	Motor Gasoline (E-10)	418,440	416,962	1,104	374	-	-	-
	Diesel	129,875	129,439	326	110	-	-	-
	Ethanol	-	-	-	-	-	-	-
	Biodiesel	-	-	-	-	-	-	-
	Rail	-	-	-	-	-	-	-
	Diesel	22,068	21,994	55	19	-	-	-
	Electricity Consumption	-	-	-	-	-	-	-
	Marine	-	-	-	-	-	-	-
	Gasoline	-	-	-	-	-	-	-
	Distillate	15,673	15,621	39	13	-	-	-
	Residual Fuel Oil	15,672	15,621	39	13	-	-	-
	Off-road Mobile	-	-	-	-	-	-	-
	All Fuels (Diesel and Gasoline)	128,777	128,332	333	113	-	-	-
	Solid Waste Management	-	-	-	-	-	-	-
Waste Management	Landfill Methane and Combustion	30,721	42	30,679	0	-	-	-
	MSW incineration (non grid connected)	-	-	-	-	-	-	-
	Sewage Treatment	-	-	-	-	-	-	-
Agriculture	Central WWTPs and Septic Systems	11,379	-	8,534	2,845	-	-	-
	Livestock	-	-	-	-	-	-	-
	Enteric Fermentation	127,471	-	127,471	-	-	-	-
	Manure management	26,132	-	21,610	4,522	-	-	-
	Crop Production and Soil Management	-	-	-	-	-	-	-
	Use of Fertilizer	9,022	-	-	9,022	-	-	-
	Crop Residue Incineration	-	-	-	-	-	-	-
Grand Totals		1,537,205	1,265,932	222,169	20,119	-	26,611	2,373

Lewis Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Lewis**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
Built Environment	Residential Energy Consumption	Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
NC Electricity Consumption	Electricity / Steam		18,048			Yes	Consumption	MMBTU	271,318
NC Direct Residential Fuel Consumption	Natural Gas	8,806				Yes	Consumption	MMBTU	165,927
NC Direct Residential Fuel Consumption	Propane / LPG	10,329				Yes	Consumption	MMBTU	163,366
NC Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	35,941				Yes	Consumption	MMBTU	484,316
NC Direct Residential Fuel Consumption	Wood	2,829			2,829	Yes	Consumption	MMBTU	1,433,067
NC Electricity Consumption	Commercial Energy Consumption		5,608			Yes	Consumption	MMBTU	84,312
NC Commercial Direct Fuel Consumption	Natural Gas	21,467				Yes	Consumption	MMBTU	404,479
NC Commercial Direct Fuel Consumption	Propane / LPG	12,205				Yes	Consumption	MMBTU	193,022
NC Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	104,310				Yes	Consumption	MMBTU	1,405,626
NC Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)					Yes	Consumption	MMBTU	
NC Commercial Direct Fuel Consumption	Coal	52				Yes	Consumption	MMBTU	503
NC Commercial Direct Fuel Consumption	Wood	2,904			137,991	Yes	Consumption	MMBTU	1,471,120
NC Electricity Consumption	Industrial Energy Consumption		15,627			Yes	Consumption	MMBTU	234,927
NC Industrial Title V Consumption	Natural Gas	47,556				Yes	Consumption	MMBTU	896,059
NC Industrial Title V Consumption	Propane / LPG	1,405				Yes	Consumption	MMBTU	22,224
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	173				Yes	Consumption	MMBTU	2,327
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	15				Yes	Consumption	MMBTU	200
NC Industrial Title V Consumption	Coal					Yes	Consumption	MMBTU	
NC Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name Lewis

Color Code

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DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Energy Generation and Supply	Energy Generation and Supply								
NC Elec Generation GHG Analysis	Coal and Coke	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Natural Gas	1,697				No	Consumption	MMBTU	31,974
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	462				No	Consumption	MMBTU	6,222
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	MSW and landfill emissions	-			-	No	MSW Combusted	MMBTU	-
NC Elec Generation GHG Analysis	Other	-							-
NC Elec Generation GHG Analysis	Electricity T/D Losses		2,286			Yes	Losses	MMBTU	34,370
NC Elec Generation GHG Analysis and NC									
Direct Fuel Consumption	Natural Gas T/D Losses	11,148				Yes	Losses	MMBTU	
NC Electricity Consumption	Use of SF6 in the Utility Industry	526				Yes	Consumption	MMBTU	
Industrial Processes	Industrial Processes								
Not Reported	Cement Production					Yes			
NC Industrial Sources	Iron and Steel Production					Yes			
NC Industrial Sources	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
Not Reported	Glass Production					Yes			
Not Reported	Chemical Manufacturing					Yes			
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)								
NC Industrial Sources	All Refrigerants- except SF6	6,202				Yes			

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **Lewis**

Color Code

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	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Transportation Energy	On-road								
NC Emission Summary - Onroad	Motor Gasoline (E-10)	94,918			6,889	Yes	Consumption	MMBTU	1,447,513
NC Emission Summary - Onroad	Diesel	22,257				Yes	Consumption	MMBTU	299,927
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	Rail								
NC Emission Summary - Rail	Diesel	663				Yes	Consumption	MMBTU	8,935
NC Emission Summary - Rail	Electricity Consumption					Yes	Consumption	MMBTU	
	Marine								
NC Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
NC Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-
	Air								
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	145				No	Consumption	MMBTU	2,041
	Non-road Mobile								
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	40,967				Yes	Consumption	MMBTU	570,662
Waste Management	Solid Waste Management								
NC Waste	Landfill Methane and Combustion	45,286		5,039		Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	16,483
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-
	Sewage Treatment						MSW Sent for Incineration	Tonnes	
NC Waste water	Central WWTPs and Septic Systems	707				Yes	MSW incinerated in Boundary	Tonnes	
Agriculture	Livestock								
GHG_NC_Agriculture	Enteric Fermentation	106,645				Yes			
GHG_NC_Agriculture	Manure management	23,249				Yes			
	Crop Production and Soil Management								
GHG_NC_Agriculture	Use of Fertilizer	5,068				Yes			
Not Reported	Crop Residue Incineration					No			
Land Use and Forestry									
GHG_NC_Forest	Urban Forest Annual Reserve	2,858				No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	121,776,510				No			
Grand Totals	Gross Totals	560,340	41,569	5,039					606,948
	Total with Aircraft (as reported in NC Sustainability Plan)	560,484	41,569	5,039					607,093
	Net Totals								

Lewis Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Lewis**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE							
		CO2e	CO2	CH4	N2O	PFC	SF6
Built Environment	Residential Energy Consumption						
	Electricity / Steam	18,048	17,960	12	76		
	Natural Gas	8,806	8,797	3	5		
	Propane / LPG	10,329	10,289	10	30		
	Distillate Fuel Oil (#1, #2, Kerosene)	35,941	35,820	31	90		
	Wood	2,829	-	963	1,866		
	Commercial Energy Consumption						
	Electricity / Steam	5,608	5,581	4	24		
	Natural Gas	21,467	21,446	8	13		
	Propane / LPG	12,205	12,157	12	36		
	Distillate Fuel Oil (#1, #2, Kerosene)	104,310	103,960	89	261		
	Residual Fuel Oil (#4 and #6)	-					
	Coal	52	51	0	0		
	Wood	2,904	-	989	1,915		
	Industrial Energy Consumption						
	Electricity / Steam	15,627	15,551	10	66		
	Natural Gas	47,556	47,509	19	28		
	Propane / LPG	1,405	1,400	1	4		
	Distillate Fuel Oil (#1, #2, Kerosene)	173	172	0	0		
	Residual Fuel Oil (#4 and #6)	15	15	0	0		
	Coal	-					
	Wood	-		-	-		
	Energy Generation and Supply						
	Electricity T/D Losses	2,286	2,275	2	10		
	Natural Gas T/D Losses	11,148		11,148			
	Use of SF6 in the Utility Industry	526					526
	Industrial Processes						
	Cement Production	-					
	Iron and Steel Production	-					
	Ferroalloy Production	-					

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name **Lewis**

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Aluminum Production	-	-			-		
	Paper and Pulp	-						
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	6,202					6,202	
Transportation Energy	On-road: ALL (Total not ethanol)							
	Motor Gasoline (E-10)	94,918	94,582	251	85			
	Diesel	22,257	22,183	56	19			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	663	661	2	1			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	40,967	40,825	106	36			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	5,039	7	5,032	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	707		530	177			
	Livestock							
	Enteric Fermentation	106,645		106,645				
	Manure management	23,249		19,171	4,078			
	Crop Production and Soil Management							
	Use of Fertilizer	5,068			5,068			
	Crop Residue Incineration	-						
Grand Totals		606,948	441,240	145,094	13,887	-	6,202	526

St. Lawrence Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **St Lawrence**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
Built Environment	Residential Energy Consumption	Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
NC Electricity Consumption	Electricity / Steam		78,430			Yes	Consumption	MMBTU	1,179,076
NC Direct Residential Fuel Consumption	Natural Gas	117,424				Yes	Consumption	MMBTU	2,212,546
NC Direct Residential Fuel Consumption	Propane / LPG	24,171				Yes	Consumption	MMBTU	382,275
NC Direct Residential Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	99,390				Yes	Consumption	MMBTU	1,339,327
NC Direct Residential Fuel Consumption	Wood	4,903			4,903	Yes	Consumption	MMBTU	2,483,746
NC Electricity Consumption	Commercial Energy Consumption		25,968			Yes	Consumption	MMBTU	390,393
NC Commercial Direct Fuel Consumption	Natural Gas	76,042				Yes	Consumption	MMBTU	1,432,815
NC Commercial Direct Fuel Consumption	Propane / LPG	7,587				Yes	Consumption	MMBTU	119,988
NC Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	76,631				Yes	Consumption	MMBTU	1,032,636
NC Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)					Yes	Consumption	MMBTU	
NC Commercial Direct Fuel Consumption	Coal	22				Yes	Consumption	MMBTU	213
NC Commercial Direct Fuel Consumption	Wood	1,337			63,535	Yes	Consumption	MMBTU	677,342
NC Electricity Consumption	Industrial Energy Consumption		58,733			Yes	Consumption	MMBTU	882,965
NC Industrial Title V Consumption	Natural Gas	95,780				Yes	Consumption	MMBTU	1,804,711
NC Industrial Title V Consumption	Propane / LPG	75				Yes	Consumption	MMBTU	1,193
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	19				Yes	Consumption	MMBTU	257
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	26,164				Yes	Consumption	MMBTU	347,235
NC Industrial Title V Consumption	Coal					Yes	Consumption	MMBTU	
NC Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name St Lawrence

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC: Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Energy Generation and Supply	Energy Generation and Supply								
NC Elec Generation GHG Analysis	Coal and Coke	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Natural Gas	2,996				No	Consumption	MMBTU	56,452
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	26				No	Consumption	MMBTU	354
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Consumption	MMBTU	-
NC Elec Generation GHG Analysis	MSW and landfill emissions	-			-	No	MSW Combusted	MMBTU	-
NC Elec Generation GHG Analysis	Other	-							-
NC Elec Generation GHG Analysis	Electricity T/D Losses		9,494			Yes	Losses	MMBTU	142,732
NC Elec Generation GHG Analysis and NC									
Direct Fuel Consumption	Natural Gas T/D Losses	41,154				Yes	Losses	MMBTU	
NC Electricity Consumption	Use of SF6 in the Utility Industry	2,184				Yes	Consumption	MMBTU	
Industrial Processes	Industrial Processes								
Not Reported	Cement Production					Yes			
NC Industrial Sources	Iron and Steel Production					Yes			
NC Industrial Sources	Ferroalloy Production					Yes			
Not Reported	Aluminum Production	234,165				Yes			
Not Reported	Paper and Pulp					Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
Not Reported	Glass Production					Yes			
Not Reported	Chemical Manufacturing					Yes			
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)								
NC Industrial Sources	All Refrigerants- except SF6	25,630				Yes			

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **St Lawrence**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE					Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3		Metric	Unit	Value
Transportation Energy	On-road							
NC Emission Summary - Onroad	Motor Gasoline (E-10)	309,498			Yes	Consumption	MMBTU	4,719,912
NC Emission Summary - Onroad	Diesel	71,001			Yes	Consumption	MMBTU	956,767
Not Reported	Ethanol (E-85)				No	Consumption	MMBTU	
Not Reported	Biodiesel				No	Consumption	MMBTU	
Not Reported	Electricity Consumption				No	Consumption	MMBTU	
	Rail							
NC Emission Summary - Rail	Diesel	30,488			Yes	Consumption	MMBTU	410,849
NC Emission Summary - Rail	Electricity Consumption				Yes	Consumption	MMBTU	
	Marine							
NC Emission Summary -Com Marine	Gasoline				Yes	Consumption	MMBTU	
NC Emission Summary -Com Marine	Distillate Fuels	11,399			Yes	Consumption	MMBTU	153,602
NC Emission Summary -Com Marine	Residual Fuels	11,398			Yes	Consumption	MMBTU	151,270
	Air							
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	547			No	Consumption	MMBTU	7,675
	Non-road Mobile							
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	100,466			Yes	Consumption	MMBTU	1,401,551
Waste Management	Solid Waste Management							
NC Waste	Landfill Methane and Combustion	-		21,225	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	69,423
Not Reported	MSW incineration (non grid connected)				Yes	MSW+CD Processed	Tonnes	-
	Sewage Treatment							
NC Waste water	Central WWTPs and Septic Systems	10,465			Yes	MSW Sent for Incineration	Tonnes	
						MSW incinerated in Boundary	Tonnes	
Agriculture	Livestock							
GHG_NC_Agriculture	Enteric Fermentation	139,790			Yes			
GHG_NC_Agriculture	Manure management	27,660			Yes			
	Crop Production and Soil Management							
GHG_NC_Agriculture	Use of Fertilizer	9,006			Yes			
Not Reported	Crop Residue Incineration				No			
Land Use and Forestry								
GHG_NC_Forest	Urban Forest Annual Reserve	39,610			No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	248,878,471			No			
Grand Totals	Gross Totals	1,553,849	172,626	21,225				1,747,699
	Total with Aircraft (as reported in NC Sustainability Plan)	1,554,396	172,626	21,225				1,748,246
	Net Totals							

St. Lawrence
Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name St Lawrence

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	Residential Energy Consumption							
	Electricity / Steam	78,430	78,049	52	329			
	Natural Gas	117,424	117,309	46	69			
	Propane / LPG	24,171	24,076	24	71			
	Distillate Fuel Oil (#1, #2, Kerosene)	99,390	99,057	84	249			
	Wood	4,903	-	1,669	3,234			
	Commercial Energy Consumption							
	Electricity / Steam	25,968	25,842	17	109			
	Natural Gas	76,042	75,968	30	44			
	Propane / LPG	7,587	7,557	8	22			
	Distillate Fuel Oil (#1, #2, Kerosene)	76,631	76,374	65	192			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	22	22	0	0			
	Wood	1,337	-	455	882			
	Industrial Energy Consumption							
	Electricity / Steam	58,733	58,448	39	246			
	Natural Gas	95,780	95,686	38	56			
	Propane / LPG	75	75	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	19	19	0	0			
	Residual Fuel Oil (#4 and #6)	26,164	26,077	22	65			
	Coal	-						
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	9,494	9,448	6	40			
	Natural Gas T/D Losses	41,154		41,154				
	Use of SF6 in the Utility Industry	2,184						2,184
	Industrial Processes							
	Cement Production	-						
	Iron and Steel Production	-						
	Ferroalloy Production	-						
	Aluminum Production	234,165	211,169	-	-	22,996		

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	St Lawrence
--------------------	-------------

Color Code

	REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
	Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Paper and Pulp	-						
	Limestone Use	-						
	Soda Ash Use	-						
	Semi-Conductor Manufacturing	-						
	Chemical Manufacturing	-						
	Product Use (ODS Substitutes)	-						
	All Refrigerants- except utility SF6	25,630					25,630	
Transportation Energy	On-road: ALL(Total not ethanol)							
	Motor Gasoline (E-10)	309,498	308,405	817	277			
	Diesel	71,001	70,762	178	60			
	Ethanol	-						
	Biodiesel	-						
	Rail							
	Diesel	30,489	30,386	76	26			
	Electricity Consumption	-						
	Marine							
	Gasoline	-						
	Distillate	11,399	11,360	29	10			
	Residual Fuel Oil	11,398	11,360	28	10			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	100,466	100,118	260	88			
Waste Management	Solid Waste Management							
	Landfill Methane and Combustion	21,225	29	21,195	0			
	MSW incineration (non grid connected)	-						
	Sewage Treatment							
Agriculture	Central WWTPs and Septic Systems	10,465		7,849	2,616			
	Livestock							
	Enteric Fermentation	139,790		139,790				
	Manure management	27,660		22,914	4,746			
	Crop Production and Soil Management							
	Use of Fertilizer	9,006			9,006			
	Crop Residue Incineration	-						
Grand Totals		1,747,699	1,437,596	236,847	22,446	22,996	25,630	2,184

North Country
Electrical
Generation

	Total Fuel Consumption	Units	MMBTU	CO2e (Metric Tons) ¹					
				MWh Generated	Non-biogenic CO2	CH4	N2O	Non biogenic Total	Biogenic Total ³
Wind⁴	0	0	13,786,420	1,413,122	0	0	0	0	0
Clinton	0		5,066,993	519,372	0	0	0	0	0
Essex									
Franklin	0		1,875,406	192,231	0	0	0	0	0
Hamilton									
Jefferson									
Lewis	0		6,844,021	701,519	0	0	0	0	0
St. Lawrence									

Notes

1. CO2e calculated based on regional electricity generation data from 2010 EIA Form 923 reported energy use by facility, using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)*

*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, <http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>

2. New York State Totals from EIA New York <http://www.eia.gov/electricity/state/newyork/>

3. CO2 from Wood products, landfill gas and 56%** of municipal waste generators are considered a source of biogenic emissions, not to be included in GHG emission totals

**Table B2, "Methodology for Allocating Municipal Solid Waste to Biogenic/Non-Biogenic Energy" http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html

4. Renewable sources highlighted in green

GHG Emissions from Natural Gas Electricity Generation Transmission and Distribution Losses¹

	% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in kg	Non biogenic Total CO2e
North Country	1.8%	4,020,453	72,368	3,242,093	30,882
Clinton	1.8%	3,818,200	68,728	3,078,996	29,329
Essex	1.8%	-	-	-	-
Franklin	1.8%	-	-	-	-
Hamilton	1.8%	-	-	-	-
Jefferson	1.8%	121,450	2,186	97,937	933
Lewis	1.8%	24,798	446	19,997	190
St. Lawrence	1.8%	56,005	1,008	45,162	430

Notes

1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total CO2e estimated from natural gas use for electricity generation within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Elect Generation GHG Analysis1_21.xlsx

Date:

1/21/2013

North Country
Electrical
Consumption

Electricity Consumption GHG Emissions

County	# Households ²	Population ²	MWh	MMBTU ³	CO2e (Metric Tons) ¹			
					CO2	CH4	N2O	Total
New York State⁴	7,317,755	19,378,102	144,624,000					
North Country	164,730	433,193	3,409,822	11,634,312	770,130	518	3,246	773,894
Clinton	31,582	82,128	1,088,539	3,714,096	245,854	165	1,036	247,055
Essex	16,262	39,370	321,816	1,098,037	72,684	49	306	73,039
Franklin	19,054	51,599	280,867	958,318	63,436	43	267	63,746
Hamilton	2,262	4,836	45,519	155,309	10,281	7	43	10,331
Jefferson	43,451	116,229	781,231	2,665,560	176,446	119	744	177,308
Lewis	10,514	27,087	173,082	590,557	39,092	26	165	39,283
St. Lawrence	41,605	111,944	718,767	2,452,435	162,338	109	684	163,132

Sector		Population	MWh	MMBTU ³	CO2e (Metric Tons) ¹		N2O	Total
					CO2	CH4		
North Country		433,193	3,409,822	11,634,312	770,130	518	3,246	773,894
Residential			1,435,160	4,896,765	324,140	218	1,366	325,724
Clinton			443,353	1,512,719.34	100,134	67	422	100,623
Essex			123,335	420,818.44	27,856	19	117	27,992
Franklin			131,092	447,284.36	29,608	20	125	29,753
Hamilton			28,225	96,304.45	6,375	4	27	6,406
Jefferson			284,069	969,244.33	64,159	43	270	64,472
Lewis			79,519	271,317.99	17,960	12	76	18,048
St. Lawrence			345,568	1,179,076.44	78,049	52	329	78,430
Commercial⁵			788,526	2,690,450	178,094	120	751	178,964
Clinton			345,549	1,179,013	78,044	52	329	78,426
Essex			75,689	258,250	17,095	11	72	17,178
Franklin			58,388	199,221	13,187	9	56	13,252
Hamilton			14,806	50,516	3,344	2	14	3,360
Jefferson			154,966	528,745	35,000	24	148	35,171
Lewis			24,710	84,312	5,581	4	24	5,608
St. Lawrence			114,418	390,393	25,842	17	109	25,968
Industrial			1,186,136	4,047,096	267,897	180	1,129	269,206
Clinton			299,638	1,022,364	67,675	45	285	68,006
Essex			122,793	418,968	27,734	19	117	27,869
Franklin			91,387	311,813	20,640	14	87	20,741
Hamilton			2,488	8,488	562	0	2	565
Jefferson			342,195	1,167,571	77,287	52	326	77,665
Lewis			68,853	234,927	15,551	10	66	15,627
St. Lawrence			258,782	882,965	58,448	39	246	58,733

Notes

1. CO2e calculated based on regional electricity consumption provided by NYSEG, National Grid, and municipal electricity providers and eGRID 2012 NYUP emission factors.
2. 2010 US Census
3. 1 MWh = 3.412 MMBtu
4. New York State Totals from EIA New York <http://www.eia.gov/electricity/state/newyork/>
5. Commercial totals include commercial and government sectors

Grid Losses from Electricity Consumption GHG Emissions

County			MWh	MMBTU ³	CO2e (Metric Tons)			
					CO2	CH4	N2O	Total
North Country			198,452	677,117	44,822	30	189	45,041
Clinton			63,353	216,160	14,309	10	60	14,379
Essex			18,730	63,906	4,230	3	18	4,251
Franklin			16,346	55,774	3,692	2	16	3,710
Hamilton			2,649	9,039	598	0	3	601
Jefferson			45,468	155,136	10,269	7	43	10,319
Lewis			10,073	34,370	2,275	2	10	2,286
St. Lawrence			41,832	142,732	9,448	6	40	9,494
Total			198,452	677,117	44,822	30	189	45,041

0.058080963

1. CO2e calculated based on regional electricity consumption emissions and eGRID 2012 reported Eastern Grid loss rate of 5.82%

Electrical Transmission and Distribution--SF6 Emissions

County		CO2e (Metric Tons) ¹
		SF6 ³
United States^{1,2}	3,884,000,000	11,800,000
North Country	3,409,822	10,359
Clinton	1,088,539	3,307
Essex	321,816	978
Franklin	280,867	853
Hamilton	45,519	138
Jefferson	781,231	2,373
Lewis	173,082	526
St. Lawrence	718,767	2,184

1. CO2e calculated based on ratio of regional and national electricity consumption and reported national SF6 emissions.

2. U.S. Electricity end use consumption from EIA Annual Review, 2010 <http://www.eia.gov/totalenergy/data/annual/showtext.cfm?t=ptb0801>

3. U.S. SF6 emissions from U.S. Greenhouse Gas Inventory Report for 2010: <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html>

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Electricity Consumption Emissions1_23.xlsx

Date:

1/23/2013

North Country
Residential Energy
Emissions

Residential Building Emissions from Stationary Combustion

	CO2e (Metric Tons) ¹						
	# Households ²	mmBTU ²	CO ₂	CH ₄	N ₂ O	Total	Biogenic Total ³
New York State	7,317,755	595,650,000	31,788,580	50,832	103,983	31,943,395	4,633,720
Natural Gas	3,972,785	399,700,000	21,192,094	8,394	12,391	21,212,878	
Bottled, Tank, or LP gas	225,680	22,200,000	1,398,156	1,399	4,129	1,403,684	
Fuel Oil, Kerosene, etc.	2,207,233	124,300,000	9,193,228	7,831	23,120	9,224,179	
Wood	138,599	49,400,000	-	33,197	64,319	97,516	4,633,720
Coal	19,542	50,000	5,102	12	25	5,138	
North Country	164,730	21,074,411	824,013	6,194	12,426	842,634	323,887
Natural Gas	38,179	5,471,996	290,125	115	170	290,410	
Bottled, Tank, or LP gas	13,405	1,428,293	102,880	103	304	103,286	
Fuel Oil, Kerosene, etc.	64,432	5,825,306	430,840	367	1,084	432,290	
Wood	20,531	8,347,161	-	5,609	10,868	16,477	323,887
Coal	556	1,654	169	0	1	170	
Clinton	31,582	2,815,653	119,297	808	1,645	121,750	99,826
Natural Gas	3,137	426,109	22,592	9	13	22,614	
Bottled, Tank, or LP gas	1,083	120,481	7,588	8	22	7,618	
Fuel Oil, Kerosene, etc.	14,956	1,204,518	89,086	76	224	89,386	
Wood	2,995	1,064,247	-	715	1,386	2,101	99,826
Coal	109	298	30	0	0	31	
Essex	16,262	2,012,211	84,337	737	1,493	86,567	93,180
Natural Gas	1,101	182,028	9,651	4	6	9,661	
Bottled, Tank, or LP gas	1,605	12,040	13,684	14	40	13,738	
Fuel Oil, Kerosene, etc.	8,416	824,645	60,991	52	153	61,196	
Wood	2,298	993,385	-	668	1,293	1,961	93,180
Coal	34	114	12	0	0	12	
Franklin	19,054	2,555,611	104,065	805	1,641	106,510	100,435
Natural Gas	1,173	191,958	10,178	4	6	10,188	
Bottled, Tank, or LP gas	1,193	159,856	10,068	10	30	10,108	
Fuel Oil, Kerosene, etc.	11,673	1,132,428	83,754	71	211	84,036	
Wood	2,502	1,070,733	-	720	1,394	2,114	100,435
Coal	193	635	65	0	0	65	
Hamilton	2,262	417,569	13,617	159	320	14,096	20,577
Natural Gas	95	17,434	924	0	1	925	
Bottled, Tank, or LP gas	409	61,564	3,877	4	11	3,893	
Fuel Oil, Kerosene, etc.	1,095	119,195	8,816	8	22	8,845	
Wood	457	219,375	-	147	286	433	20,577
Coal	-	-	-	-	-	-	
Jefferson	43,451	4,608,622	207,332	854	1,713	209,899	2,137
Natural Gas	17,892	2,275,993	120,673	48	71	120,792	
Bottled, Tank, or LP gas	5,073	528,711	33,298	33	98	33,430	
Fuel Oil, Kerosene, etc.	9,557	720,878	53,316	45	134	53,496	

Residential Building Emissions from Stationary Combustion

	# Households ²	mmBTU ²	CO ₂ e (Metric Tons) ¹				
			CO ₂	CH ₄	N ₂ O	Total	Biogenic Total ³
Wood	3,253	1,082,607	-	728	1,410	2,137	2,137
Coal	169	433	44	0	0	44	
Lewis	10,514	2,246,743	54,913	1,007	1,991	57,912	2,829
Natural Gas	934	165,927	8,797	3	5	8,806	
Bottled, Tank, or LP gas	1,123	163,366	10,289	10	30	10,329	
Fuel Oil, Kerosene, etc.	4,599	484,316	35,820	31	90	35,941	
Wood	3,084	1,433,067	-	963	1,866	2,829	2,829
Coal	19	67	7	0	0	7	
St. Lawrence	41,605	6,418,002	240,452	1,824	3,623	245,899	4,903
Natural Gas	13,847	2,212,546	117,309	46	69	117,424	
Bottled, Tank, or LP gas	2,920	382,275	24,076	24	71	24,171	
Fuel Oil, Kerosene, etc.	14,136	1,339,327	99,057	84	249	99,390	
Wood	5,942	2,483,746	-	1,669	3,234	4,903	4,903
Coal	33	107	11	0	0	11	

Notes:

1. CO₂e calculated based on allocation of EIA 2010 Residential Energy use in New York*, using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)**

*http://www.eia.gov/state/seds/sep_sum/html/pdf/sum_btu_com.pdf

**Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, <http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>

2. New York State, regional and county residential energy totals allocated based on 2007 - 2010 ACS data for type of residence and heating fuel type, 2010 US Census data used for total occupied units, and HDD determined based on NOAA New York State climate divisions. fuel use by structure size determined though EPA study provided to GHG Inventory Protocol group.

3. CO₂ from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals

4. Renewable sources highlighted in green

GHG Emissions from Residential Natural Gas Use Transmission and Distribution Losses¹

	% T&D Loss	Total Natural Gas (mcf)	CH ₄ Losses in mcf	CH ₄ Losses in lbs	Total CO ₂ e
North Country	1.8%	5,322,954	95,813	4,292,429.83	40,887
Clinton	1.8%	414,503	7,461	334,255.12	3,184
Essex	1.8%	177,070	3,187	142,789.10	1,360
Franklin	1.8%	186,730	3,361	150,578.87	1,434
Hamilton	1.8%	16,959	305	13,676.08	130
Jefferson	1.8%	2,214,001	39,852	1,785,370.63	17,006
Lewis	1.8%	161,408	2,905	130,159.36	1,240
St. Lawrence	1.8%	2,152,283	38,741	1,735,600.68	16,532

Notes

1. CO₂e from T&D losses calculated based on ratio of estimated % fuel loss and total residential natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Residential Direct Energy Sources 1_21_13.xlsx

Date:

1/21/2013

North Country
Commercial
Energy Emissions

Commercial Energy Use Emissions

				CO2e (Metric Tons) ¹				Biogenic Total ³
	Workers ²	Sq Footage ²	mmBTU ¹	CO ₂	CH ₄	N ₂ O	Total	
New York State	6,618,037	6,018,827,593	431,800,000	24,923,838	21,323	46,590	24,991,751	
Natural Gas	4,005,538	3,519,948,423	294,100,000	15,593,182	6,176	9,117	15,608,475	
Bottled, Tank, or LP gas	227,624	183,398,128	6,600,000	415,668	416	1,228	417,311	
Fuel Oil, Kerosene, etc.	2,225,226	2,200,987,287	120,400,000	8,904,784	7,585	22,394	8,934,764	
Wood	139,846	97,326,344	10,600,000	-	7,123	13,801	20,924	994,280
Coal	19,802	17,167,411	100,000	10,204	23	50	10,277	
North Country	108,030	145,008,454	13,117,078	639,796	2,662	5,503	647,961	307,647
Natural Gas	30,547	36,060,409	3,861,032	204,712	81	120	204,913	
Bottled, Tank, or LP gas	10,486	14,567,392	638,891	40,237	40	119	40,396	
Fuel Oil, Kerosene, etc.	51,115	67,771,688	5,333,853	394,492	336	992	395,820	
Wood	15,412	26,088,771	3,279,824	-	2,204	4,270	6,474	307,647
Coal	470	520,194	3,478	355	1	2	357	
Clinton	19,324	20,033,513	1,606,457	89,852	274	594	90,720	28,523
Natural Gas	2,721	2,820,920	289,112	15,329	6	9	15,344	
Bottled, Tank, or LP gas	939	973,512	39,622	2,495	2	7	2,505	
Fuel Oil, Kerosene, etc.	12,971	13,448,046	973,021	71,965	61	181	72,207	
Wood	2,598	2,693,232	304,083	-	204	396	600	28,523
Coal	94	97,804	619	63	0	0	64	
Essex	10,233	10,956,865	929,477	48,976	195	415	49,585	21,610
Natural Gas	837	896,552	100,186	5,312	2	3	5,317	
Bottled, Tank, or LP gas	1,221	1,306,894	57,994	3,652	4	11	3,667	
Fuel Oil, Kerosene, etc.	6,401	6,854,261	540,726	39,992	34	101	40,127	
Wood	1,748	1,871,420	230,379	-	155	300	455	21,610
Coal	26	27,737	191	20	0	0	20	
Franklin	14,920	13,113,734	1,135,051	63,027	218	471	63,716	23,186
Natural Gas	1,046	919,495	105,229	5,579	2	3	5,585	
Bottled, Tank, or LP gas	1,063	934,595	42,474	2,675	3	8	2,686	
Fuel Oil, Kerosene, etc.	10,408	9,148,063	739,101	54,664	47	137	54,848	
Wood	2,231	1,960,583	247,181	-	166	322	488	23,186
Coal	172	150,997	1,066	109	0	1	110	
Hamilton	1,348	1,523,110	137,483	6,494	36	75	6,604	4,231
Natural Gas	62	70,351	8,513	451	0	0	452	
Bottled, Tank, or LP gas	268	303,215	14,570	918	1	3	921	
Fuel Oil, Kerosene, etc.	718	811,153	69,292	5,125	4	13	5,142	
Wood	299	338,391	45,108	-	30	59	89	4,231
Coal	-	-	-	-	-	-	-	

Commercial Energy Use Emissions

	Workers ²	Sq Footage ²	mmBTU ¹	CO ₂ e (Metric Tons) ¹				Biogenic Total ³
				CO ₂	CH ₄	N ₂ O	Total	
Jefferson				133,914	284	583	134,780	28,573
Natural Gas	15,343	15,490,389	1,520,698	80,627	32	47	80,706	
Bottled, Tank, or LP gas	4,350	4,391,995	171,221	10,783	11	32	10,826	
Fuel Oil, Kerosene, etc.	8,195	8,274,249	573,451	42,412	36	107	42,555	
Wood	2,790	11,036,031	304,611	-	205	397	601	28,573
Coal	145	146,120	885	90	0	0	91	
Lewis	4,454	29,254,356	3,474,750	137,613	1,098	2,226	140,937	137,991
Natural Gas	426	3,342,746	404,479	21,446	8	13	21,467	
Bottled, Tank, or LP gas	512	4,016,973	193,022	12,157	12	36	12,205	
Fuel Oil, Kerosene, etc.	2,099	16,454,687	1,405,626	103,960	89	261	104,310	
Wood	1,408	5,372,527	1,471,120	-	989	1,915	2,904	137,991
Coal	9	67,423	503	51	0	0	52	
St. Lawrence	26,929	30,788,092	3,262,994	159,920	558	1,141	161,619	63,535
Natural Gas	10,111	12,519,954	1,432,815	75,968	30	44	76,042	
Bottled, Tank, or LP gas	2,132	2,640,208	119,988	7,557	8	22	7,587	
Fuel Oil, Kerosene, etc.	10,322	12,781,229	1,032,636	76,374	65	192	76,631	
Wood	4,339	2,816,587	677,342	-	455	882	1,337	63,535
Coal	24	30,113	213	22	0	0	22	

Notes:

1. CO₂e calculated based on allocation of EIA 2010 Commercial Energy use in New York*, using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)**

*http://www.eia.gov/state/seds/sep_sum/html/pdf/sum_btu_com.pdf

**Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2,

<http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>

2. New York State, regional and county commercial energy totals allocated based on NYS 2010 Department of Labor statistics for each county, the CBECS average floor space per worker, and 2010 HDD based on NOAA climate divisionsconsumption and generation

3. CO₂ from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals

Commercial Energy Use Emissions

				CO2e (Metric Tons) ¹				
	Workers ²	Sq Footage ²	mmBTU ¹	CO ₂	CH ₄	N ₂ O	Total	Biogenic Total ³

GHG Emissions from Natural Gas Use Transmission and Distribution Losses¹

		% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	Total CO2e
Natural Gas T&D Losses	1.8%	3,755,867.97	67,606	3,028,731.93	28,850
Clinton	1.8%	281,237.82	5,062	226,790.17	2,160
Essex	1.8%	97,456.83	1,754	78,589.19	749
Franklin	1.8%	102,363.16	1,843	82,545.65	786
Hamilton	1.8%	8,280.82	149	6,677.65	64
Jefferson	1.8%	1,479,278.14	26,627	1,192,889.89	11,363
Lewis	1.8%	393,462.50	7,082	317,288.16	3,022
St. Lawrence	1.8%	1,393,788.72	25,088	1,123,951.22	10,706

Notes

1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total residential natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Commercial Energy Emissions 1-21-2013

Date:

1/21/2013

North Country
Industrial Energy
Emissions

Industrial Energy Use Emissions

	CO2e (Metric Tons) ¹					
	mmBTU ²	CO ₂	CH ₄	N ₂ O	Total	Biogenic Total ³
New York State	142,674,216	8,707,842	14,208	28,311	8,750,361	219,731
Natural Gas	100,184,192	5,311,766	2,104	3,106	5,316,975	
LPG	381,677	24,038	24	71	24,133	
Distillate Fuel Oil (#1, #2, Kerosene)	2,866,662	211,235	181	533	211,949	
<i>Heating Oil #1</i>	<i>1,103,236</i>	<i>80,812</i>	<i>70</i>	<i>205</i>	<i>81,087</i>	
<i>Heating Oil #2</i>	<i>1,763,426</i>	<i>130,423</i>	<i>111</i>	<i>328</i>	<i>130,862</i>	
Residual Fuel Oil (#4 and #6)	14,565,792	1,093,813	918	2,709	1,097,440	
<i>Heating Oil #4</i>	<i>1,300,971</i>	<i>97,625</i>	<i>82</i>	<i>242</i>	<i>97,949</i>	
<i>Heating Oil #6</i>	<i>13,264,821</i>	<i>996,188</i>	<i>836</i>	<i>2,467</i>	<i>999,491</i>	
Coal	12,699,950	1,193,241	2,934	6,299	1,202,474	
<i>Bituminous Coal</i>	<i>11,911,597</i>	<i>1,112,543</i>	<i>2,752</i>	<i>5,908</i>	<i>1,121,203</i>	
<i>Anthracite Coal</i>	<i>169,701</i>	<i>17,571</i>	<i>39</i>	<i>84</i>	<i>17,694</i>	
<i>Coke</i>	<i>618,652</i>	<i>63,127</i>	<i>143</i>	<i>307</i>	<i>63,577</i>	
Wood ⁴	2,342,544	-	1,574	3,050	4,624	219,731
MSW ⁵	9,633,400	873,749	6,474	12,543	892,766	
Solid Other						
Liquid Other						
North Country	8,020,260	450,931	952	2,036	453,920	91,613
Natural Gas	3,518,810	186,567	74	109	186,750	
LPG	26,909	1,695	2	5	1,701	
Distillate Fuel Oil (#1, #2, Kerosene)	17,318	1,281	1	3	1,285	
<i>Heating Oil #1</i>	<i>493</i>	<i>36</i>	<i>0</i>	<i>0</i>	<i>36</i>	
<i>Heating Oil #2</i>	<i>16,826</i>	<i>1,244</i>	<i>1</i>	<i>3</i>	<i>1,249</i>	
Residual Fuel Oil (#4 and #6)	3,480,538	261,388	219	647	262,255	
<i>Heating Oil #4</i>	-	-	-	-	-	
<i>Heating Oil #6</i>	<i>3,480,538</i>	<i>261,388</i>	<i>219</i>	<i>647</i>	<i>262,255</i>	
Coal	-	-	-	-	-	
<i>Bituminous Coal</i>	-	-	-	-	-	
<i>Anthracite Coal</i>	-	-	-	-	-	
<i>Coke</i>	-	-	-	-	-	
Wood	976,685	-	656	1,272	1,928	91,613
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						

Industrial Energy Use Emissions

	CO2e (Metric Tons) ¹						Biogenic Total ³
	mmBTU ²	CO ₂	CH ₄	N ₂ O	Total		
Clinton	637,537	33,974	14	21	34,009		0
Natural Gas	629,340	33,368	13	20	33,400		
LPG	-	-	-	-	-		
Distillate Fuel Oil (#1, #2, Kerosene)	8,197	606	1	2	608		
<i>Heating Oil #1</i>	-	-	-	-	-		
<i>Heating Oil #2</i>	8,197	606	1	2	608		
Residual Fuel Oil (#4 and #6)	-	-	-	-	-		
<i>Heating Oil #4</i>	-	-	-	-	-		
<i>Heating Oil #6</i>	-	-	-	-	-		
Coal	-	-	-	-	-		
<i>Bituminous Coal</i>	-	-	-	-	-		
<i>Anthracite Coal</i>	-	-	-	-	-		
<i>Coke</i>	-	-	-	-	-		
Wood	-	-	-	-	-		-
MSW	-	-	-	-	-		
Solid Other							
Liquid Other							
Essex	4,119,819	235,999	854	1,856	238,710		91,613
Natural Gas	-	-	-	-	-		
LPG	3,492	220	0	1	221		
Distillate Fuel Oil (#1, #2, Kerosene)	6,538	483	0	1	485		
<i>Heating Oil #1</i>	322	24	0	0	24		
<i>Heating Oil #2</i>	6,216	460	0	1	461		
Residual Fuel Oil (#4 and #6)	3,133,104	235,296	197	583	236,076		
<i>Heating Oil #4</i>	-	-	-	-	-		
<i>Heating Oil #6</i>	3,133,104	235,296	197	583	236,076		
Coal	-	-	-	-	-		
<i>Bituminous Coal</i>	-	-	-	-	-		
<i>Anthracite Coal</i>	-	-	-	-	-		
<i>Coke</i>	-	-	-	-	-		
Wood	976,685	-	656	1,272	1,928		91,613
MSW	-	-	-	-	-		
Solid Other							
Liquid Other							

Industrial Energy Use Emissions

		CO2e (Metric Tons) ¹					Biogenic Total ³
		mmBTU ²	CO ₂	CH ₄	N ₂ O	Total	
Franklin		-	-	-	-	-	-
Natural Gas		-	-	-	-	-	
LPG		-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)		-	-	-	-	-	
Heating Oil #1		-	-	-	-	-	
Heating Oil #2		-	-	-	-	-	
Residual Fuel Oil (#4 and #6)		-	-	-	-	-	
Heating Oil #4		-	-	-	-	-	
Heating Oil #6		-	-	-	-	-	
Coal		-	-	-	-	-	
Bituminous Coal		-	-	-	-	-	
Anthracite Coal		-	-	-	-	-	
Coke		-	-	-	-	-	
Wood		-	-	-	-	-	-
MSW		-	-	-	-	-	
Solid Other							
Liquid Other							
Hamilton		-	-	-	-	-	-
Natural Gas		-	-	-	-	-	
LPG		-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)		-	-	-	-	-	
Heating Oil #1		-	-	-	-	-	
Heating Oil #2		-	-	-	-	-	
Residual Fuel Oil (#4 and #6)		-	-	-	-	-	
Heating Oil #4		-	-	-	-	-	
Heating Oil #6		-	-	-	-	-	
Coal		-	-	-	-	-	
Bituminous Coal		-	-	-	-	-	
Anthracite Coal		-	-	-	-	-	
Coke		-	-	-	-	-	
Wood		-	-	-	-	-	-
MSW		-	-	-	-	-	
Solid Other							
Liquid Other							

Industrial Energy Use Emissions

	CO2e (Metric Tons) ¹						Biogenic Total ³
	mmBTU ²	CO ₂	CH ₄	N ₂ O	Total		
Jefferson	188,700	10,005	4	6	10,015	-	
Natural Gas	188,700	10,005	4	6	10,015		
LPG	-	-	-	-	-		
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-		
Heating Oil #1	-	-	-	-	-		
Heating Oil #2	-	-	-	-	-		
Residual Fuel Oil (#4 and #6)	-	-	-	-	-		
Heating Oil #4	-	-	-	-	-		
Heating Oil #6	-	-	-	-	-		
Coal	-	-	-	-	-		
Bituminous Coal	-	-	-	-	-		
Anthracite Coal	-	-	-	-	-		
Coke	-	-	-	-	-		
Wood	-	-	-	-	-	-	
MSW	-	-	-	-	-		
Solid Other							
Liquid Other							
Lewis	920,809	49,096	20	32	49,148	-	
Natural Gas	896,059	47,509	19	28	47,556		
LPG	22,224	1,400	1	4	1,405		
Distillate Fuel Oil (#1, #2, Kerosene)	2,327	172	0	0	173		
Heating Oil #1	171	12	0	0	13		
Heating Oil #2	2,156	159	0	0	160		
Residual Fuel Oil (#4 and #6)	200	15	0	0	15		
Heating Oil #4	-	-	-	-	-		
Heating Oil #6	200	15	0	0	15		
Coal	-	-	-	-	-		
Bituminous Coal	-	-	-	-	-		
Anthracite Coal	-	-	-	-	-		
Coke	-	-	-	-	-		
Wood	-	-	-	-	-	-	
MSW	-	-	-	-	-		
Solid Other							
Liquid Other							

Industrial Energy Use Emissions

		CO2e (Metric Tons) ¹					Biogenic Total ³
	mmBTU ²	CO ₂	CH ₄	N ₂ O	Total		
St. Lawrence	2,153,396	121,857	60	121	122,038	-	
Natural Gas	1,804,711	95,686	38	56	95,780		
LPG	1,193	75	0	0	75		
Distillate Fuel Oil (#1, #2, Kerosene)	257	19	0	0	19		
Heating Oil #1	-	-	-	-	-		
Heating Oil #2	257	19	0	0	19		
Residual Fuel Oil (#4 and #6)	347,235	26,077	22	65	26,164		
Heating Oil #4	-	-	-	-	-		
Heating Oil #6	347,235	26,077	22	65	26,164		
Coal	-	-	-	-	-		
Bituminous Coal	-	-	-	-	-		
Anthracite Coal	-	-	-	-	-		
Coke	-	-	-	-	-		
Wood	-	-	-	-	-	-	
MSW	-	-	-	-	-		
Solid Other							
Liquid Other							

Notes

1. CO₂e calculated based on regional Title V Air Quality Permitting energy data provided to the CGC GHG Protocol Working Group from the NYSDEC (August 2012), using fuel type emission factors from EPA's Mandatory Reporting Rule(MRR)*

*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2,
<http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf>

2. New York State, regional and county actual energy totals reported for all Title V sources within the area. Electricity generation and landfill emissions were excluded as they are calculated and counted separately in waste and electric consumption and generation

3. CO₂ from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals

4. Renewable sources highlighted in green

5. MSW(Municipal Solid Waste) emissions are included in waste calculations

Industrial Energy Use Emissions

		CO ₂ e (Metric Tons) ¹				
	mmBTU ²	CO ₂	CH ₄	N ₂ O	Total	Biogenic Total ³

GHG Emissions from Natural Gas Use Transmission and Distribution Losses¹

	% T&D Loss	Total Natural Gas (mcf)	CH ₄ Losses in mcf	CH ₄ Losses in lbs	Total CO ₂ e
North Country	1.8%	3,422,966.93	61,613	2,760,281	26,293
Clinton	1.8%	612,198.44	11,020	493,677	4,702
Essex	1.8%	-	-	-	-
Franklin	1.8%	-	-	-	-
Hamilton	1.8%	-	-	-	-
Jefferson	1.8%	183,560.31	3,304	148,023	1,410
Lewis	1.8%	871,652.72	15,690	702,901	6,695
St. Lawrence	1.8%	1,755,555.45	31,600	1,415,680	13,485

Notes

1. CO₂e from T&D losses calculated based on ratio of estimated % fuel loss and total natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Industrial Energy Sources 1-21-13.xlsx

Date:

1/21/2013

North Country
Industrial Emission
Sources

Industrial GHG Emissions

2010 Emissions reported as part of EPA MRR Program

CO2e (Metric Tons)									
Region	Source	Process	Emissions by Type ¹						Total CO2e
			CO2	CH4	N2O	CF4	C2F6	CHF3	
New York State									
North Country									267,370
Clinton	None								
Essex	Ticonderoga Mill	Pulp and Paper Manufacturing	X	X	X				33,205
Franklin	None								
Hamilton	None								
Jefferson	None								
Lewis	None								
St. Lawrence	ALCOA INC MASSENA OPERATIONS	Aluminum Production	211,169			19,500	3,496		234,165
St. Lawrence	NEWTON FALLS PAPER COMPANY, LLC	Pulp and Paper Manufacturing							0

Notes:

1. Emissions from general combustion are not included in sources totals, and have been subtracted from reported totals where appropriate.

Ozone Depleting Substance Substitution Emissions

Region	Population	HFC Emissions
		Total CO2e (Metric Tons)
New York State	19,378,102	4,436,697
North Country	433,193	99,181
Clinton	82,128	18,804
Essex	39,370	9,014
Franklin	51,599	11,814
Hamilton	4,836	1,107
Jefferson	116,229	26,611
Lewis	27,087	6,202
St. Lawrence	111,944	25,630

Notes:

1. Emissions from HFC use estimated based on 2010 population ratio and 2007 Reported Statewide HFC emissions (New York State Greenhouse Gas Emissions Inventory and Forecasts for the 2009 State Energy Plan, NYSEDA, August 6, 2009)

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Industrial Sources_9_28_12.xlsx

Date:

9/28/2012

North Country
Transportation
Emissions,
On-Road

Table 1
Greenhouse Gas Emission Inventory Summary
Transportation: On-Road Vehicles
North Country New York Region

County	Annual Vehicle Miles Travelled ¹ (VMT)	Annual GHG Emissions ² (metric tons CO ₂ e/yr)			
		CO ₂	N ₂ O	CH ₄	Total
Clinton	865,169,884	433,423	1,086	372	434,881
Essex	566,995,335	279,083	699	239	280,021
Franklin	447,518,335	211,421	530	181	212,132
Hamilton	97,234,344	45,861	111	39	46,011
Jefferson	1,146,056,382	576,745	1,445	495	578,685
Lewis	260,474,281	123,648	310	106	124,064
St. Lawrence	851,219,149	401,611	1,006	345	402,962
North Country NY Total	4,234,667,708	2,071,792	5,187	1,777	2,078,756

Notes:

1. VMT data for each county provided by NYSDOT.
2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate county-level GHG emissions.

Emission Type	Fuel Type	North Country NY Annual GHG Emissions (metric tons CO ₂ e/yr)
Non-Biogenic	Gasoline ¹	1,545,164
	Diesel	421,448
	Total	1,966,612
Biogenic	Ethanol ¹	112,144
TOTAL		2,078,756

Notes:

1. Portion of Gasoline E-10.
2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate GHG emissions. The distribution of GHG emissions for the components of gasoline E-10 (i.e., gasoline and ethanol) is based on a fraction of 90% gasoline and 10% ethanol.

County	Annual Fuel Consumption (MMBtu/yr)		
	Gasoline (E-10)	Diesel	Total
Clinton	4,816,540	1,295,316	6,111,856
Essex	3,177,685	761,748	3,939,432
Franklin	2,482,864	505,430	2,988,294
Hamilton	538,259	109,932	648,191
Jefferson	6,381,302	1,750,127	8,131,429
Lewis	1,447,513	299,927	1,747,440
St. Lawrence	4,719,912	956,767	5,676,679
North Country	23,564,075	5,679,245	29,243,320

Notes:

1. Annual energy consumption is based on projected fuel consumption calculated from NYSDOT VMT data and national fleet fuel economy data.

Table 1
Greenhouse Gas Emission Inventory Summary
Transportation: On-Road Vehicles
North Country New York Region

Fuel Type	North Country NY GHG Emissions (metric tons CO ₂ e/yr)			
	CO ₂	N ₂ O	CH ₄	Total
North Country	2,071,792	5,187	1,777	2,078,756
Gasoline	1,539,705	4,078	1,381	1,545,164
Ethanol	112,050	56	38	112,144
Diesel	420,037	1,053	358	421,448
Clinton	433,423	1,086	372	434,881
Gasoline	314,718	834	282	315,834
Ethanol	22,903	11	8	22,922
Diesel	95,802	241	82	96,124
Essex	279,083	699	239	280,021
Gasoline	207,634	550	186	208,370
Ethanol	15,110	8	5	15,123
Diesel	56,339	142	48	56,529
Franklin	211,421	530	181	212,132
Gasoline	162,233	430	146	162,809
Ethanol	11,806	6	4	11,816
Diesel	37,382	94	32	37,507
Hamilton	45,861	111	39	46,011
Gasoline	35,170	93	32	35,295
Ethanol	2,559	1	1	2,562
Diesel	8,131	17	7	8,154
Jefferson	576,745	1,445	495	578,685
Gasoline	416,962	1,104	374	418,440
Ethanol	30,344	15	10	30,369
Diesel	129,439	326	110	129,875
Lewis	123,648	310	106	124,064
Gasoline	94,582	251	85	94,918
Ethanol	6,883	3	2	6,889
Diesel	22,183	56	19	22,257
St Lawrence	401,611	1,006	345	402,962
Gasoline	308,405	817	277	309,498
Ethanol	22,444	11	8	22,463
Diesel	70,762	178	60	71,001

1. Portion of Gasoline E-10.

components of gasoline E-10 (i.e., gasoline and ethanol) is based on a fraction of 90% gasoline and 10% ethanol.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Transportation - Onroad - 2013_1_21.xlsx

Date:

1/21/2013

North Country
Transportation
Emissions,
Rail

**GHG Emission Summary
Transportation: Railroads
North Country New York Region**

County	Annual Diesel Consumption ¹ (gal/yr)	Annual diesel Consumption (MMBtu/yr)	Direct GHG Emissions from Diesel Train Engine Systems ² (metric tons CO ₂ e/yr)			
			CO ₂	N ₂ O	CH ₄	Total
Clinton	661,618	91,303	6,753	17	6	6,776
Essex	808,641	111,592	8,253	21	7	8,281
Franklin	326,462	45,052	3,332	8	3	3,343
Hamilton	2,825	390	29	0.07	0.02	29
Jefferson	2,154,946	297,383	21,994	55	19	22,068
Lewis	64,745	8,935	661	2	0.6	663
St. Lawrence	2,977,165	410,849	30,386	76	26	30,489
North Country NY Total	6,996,402	965,503	71,409	180	61	71,649

Notes:

1. Diesel consumption based on NYSERDA Study of diesel consumption by rail systems in New York State in 2002. Fuel consumption data allocated spatially to counties by location of rail lines.

2. GHG emissions calculated by applying EPA emission factors to diesel consumption.

County	Annual Electrical Consumption ¹ (kW-hr/yr)	Indirect GHG Emissions from Electric Train Systems ² (metric tons CO ₂ e/yr)			
		CO ₂	N ₂ O	CH ₄	Total
North Country NY Total	0	-	-	-	-

County	GHG Emissions from All Train Systems (metric tons CO ₂ e/yr)			
	CO ₂	N ₂ O	CH ₄	Total
Clinton	91,303	6,753	17	98,073
Essex	111,592	8,253	21	119,867
Franklin	45,052	3,332	8	48,392
Hamilton	390	28.84	0.07	419
Jefferson	297,383	21,994	55	319,432
Lewis	8,935	661	1.7	9,597
St. Lawrence	410,849	30,386	76	441,312
North Country NY Total	965,503	71,409	180	1,037,092

Power/Fuel Type	North Country NY Annual Energy Consumption (MMBtu/yr)
Diesel	965,503
Electric	0
Total	965,503

Notes:

1. Energy consumption for diesel systems calculated from diesel consumption based on NYSERDA Study of rail systems in New York State in 2002.

2. Energy consumption for electrical systems calculated by unit conversion.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Transportation - Rail - 2013_1_21.xlsx

Date:

1/21/2013

North Country
Transportation
Emissions,
Commercial
Marine

Table 1
GHG Emission Summary
Transportation: Commercial Marine Vessels
North Country New York Region

Fuel Type	County	Annual Fuel Consumption ¹ (gal/yr)	Annual Fuel Consumption ¹ (MMBtu/yr)	GHG Emissions ^{2,3} (metric tons CO ₂ e/yr)			
				CO ₂	N ₂ O	CH ₄	Total
Diesel	Clinton	0	0	0	0	0	0
	Essex	0	0	0	0	0	0
	Franklin	163,241	22,527	1,666	4	1	1,672
	Hamilton	0	0	0	0	0	0
	Jefferson ²	1,530,456	211,203	15,621	39	13	15,673
	Lewis	0	0	0	0	0	0
	St. Lawrence ²	1,113,059	153,602	11,360	29	10	11,399
	North Country NY Total	2,806,756	387,332	28,647	72	24	28,744
Residual Fuel Oil	Clinton	0	0	0	0	0	0
	Essex	0	0	0	0	0	0
	Franklin	0	0	0	0	0	0
	Hamilton	0	0	0	0	0	0
	Jefferson ³	1,386,646	207,997	15,621	39	13	15,672
	Lewis	0	0	0	0	0	0
	St. Lawrence ³	1,008,470	151,270	11,360	28	10	11,398
	North Country NY Total	2,395,116	359,267	26,981	67	23	27,070
All Fuel Types	Clinton	-	0	-	-	-	-
	Essex	-	0	-	-	-	-
	Franklin	163,241	22,527	1,666	4	1	1,672
	Hamilton	-	0	-	-	-	-
	Jefferson	2,917,102	419,200	31,241	78	26	31,346
	Lewis	-	0	-	-	-	-
	St. Lawrence	2,121,528	304,873	22,721	57	19	22,797
	North Country NY Total	5,201,871	746,600	55,628	139	47	55,814

Notes:

1. Fuel consumption estimated by dividing annual CO₂ emissions by corresponding fuel heat value and emission-factor-energy.
2. CO₂ emissions calculated by multiplying EPA estimated annual SO₂ emission rate by ratio of CO₂ to SO₂ emissions for applicable fuel.
3. N₂O and CH₄ emissions estimated using EPA emission factors and fuel consumption estimates.

Fuel Type	Annual Energy Consumption ¹ (MMBtu/yr)
Diesel	387,332
Residual Fuel Oil	359,267
Total	746,600

Notes:

1. Annual energy consumption is based on projected fuel consumption.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Transportation - Com Marine - 2013_1_21.xlsx

Date:

1/21/2013

North Country
Transportation
Emissions, Aircraft

Table 1
Greenhouse Gas Emission Inventory Summary
Transportation: Aircraft
North Country New York Region

County	Annual Jet Fuel Consumption ¹ (gal/yr)	Annual Energy Consumption ² (MMBtu/yr)	GHG Emissions ^{3,4} (metric tons CO ₂ e/yr)			
			CO ₂	N ₂ O	CH ₄	Total
Clinton	266,172	35,933	2,557	6.7	2.3	2,566
Essex	45,019	6,078	599	1	0.4	601
Franklin	37,133	5,013	355	0.9	0.3	356
Hamilton	7,887	1,065	75	0.2	0.07	75
Jefferson	737,396	99,548	7,082	19	6	7,107
Lewis	15,116	2,041	144	0.4	0.1	145
St. Lawrence	56,849	7,675	545	1	0.5	547
North Country NY Total	1,165,572	157,352	11,357	29	10	11,396

Notes:

1. Jet fuel consumption estimated using the FAA's EDMS model with data input of total landing and take off cycles of specific aircraft types at each airport in each county.
2. Annual energy consumption is based on projected fuel consumption as estimated using FAA's EDMS model.
3. CO₂ emissions estimated using the FAA's EDMS model with data input of total landing and take off cycles of specific aircraft types at each airport in each county.
4. N₂O and CH₄ emissions estimated using using EPA emission factors and jet fuel consumption estimates.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

MV Transportation - Aircraft - 2013_1_21.xlsx

Date:

1/21/2013

North Country
Transportation
Emissions, Non-
road

GHG Emissions Summary
Transportation: Non-Road Equipment
North Country New York Region

County	Energy Consumption (MMBtu/yr)	GHG Emissions ^{1,2} (metric tons CO ₂ e/yr)			
		CO ₂	N ₂ O	CH ₄	Total
Clinton	974,219	69,236	180	61	69,477
Essex	1,057,070	75,142	196	67	75,405
Franklin	722,521	51,545	134	45	51,725
Hamilton	1,411,596	99,450	263	89	99,802
Jefferson	1,792,552	128,332	333	113	128,777
Lewis	570,662	40,825	106	36	40,967
St. Lawrence	1,401,551	100,118	260	88	100,466
North Country NY Total	7,930,171	564,649	1,472	499	566,620

Notes:

1. CO₂ emissions based on NYSDEC runs of the NONROAD emission model for the state emission inventory for Year 2007.
2. N₂O and CH₄ emissions based the use of EPA emission factors for N₂O and CH₄ based on fuel combustion. Fuel consumption estimated with reserve application of CO₂ emission factors (for fuel) to CO₂ emissions.

Fuel Type	Annual Fuel Consumption ¹		GHG Emissions ^{2,3} (metric tons CO ₂ e/yr)			
	(scf/yr)	(gal/yr)	CO ₂	N ₂ O	CH ₄	Total
CNG	19,857,515	-	1,082	1	0	1,083
Diesel	-	19,067,490	194,612	489	166	195,267
Gasoline	-	40,351,785	354,188	938	318	355,444
LPG	-	2,548,596	14,767	44	15	14,825
TOTAL	-	-	564,649	1,472	499	566,620

Notes:

1. Fuel consumption estimated with reserve application of CO₂ emission factors (for fuel) to CO₂ emissions.
2. CO₂ emissions based on NYSDEC runs of the NONROAD emission model for the state emission inventory for Year 2007.
3. N₂O and CH₄ emissions based the use of EPA emission factors for N₂O and CH₄ based on fuel combustion.

Fuel Type	North Country NY Annual Energy Consumption ¹ (MMBtu/yr)
CNG	20,414
Diesel	2,631,314
Gasoline	5,043,973
LPG	234,471
Total	7,930,171

Notes:

1. Annual energy consumption is based on projected fuel consumption calculated from NYSDEC CO₂ emission estimates.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Transportation - Nonroad - 2013_1_21.xlsx

Date:

1/21/2013

North Country
Waste (Materials)
Emissions

Waste Disposal Emissions

	Regional average Municipal Solid Waste (MSW) generated per capita (short tons)	Total MSW (Short tons) ³		CO2e (Metric Tons), 2010 ^{1,2}				
			Population	Nonbiogenic CO2	CH ₄	N ₂ O	Total non biogenic	CO2 biogenic ⁴
New York State								
North Country: Direct Emissions ¹		394,956	433,193	166	120,582	0	120,749	0
Clinton	1.87	153,644	82,128	166	120,582	0	120,749	0
Essex	-	-	39,370	40	32,027	0	32,066	0
Franklin	0.95	49,181	51,599	0	0	0	0	0
Hamilton	-	-	4,836	47	43,349	0	43,396	0
Jefferson	1.65	192,131	116,229	0	0	0	0	0
Lewis	-	-	27,087	80	45,206	0	45,286	0
St. Lawrence	-	-	111,944	0	0	0	0	0
North Country: Indirect Emissions ²	0.73	318,273	433,193	134	97,170	0	97,305	-
Clinton	0.80	65,296.10	82,128	28	19,935	0	19,963	0
Essex	0.57	22,458.40	39,370	9	6,857	0	6,866	0
Franklin	0.70	36,190.60	51,599	15	11,049	0	11,064	0
Hamilton	1.64	7,935.91	4,836	3	2,423	0	2,426	0
Jefferson	0.86	100,486.00	116,229	42	30,679	0	30,721	0
Lewis	0.61	16,483.00	27,087	7	5,032	0	5,039	0
St. Lawrence	0.62	69,423.20	111,944	29	21,195	0	21,225	0

Notes

1. Total emissions as reported for all waste facilities in North Country Region, 2010 EPA MRR GHG Reporting Data
2. Indirect emissions calculated based on average annual emissions per ton of waste from Waste Disposal Facilities in the Region, allocated based on reported waste generated by each county
3. Waste generated and received data provided by NYSDERDA to NYS Protocol Working Group, 20122010_DEC_Landfill_and_WTE_data.xlsx, summary of DEC reported data
4. Biogenic emissions include emissions from electric generation from landfill gas and portion of Waste-to-energy combustion (as reported in EPA MRR GHG Reporting Data)

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Waste 1_21.xlsx

Date:

1/21/2013

North Country
Wastewater
Emissions

Wastewater Treatment Facility Emissions

	Wastewater volume flow (MGD) ¹	Number of Plants ¹	Population ²	CO ₂ e (Metric Tons) ²			
				CO ₂	CH ₄	N ₂ O	Total CO ₂ e ³
New York State²	3,693.65	610	19,378,102	-	1,310,000	580,000	1,900,000
North Country²	87.77	83	433,193	-	30,000	10,000	40,000
Clinton ⁴	21.321	11	82,128		7,288	2,429	9,717
Essex ⁴	9.230	12	39,370		3,155	1,052	4,206
Franklin ⁴	7.516	6	51,599		2,569	856	3,425
Hamilton ⁴	0.220	2	4,836		75	25	100
Jefferson ⁴	24.968	21	116,229		8,534	2,845	11,379
Lewis ⁴	1.552	8	27,087		530	177	707
St. Lawrence ⁴	22.963	23	111,944		7,849	2,616	10,465

Notes

¹Descriptive Data of Municipal Wastewater Treatment Plants in New York State, NYSDEC, January 2004

²State and NC Totals calculated using the EPA State Inventory Tool, Wastewater module, for Municipality wastewater only, using NYS defaults, 2010 population from 2010 US Census.

³State and NC totals reported as calculated by using the EPA State Inventory Tool--may not be exact sum of other rows due to rounding.

⁴County totals calculated based on ratio of 2004 NC wastewater volumes and EPA State Inventory Tool results for NC. Significant figures of SIT (million MT, to 100ths) do not provide totals for the smaller population numbers.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC Waste_water9_21.xlsx

Date:

9/28/2012

North Country
Agriculture
Emissions

Manure Management Emissions

			CO ₂ e (Metric Tons) ²			
	Population (# of animals) ¹	Number of Animal Farms ¹	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
New York State						
North Country	286,958	5,325		88,631	18,577	107,207
Clinton	35,622	615		12,881	2,728	15,609
Essex	7,662	256		1,310	262	1,572
Franklin	38,390	788		10,745	2,240	12,985
Hamilton	271	14		1	0	1
Jefferson	66,724	1,024		21,610	4,522	26,132
Lewis	54,970	803		19,171	4,078	23,249
St. Lawrence	83,319	1,825		22,914	4,746	27,660

- Note
1. The animal and farm number data is from 2007 USDA Agricultural Census.
- 2.CO₂e calculation is based on the animal number and the factors from 2010 USEPA Draft Regional Greenhouse Gas Inventory Guidance and 2006 IPCC Guidelines for National Greenhouse Gas Inventories .

Enteric Fermentation Emissions

		Number of Animal Farms ¹	CO ₂ e (Metric Tons) ²			
	Population (# of animals) ¹		CO ₂	CH ₄	N ₂ O	Total CO ₂ e
New York State						
North Country	286,958	5,325		519,547		519,547
Clinton	35,622	615		72,623		72,623
Essex	7,662	256		8,834		8,834
Franklin	38,390	788		64,166		64,166
Hamilton	271	14		19		19
Jefferson	66,724	1,024		127,471		127,471
Lewis	54,970	803		106,645		106,645
St. Lawrence	83,319	1,825		139,790		139,790

- Notes
1. The animal and farm number data is from 2007 USDA Agricultural Census.
- 2.CO₂e calculation is based on the animal number and the factors from 2010 USEPA Draft Regional Greenhouse Gas Inventory Guidance.

Agricultural Soils Emissions

		CO ₂ e (Metric Tons) ²			
	Cropland Harvested (acres) ¹	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
New York State					
North Country	514,867			31,506	31,506
Clinton	62,157			3,796	3,796
Essex	16,033			1,000	1,000
Franklin	59,079			3,608	3,608
Hamilton	57			7	7
Jefferson	147,726			9,022	9,022
Lewis	82,977			5,068	5,068
St. Lawrence	146,838			9,006	9,006

Notes

1. The cropland harvested data for synthetic fertilizer calculation is from 2007 US Agricultural Census. Assumed most of fertilizer are used on harvested cropland.

2.CO₂e calculation is from organic fertilizer N₂O emission with data sources from NYSDEC7/23/2012 and synthetic fertilizer N₂O emission with data sources from 2007 US Agricultural Census and EPA Commerical Fertilizer Purchased
(http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/dataset_commercial.cfm).

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC_Agriculture_092012.xlsx

Date:

9/28/12

North Country Forestry Emissions

Carbon Sequestration in Forests

	Forest Land (Acres) ¹	Forest Land (km ²)	Total Carbon Sequestration (metric tons C) ²	Total Carbon Sequestration (metric tons CO ₂)
New York State				
North Country	5,895,097	23,857	299,243,250	1,098,222,727
Clinton County	492,561	1,993	23,903,202	87,724,751
Essex County	1,034,865	4,188	53,452,812	196,171,820
Franklin County	882,442	3,571	43,012,451	157,855,694
Hamilton County	1,094,916	4,431	57,968,128	212,743,029
Jefferson County	427,360	1,729	19,910,750	73,072,453
Lewis County	625,369	2,531	33,181,610	121,776,510
St. Lawrence County	1,337,585	5,413	67,814,297	248,878,471

Notes

1.The forest land data is from Forest Inventory Data Online (FIDO) FIA Standard Reports, New York Current Area, 2010.

2.The total carbon sequestration is calculated based on the carbon stock factor from COLE 1605 (b) Report for New York, July 24, 2012 and the forest land.

Carbon Sequestration in Urban Forests

	Urban Land Area (km ²) ¹	Tree Canopy Cover (%) ²	Total Carbon Sequestration (metric tons C) ³	Total Carbon Sequestration (metric tons CO ₂)
New York State				
North Country			51,547	189,177
Clinton County	54	38%	12,041	44,191
Essex County	19	57%	4,236	15,548
Franklin County	31	47%	6,807	24,981
Hamilton County	n/a	n/a	n/a	n/a
Jefferson County	76	29%	16,891	61,989
Lewis County	3	13%	779	2,858
St. Lawrence County	48	27%	10,793	39,610

Notes

1. The urban land area data is from 2000 US Census.

2. The tree canopy cover percentage data is from provided by Eric J. Greenfield, US Department of Agriculture Forest Service, Syracuse, NY on August 1, 2012.

3. The total carbon sequestration is calculated based on the urban land area, tree canopy coverage and the national average net sequestration rate.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

NC_Forest_092012.xlsx

Date:

9/28/12

North Country
QA/QC Emissions

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **North Country**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data			
Built Environment	Residential Energy Consumption	Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value	
	NC Electricity Consumption		325,724	0	-	Yes	Consumption	MMBTU	4,896,765	
	NC Direct Residential Fuel Consumption	290,410		0	-	Yes	Consumption	MMBTU	5,471,996	
	NC Direct Residential Fuel Consumption	103,286		0	-	Yes	Consumption	MMBTU	1,428,293	
	NC Direct Residential Fuel Consumption	432,290		0	-	Yes	Consumption	MMBTU	5,825,306	
	NC Direct Residential Fuel Consumption	16,477		0	323,887	Yes	Consumption	MMBTU	8,347,161	
	Commercial Energy Consumption									
	NC Electricity Consumption		178,964	0	-	Yes	Consumption	MMBTU	2,690,450	
	NC Commercial Direct Fuel Consumption	204,913		0	-	Yes	Consumption	MMBTU	3,861,032	
	NC Commercial Direct Fuel Consumption	40,396		0	-	Yes	Consumption	MMBTU	638,891	
	NC Commercial Direct Fuel Consumption	395,820		0	-	Yes	Consumption	MMBTU	5,333,853	
	NC Commercial Direct Fuel Consumption	-		0	-	Yes	Consumption	MMBTU	-	
	NC Commercial Direct Fuel Consumption	357		0	-	Yes	Consumption	MMBTU	3,478	
	NC Commercial Direct Fuel Consumption	6,474		0	307,647	Yes	Consumption	MMBTU	3,279,824	
	Industrial Energy Consumption									
	NC Electricity Consumption		269,206	0	-	Yes	Consumption	MMBTU	4,047,096	
	NC Industrial Title V Consumption	Natural Gas	186,750		0	-	Yes	Consumption	MMBTU	3,518,810
NC Industrial Title V Consumption	Propane / LPG	1,701		0	-	Yes	Consumption	MMBTU	26,909	
NC Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	1,285		0	-	Yes	Consumption	MMBTU	17,318	
NC Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	262,255		0	-	Yes	Consumption	MMBTU	3,480,538	

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name **North Country**

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Related GHG Metrics / Activity Data				
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value	
NC Industrial Title V Consumption	Coal	-		0	-	Yes	Consumption	MMBTU	-	
NC Industrial Title V Consumption	Wood	1,928		0	91,613	Yes	Consumption	MMBTU	976,685	
Energy Generation and Supply	Energy Generation and Supply			0	-					
NC Elec Generation GHG Analysis	Coal and Coke	106,709		0	-	No	Consumption	MMBTU	1,111,229	
NC Elec Generation GHG Analysis	Natural Gas	214,993		0	-	No	Consumption	MMBTU	4,050,971	
NC Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	954		0	-	No	Consumption	MMBTU	12,861	
NC Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	81,846		0	-	No	Consumption	MMBTU	1,086,225	
NC Elec Generation GHG Analysis	Wood / Biomass	7,106		0	337,659	No	Consumption	MMBTU	3,599,772	
NC Elec Generation GHG Analysis	MSW and landfill emissions	223		0	44,300	No	MSW Combusted	MMBTU	850,779	
NC Elec Generation GHG Analysis	Other	2,978		0	-				33,859	
NC Elec Generation GHG Analysis	Electricity T/D Losses	-		45,041	0	-	Yes	Losses	MMBTU	677,117
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	Natural Gas T/D Losses	126,913		0	-	Yes	Losses	MMBTU	-	
NC Electricity Consumption	Use of SF6 in the Utility Industry	10,359		0	-	Yes	Consumption	MMBTU	-	
Industrial Processes	Industrial Processes			0	-					
Not Reported	Cement Production	-		0	-	Yes			-	
NC Industrial Sources	Iron and Steel Production	-		0	-	Yes			-	
NC Industrial Sources	Ferroalloy Production	-		0	-	Yes			-	
Not Reported	Aluminum Production	234,165		0	-	Yes			-	
Not Reported	Paper and Pulp	33,205		0	-	Yes			-	
Not Reported	Limestone Use	-	0	-	Yes			-		
Not Reported	Soda Ash Use	-	0	-	Yes			-		
Not Reported	Semi-Conductor Manufacturing	-	0	-	Yes			-		
Not Reported	Glass Production	-	0	-	Yes			-		
Not Reported	Chemical Manufacturing	-	0	-	Yes			-		
Product Use (Ozone Depleting Substances)	Product Use (Ozone Depleting Substances)		0	-						
NC Industrial Sources	All Refrigerants- except SF6	99,181	0	-	Yes			-		
Transportation Energy	On-road		0	-						
NC Emission Summary - Onroad	Motor Gasoline (E-10)	1,545,164	0	112,144	Yes	Consumption	MMBTU	23,564,075		

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name North Country

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
NC Emission Summary - Onroad	Diesel	421,448		0	-	Yes	Consumption	MMBTU	5,679,245
Not Reported	Ethanol (E-85)	-		0	-	No	Consumption	MMBTU	-
Not Reported	Biodiesel			0	-	No	Consumption	MMBTU	-
Not Reported	Electricity Consumption			0	-	No	Consumption	MMBTU	-
	Rail			0	-				
NC Emission Summary - Rail	Diesel	71,649		0	-	Yes	Consumption	MMBTU	965,503
NC Emission Summary - Rail	Electricity Consumption			0	-	Yes	Consumption	MMBTU	-
	Marine			0	-				
NC Emission Summary -Com Marine	Gasoline	-		0	-	Yes	Consumption	MMBTU	-
NC Emission Summary -Com Marine	Distillate Fuels	28,744		0	-	Yes	Consumption	MMBTU	387,332
NC Emission Summary -Com Marine	Residual Fuels	27,070		0	-	Yes	Consumption	MMBTU	359,267
	Air			0	-				
NC Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	11,396		0	-	No	Consumption	MMBTU	157,352
	Non-road Mobile			0	-				
NC Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	566,620		0	-	Yes	Consumption	MMBTU	7,930,171
Waste Management	Solid Waste Management			0	-				
NC Waste	Landfill Methane and Combustion	241,497		97,305	-	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	318,273
Not Reported	MSW incineration (non grid connected)	-		0	-	Yes	MSW+CD Processed	Tonnes	394,956
	Sewage Treatment			0	-		MSW Sent for Incineration	Tonnes	-
NC Waste water	Central WWTPs and Septic Systems	40,000		0	-	Yes	MSW incinerated in Boundary	Tonnes	-
Agriculture	Livestock			0	-				
GHG_NC_Agriculture	Enteric Fermentation	519,547		0	-	Yes			
GHG_NC_Agriculture	Manure management	107,207		0	-	Yes			
	Crop Production and Soil Management			0	-				
GHG_NC_Agriculture	Use of Fertilizer	31,506		0	-	Yes			
Not Reported	Crop Residue Incineration	-		0	-	No			
Land Use and Forestry				0	-				
GHG_NC_Forest	Urban Forest Annual Reserve	189,177		0	-	No			
GHG_NC_Forest	Forest Carbon Reserve (TOTAL)	1,098,222,727		0	-	No			
Grand Totals	Gross Totals	5,807,122	818,935	97,305					6,723,362
	Total with Aircraft (as reported in NC Sustainability Plan)	5,818,518	818,935	97,305	-				6,734,758
	Net Totals								

Protocol Compliance Report				
Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative		Adherence		Brief Description of Method and Issues
Built Environment		Yes	No	
NC Electricity Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		Actual electricity sales data is provided by National Grid, NYSEG, and municipal utilities.
NC Direct Residential Fuel Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		As stated
NC Direct Residential Fuel Consumption	(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
NC Direct Residential Fuel Consumption	(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
NC Direct Residential Fuel Consumption	(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
NC Electricity Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		Actual electricity sales data is provided by National Grid, NYSEG, and municipal utilities.
NC Commercial Direct Fuel Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Commercial Direct Fuel Consumption	(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
NC Electricity Consumption	(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) allocate SEDS EIA data based allocated by industrial employment	X		Actual electricity sales data is provided by National Grid, NYSEG, and municipal utilities.
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	

Protocol Compliance Report

Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative		Adherence	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.	X	
NC Industrial Title V Consumption	(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.	X	
Energy Generation and Supply			
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. Wood CO2 emissions reported optionally as biogenic CO2, CH4 and N2 Emissions required to be reported to Scope 1	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. MSW CO2 emissions split as 44% reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html . All CH4 and N2O shall be reported under required Scope 1.	X	EIA 923 database used
NC Elec Generation GHG Analysis	(Rec) - Acquire utility specific estimate of T/D (in %) and apply that to all consumption (res/commercial/industrial). Report emissions as Scope 2 using regional EGRID emission factors consistent with all Scope 2 calculations. (Alt) use a statewide average T/D loss of 5.28% as documented by EPA's EGRID reporting for New York.	X	Alternative Method As stated
NC Elec Generation GHG Analysis and NC Direct Fuel Consumption	(Rec) - Acquire utility specific estimate of T/D (in %), compute as percentage of total residential/commercial/industrial/energy generation. Report as Scope 1 CH4 emissions. (Alt) use a statewide average of 1.8% as documented by National Grid in 2010 PSC Reporting.		
NC Electricity Consumption	(Rec) - acquire utility specific estimate and report as SF6. (Alt) Apportion NYSEDA 2009 Emission Inventory Total for the state to counties based ration of EIA reported total electricity demand to computed regional or county demand for all sectors.	X	Based on conversations with P Groth and J Yienger, used national 2010 emission inventory total
Industrial Processes			
Not Reported		X	Nothing to report
NC Industrial Sources		X	Nothing to report
NC Industrial Sources		X	Nothing to report
Not Reported		X	As stated
Not Reported		X	As stated
Not Reported	(Rec) Direct Allocation from from EPA MMR only. Small Sources to not to be included at this time.	X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Not Reported		X	Nothing to report
Product Use (Ozone Depleting Substances)			
NC Industrial Sources	(Rec) Use EPA 2009 Draft Guidance method. Allocate national per/capita emissions to counties based on population. Methods include mobile refrigeration	X	As stated
Transportation Energy			
NC Emission Summary - Onroad	(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region-appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions.	X	As stated

Protocol Compliance Report

Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative		Adherence	
NC Emission Summary - Onroad	(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wigigio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wigigio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region-appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions on the ethanol line item.	X	As stated
Not Reported	Optional- Include regional E-85 consumption if you have it, and debit against your gasoline estimate create using VMT. Allocate 15% as gasoline to be reported as Scope 1, and 85% as ethanol to be reported as optional biogenic.	X	Not available
Not Reported	Optional- Include regional biodiesel consumption if you have it, and debit against your diesel estimate create using VMT. Because biodiesel blends change, allocate option biogenic component on this line item only, and retain the diesel fraction on the diesel line item.	X	Not available
Not Reported	Today this will be zero, but as NYSERDA pushes to electrify on-road transportation we will want to report here, debiting against electricity consumption in the other sectors as appropriate.	X	Not available
NC Emission Summary - Rail	Freight and Passenger. (Rec) Use direct provider fuel consumption data allocated spatially to location of routes (Alt) Use Nysesda 2002 estimates of Diesel consumption by county directly.	X	As stated
NC Emission Summary - Rail	Passenger and Commuter (Rec) Use direct provider electricity consumption data allocated spatially to location of routes (Alt) None identified.	X	Not applicable
NC Emission Summary -Com Marine	Rec - USE NYSDEC 2007 data from the state emission inventory for the small and pleasure craft categories reported by county (data on Wigigio). For commercial distillate and bunkers, No consensus method identified- please document methods used.	X	As stated, except recreational boating included in non-road data
NC Emission Summary -Com Marine		X	As stated, except recreational boating included in non-road data
NC Emission Summary -Com Marine		X	As stated, except recreational boating included in non-road data
NC Emission Summary-Aircraft	Optional Scope 1- Estimate Landing and Take off Cycle emissions using a dispersion model such as EDM5, or with related data from the NYSDEC for the 2007 state emission inventory. Optional Scope 3, use FAA statistics on departure miles from regional airport, allocate jet fuel use to it, then allocate to counties by fraction of population served	X	Scope 1 option, using EDM5. Total added to roll up totals discussed within Sustainability Plan
NC Emission Summary-Nonroad	Rec - USE NYSDEC 2007 NONROAD data from the state emission inventory (data on Wigigio) for all categories except small marine.	X	As stated, but includes recreational marine
Waste Management	This is fugitive CH4 emissions from landfills. There are two required Scopes. Scope 1 - Estimate of actual emissions in regional boundary. (rec) use MMR or Title 5 (annual landfill reporting) data directly for facilities (data on Wigigio). For recently closed landfills or for areas without reported data, use a First Order Decay model to estimate emissions. Scope 3- emissions footprint attributed to current waste generation regardless of where it is treated. (rec) Estimate county level MSW and C/D waste generation and apply a representative FOD model with prevailing CH4 captures rates forward-casted 50 years to estimate the footprint. Rec - for any MSW incinerated that does not generate grid connected power, compute emissions. MSW CO2 emissions split. 44% shall be reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar/renewables/page/mswaste/msw_report.html . All Ch4 and N2O shall be reported under required Scope 1	X	Actual 2010 treatment emissions reported, allocated to counties in region based on average tonnage per capita
NC Waste			
Not Reported		X	Not reported, no non-grid incinerators reported in DEC data.
NC Waste water	Determine population covered by WWTPs. (Rec)- Use the ICLEI Local Government Operations Protocol and apply to all facilities in the region. (Alt) use methods as described in the EPA 2009 Draft GHG guidance to translate populations served into emissions using default data. Determine population covered by Septic Systems, and apply the default emissions / capita as described in the ICLEI Local Government Operations Protocol.	X	Based on conversations with P. Groth and J. Yienger, used State Inventory Tool and regional population, allocated to county by population
Agriculture	(Rec) Methods as described in the EPA 2009 guidance and executed in the EPA's State Inventory Tool. Use locally resolved fertilizer, crop, and livestock population from either the 2007 Ag census or the US NASS system to get county-level data and make calculations for each county.	X	As stated
GHG_NC_Agriculture		X	As stated
GHG_NC_Agriculture		X	As stated
GHG_NC_Agriculture Not Reported		X	None reported
Land Use and Forestry	Optional Source and Sink. Use methods described in the EPA 2009 Guidance. Use local forest inventory data, or use the US Forest Services online inventory tool for forests. For carbon stock factors use the National Council for Air and Stream Improvement's Carbon On-Line Estimator. (NCASI 2008)	X	As stated
GHG_NC_Forest		X	Total reported for information, change is not relevant to WG discussions
GHG_NC_Forest		X	
Grand Totals	Sum Totals in columns for all EXCEPT ANY FORESTRY SINKS. Totals in the Scope 1 column can be a considered a physical roll up of emissions that occur in boundary, and is analogous to reporting that is done for state and federal GHG inventories, and for air quality management.		
	Value above MINUS and reported optional forestry sinks.		

North Country
QA/QC Roll Up

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name QAQC

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	Residential Energy Consumption							
	Electricity / Steam	325,724	324,140	218	1,366	-	-	-
	Natural Gas	290,410	290,125	115	170	-	-	-
	Propane / LPG	103,286	102,880	103	304	-	-	-
	Distillate Fuel Oil (#1, #2, Kerosene)	432,290	430,840	367	1,084	-	-	-
	Wood	16,477	-	5,609	10,868	-	-	-
	Commercial Energy Consumption							
	Electricity / Steam	178,964	178,094	120	751	-	-	-
	Natural Gas	204,913	204,712	81	120	-	-	-
	Propane / LPG	40,396	40,237	40	119	-	-	-
	Distillate Fuel Oil (#1, #2, Kerosene)	395,820	394,492	336	992	-	-	-
	Residual Fuel Oil (#4 and #6)	-	-	-	-	-	-	-
	Coal	357	355	1	2	-	-	-
	Wood	6,474	-	2,204	4,270	-	-	-
	Industrial Energy Consumption							
	Electricity / Steam	269,206	267,897	180	1,129	-	-	-
	Natural Gas	186,750	186,567	74	109	-	-	-
	Propane / LPG	1,701	1,695	2	5	-	-	-
	Distillate Fuel Oil (#1, #2, Kerosene)	1,285	1,281	1	3	-	-	-
	Residual Fuel Oil (#4 and #6)	262,255	261,388	219	647	-	-	-
	Coal	-	-	-	-	-	-	-
	Wood	1,928	-	656	1,272	-	-	-
	Energy Generation and Supply							
	Electricity T/D Losses	45,041	44,822	30	189	-	-	-
	Natural Gas T/D Losses	126,913	-	126,913	-	-	-	-
	Use of SF6 in the Utility Industry	10,359	-	-	-	-	-	10,359
	Industrial Processes							

REDC GHG Emissions Roll Up Report

Year: 2010

(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name: QAQC

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count
Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
	Cement Production	-	-	-	-	-	-	-
	Iron and Steel Production	-	-	-	-	-	-	-
	Ferroalloy Production	-	-	-	-	-	-	-
	Aluminum Production	234,165	211,169	-	-	22,996	-	-
	Paper and Pulp	33,205	-	-	-	-	-	-
	Limestone Use	-	-	-	-	-	-	-
	Soda Ash Use	-	-	-	-	-	-	-
	Semi-Conductor Manufacturing	-	-	-	-	-	-	-
	Chemical Manufacturing	-	-	-	-	-	-	-
	Product Use (ODS Substitutes)	-	-	-	-	-	-	-
	All Refrigerants- except utility SF6	99,181	-	-	-	-	99,181	-
Transportation Energy	On-road: ALL (Total not ethanol)	-	-	-	-	-	-	-
	Motor Gasoline (E-10)	1,545,164	1,539,705	4,078	1,381	-	-	-
	Diesel	421,448	420,037	1,053	358	-	-	-
	Ethanol	-	-	-	-	-	-	-
	Biodiesel	-	-	-	-	-	-	-
	Rail	-	-	-	-	-	-	-
	Diesel	71,649	71,409	180	61	-	-	-
	Electricity Consumption	-	-	-	-	-	-	-
	Marine	-	-	-	-	-	-	-
	Gasoline	-	-	-	-	-	-	-
	Distillate	28,744	28,647	72	24	-	-	-
	Residual Fuel Oil	27,070	26,981	67	23	-	-	-
	Off-road Mobile	-	-	-	-	-	-	-
	All Fuels (Diesel and Gasoline)	566,620	564,649	1,472	499	-	-	-
		-	-	-	-	-	-	-
Waste Management	Solid Waste Management	-	-	-	-	-	-	-
	Landfill Methane and Combustion	97,305	134	97,170	0	-	-	-
	MSW incineration (non grid connected)	-	-	-	-	-	-	-
	Sewage Treatment	-	-	-	-	-	-	-
Agriculture	Central WWTPs and Septic Systems	40,000	-	30,000	10,000	-	-	-
	Livestock	-	-	-	-	-	-	-
	Enteric Fermentation	519,547	-	519,547	-	-	-	-
	Manure management	107,207	-	88,631	18,577	-	-	-
	Crop Production and Soil Management	-	-	-	-	-	-	-
	Use of Fertilizer	31,506	-	-	31,506	-	-	-
	Crop Residue Incineration	-	-	-	-	-	-	-
Grand Totals		6,723,362	5,592,254	879,538	85,828	22,996	99,181	10,359

D Implementation Strategies

North Country Sustainability Plan - Implementation Strategies
Energy
Perform a resource and lifecycle assessment to evaluate the quality and quantity of the North Country's biomass resources and determine the capacity for regional biomass expansion and adoption.
Provide and increase training opportunities for local contractors for renewable energy installations.
Facilitate an increase in solar installation using successful models of residential and community-based solar power, including solar thermal.
Promote the use of NYSERDA's ongoing programs to enhance the rate and scale of energy retrofits.
Establish incentives for energy efficiency and green building projects.
Develop guidance for small-scale power economics.
Livable Communities and Land Use
Implement pilot projects for Main Street redevelopment. Use successful outcomes as the basis for future projects.
Provide funding and staffing resources to support the development of local planning, including Hazard Mitigation Plans and Comprehensive Land Use
Establish programs that provide infrastructure and economic resiliency to climate related impacts.
Encourage healthy communities through nutrition awareness and providing healthy local food choices.
Promote educational opportunities and develop knowledge networking to connect schools and enable them to share sustainability projects and programs across the region.
Working Landscapes
Capitalize on existing forest industry infrastructure to make greater use of forestland and underutilized farmland for biomass

development.
Expand availability of local food by encouraging new farmers, while connecting local growers with local markets, including year-round and seasonal residents, schools, institutions, and tourists.
Educate forestland owners on the financial and resource benefits of using the services of professional foresters to manage and develop their resource.
Improve the production capacity of commodity and specialty crops and assist farms with diversification (including agritourism) and new business startups.
Incentivize energy audits, upgrades of farm equipment, and methods to enable farmers to achieve production goals using less energy.
Transportation
Update transportation codes to encourage intra-county bus services. Investigate new ways of increasing transportation or commerce options in North Country.
Expand and complete broadband installations within the region and identify and adopt strategies to reduce transportation demand and improve commerce.
Expand existing public transit services and establish new inter- and intra-county bus routes. Provide better connections from regional passenger rail stations and airports to hamlets and cities.
Develop publically available informational services and educational opportunities including a regional transportation website that links residents and visitors to transportation options and services.
Improve regional coordination of transportation infrastructure and services for residents, visitors and commercial interests.
Improve freight operations and include freight shipping and distribution strategies in county comprehensive plans and local industrial development plans as they are updated.
Water Management
Implement programs to reduce system losses and conserve water supply
Support energy-efficient upgrades and encourage the use of renewable energy sources for water infrastructure

Support the development of watershed management plans
Reduce pollutant loads and non-point source impacts to water quality
Reduce the impacts of invasive species.
Evaluate locations where engineering solutions may be needed to mitigate frequent flooding.
Identify water management strategies needed to support the growth of businesses, industry, and recreation within the region.
Materials Management
Conduct regional research on material management contracting and disposal fees to help determine best practices that can be shared regionally to improve local decision-making for material management.
Encourage counties and planning units to adopt single-stream or zero-sort recycling.
Increase the number of composting and digester facilities to reduce the volume of food and yard waste sent to landfills, and to create a useable product (fertilizers).
Explore and promote market opportunities for recyclable and recovered materials.

E List of Potential Projects

North Country Homegrown Sustainability Plan
Information on Submitted Project Proposal Forms
Current as of: Monday, November 19, 2012

North Country Projects Demonstrating Goals in Alignment with CGC Planning Process				
This table includes all projects submitted to the Planning Team. Referenced projects do not receive preferential ratings during the CFA process as a result of their inclusion, however projects which align themselves closely with the goals and objectives set forth in this document will be stronger candidates for certain streams of CFA funding. The projects are not pre-ranked in special order. Although several projects align with more than one focus area working group topic, they were placed in the category to which they were most closely associated.				
Project Name	Sub-Category	Contact Person	Project Description	County
Programmatic Projects				
Online Outcome Tracking System		Dave Mason and Jim Herman	As an output of the ADK Futures effort, the NCREDC and the NC HomeGrown Sustainability Plan, there will be large numbers of projects and other indicators of progress or lack thereof. We want to build an online system that tracks all of these efforts against the stated desirable outcomes. As projects or other indicators proceed in a positive manner, the objective(s) they support will be highlighted as having favorable expectations of success. Conversely, when there are projects or other indicators that are not succeeding or are moving in the opposite of the desired direction, it will flag the relevant objectives as having unfavorable expectations of success.	All Counties
North Country Best Management Practices in Sustainability Database		Jennifer Perry	Create and maintain a best management practices, web-based database profiling best management practices organized by CGC Plan categories, including education as well. Criteria for inclusion will be based on categories, goals, strategies and indicators identified in the Plan.	All Counties
K-20 Sustainability Education/Literacy		Sue Powers	The project aims to develop a network of sustainability educators and facilities personnel at K-12 public schools and all institutions of higher education to promote sustainability education at all levels through the implementation of projects to improve school/institution sustainability. The focus will be on valuing the environment, and energy, food and materials management systems. The first year project will establish the network, organize 2-3 meetings/workshops to educate teachers, students and facilities personnel, and fund specific projects identified through a region-wide student competition.	All Counties

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Energy				
ADKCAP (Adirondack Climate and Energy Action Planning)		Stephanie Ratcliffe and Kara Page	This ongoing education and information sharing initiative has succeeded in raising awareness of climate and energy issues across the region for three years with underserved and nontraditional audiences. Implement 4-6th years of Wild Center - Partners information-sharing project on green solutions for the Adk region and beyond, specializing in green building training workshops, on-line news, frequently updated social media, educational case studies of success, innovative teaching videos of hands-on solutions and regional conversations about climate and energy. Reaching atypical but necessary audiences including contractors, code officers, municipal leaders, teachers, transportation specialists, tourism agencies, community planners, buildings specialists, alternative energy businesses, regional, Northeastern U.S., and international organizations.	All Counties
Anaerobic Digestion of Food Wastes in North Elba	Materials Management	Tammy Morgan and Kelly Carter	The project will divert 900 tons of organic material from landfills annually through the process of anaerobic digestion in turn, the project will generate income by producing marketable products, decrease our carbon footprint, provide a sustainable solution to our solid waste issue, create green jobs in the bioenergy field and make Lake Placid a model for other communities	Essex County
Energy Conservation for Municipal Facilities		Garrett Dague	The county would like to implement energy conservation measures recommended from a series of NYSERDA and NY Power Authority audits conducted for all Essex County owned facilities. These including the County Courthouse, Fish Hatchery, DPW Administration building and garage, Community Resources/Transportation building, Mental Health building, Probation building, Nutrition building and County Government Complex. This project will implement the energy conservation measures recommended in the audits, to include energy efficient light fixtures, programmable thermostats, weather stripping of doors & windows, insulation, window replacement, heating system & HVAC upgrades, occupancy sensors and energy star appliances. The County would also like to investigate the feasibility of converting the existing heating systems serving the County Complex, County Jail and DPW facilities to biomass heating systems. The project will contribute to the Energy goals of reducing energy use and increasing building energy efficiency. The biomass feasibility projects if implemented, will contribute to the use of renewable energy.	Essex County

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Biomass Study		Village of Tupper Lake	60 buildings at Sunmount's campus currently run oil with propane fuel as a backup. The proposal would switch the entire campus over to a biomass-fired energy system and create a district beyond Sunmount where the energy would be distributed as well. The nearby L.P. Quinn Elementary school and The Wild Center natural history museum, as well as residents in the area, are listed as those who could potentially be hooked up to the district.	Franklin County
Building a Greener Adirondacks (BAGA)		Stephanie Ratcliffe and Kara Page	Implement 3RD Wild Center - ADKCAP - Partners conference on green building ranging from wastewater treatment to deep retrofits to passive solar design. The event is aimed at contractors, architects, and DIY homeowners.	All Counties
CEEM (Community Energy Efficiency Management)		Stephanie Ratcliff and Kara Page	This ongoing 4-town pilot program is showing successful community-based energy efficiency in action at municipal, residential, and business levels. We will expand in the next phase to work with additional communities and support small municipalities' needs and to engage small business, schools, and residents to implement energy efficiency audits and retrofits through selection of communities. Provide documentation (videos, photos, online sharing to illustrate process, cost savings, and local impressions).	Franklin County
Clean Tech Bioenergy Heating Development Project in the North Country		Dave Dungate	This project will be a model and catalyst for expanding the use of advanced high-efficiency wood pellet boiler systems in commercial and institutional-scale buildings in the North Country. The project will help overcome some of the key barriers to expanded use of biomass including: high capital cost of equipment, insufficient customer base to achieve economies of scale for bulk pellet fuel delivery and lack of trained technical staff to install and provide maintenance on biomass boiler systems. The project will install advanced high-efficiency wood pellet boiler systems at three sites in the Region (public school, recreational facility and college campus). The project will hope to develop and demonstrate a business model that can leverage private sector resources to replicate the boiler system financing model at other sites in the North Country once a core base of projects is established.	All Counties
Croghan Dam Restoration Initiative	Water; Livable Communities	Glen Gagnier	We are striving to rehab a dam and to develop the economic potential of the site to provide for the long-term sustainability of the structure through the generation of hydroelectricity. Although the project is intended to focus on the Croghan Dam in Lewis County, it could serve as a model of what can be done with numerous low-head dams throughout the state that have the capacity to provide green energy.	All Counties

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Cultivating Shrub Willow for Energy	Working Landscapes	ReEnergy Holdings, LLC	The U.S. Department of Agriculture (USDA) is investing \$4.3 million to encourage the growth of shrub willow as a renewable energy fuel in Central and Northern New York. Critical to the project is a collaboration between ReEnergy and the SUNY College of Environmental Science and Forestry (ESF) in Syracuse, which will offer an outreach program to educate~ local government officials, agricultural leaders, farmers and landowners about the opportunity to grow willow.	All Counties
Demonstration Site For the Use of Electric Maintenance and Farm Vehicles		North Country School, Inc.	This proposal is designed to provide a community demonstration site for the use of electric vehicles for agriculture and facilities maintenance.	Lake Placid, Essex County
Energy Efficiency=Economic Development		Ann Heidenreich	This project will study the impact of implementing household energy efficiency improvements on economic development. The study will compare the benefits of investing economic development dollars in weatherization vs recruitment of manufacturing plants and will show the relative effects of the two development strategies on economic development in the North Country region. The 2007 study showed significantly greater benefits from investments in weatherization. The project aims to provide data that will assist those who are drafting and selecting energy projects and encourage an increase in the number of economic development projects targeting residential energy efficiency improvements.	All Counties
Food-to-Methane Project	Materials Management	North Country School, Inc.	A staggering amount of landfill waste is food scraps from individuals, and organizations, and businesses. Our goal is to partner with the Lake Placid School District, and several area businesses to provide a demonstration project where food scraps get converted to methane gas and used for electric generation. Food scraps would be processed on the North Country School campus, the electricity generated fed into the electric grid, and the leftover digestate used on our working farm as a soil amendment.	Lake Placid, Essex Counties
HP Hood Biomass Feasibility Study		Dave Zembiac	With assistance from the USDA Forest Service, the HP Hood plant in LaFargeville (produces cottage cheese & sour cream) is examining the feasibility of using biomass to replace its reliance on fuel oil. Assuming a the project is feasible and offers an attractive return on investment for the company, and that the company decides to move forward, further study could look at the feasibility of providing heat to the neighboring town highway facilities and bus garage as well as the manufacturing plant.	Jefferson County

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Keene Central School Fuel Switching Project		David Mason	I have submitted a CFA this past summer to fund a feasibility study for and integrated biomass and solar (PV and thermal) fuel switching project. As proposed, it would be designed to make the system and it's performance visible to students with enough instrumentation that they would use it for class instruction and experiments. If these technologies take hold in the area, we need to attract interested young people to enter training programs and work in the field.	Keene, Essex County
Keene Community Solar Project		David Mason and James Herman	Virtual Net Metering is likely to become law in New York, hopefully by the end of this year. The Keene Solar Project aims to build an engineered field of panels on top of the long-closed landfill, now a transfer station.	Essex County
Lewis County Community Digester	Working Landscapes	Eric Virkler and Jennifer Harvill	The Lewis County digester would be centrally located to collect manure from multiple farms in a small radius of the facility. Energy production would hopefully be used at a local manufacturing operation. The digester would be located close enough to the energy user to pipe the gas produced directly to the customer. Electricity would be produced at the customer site and the heat would also potentially be used at the site. The solid by product of digestion would be available for farms or other customers and the liquid by product would go back to the farms for spreading on fields.	Lewis County
Low Temperature Electric Generation		North Country School, Inc.	High efficiency thermal biomass systems are becoming more popular in the North Country. While these systems are highly efficient during the coldest parts of the winter, during the shoulder seasons, buildings often don't put enough demand on these boilers to keep them running at peak efficiency. Installing a low temperature, closed Rankine cycle engine on our 1.4 MMBtu/hour ACT high efficiency chip/pellet boiler will allow our boiler to operate more efficiently during the entire heating season while producing a significant amount of grid-tied electricity. This project would serve as a demonstration site for others in the North Country who are interested in increasing the efficiency of their wood boilers.	Essex County
Micro-Hydro Power for North Country		Andy Wekin	We have started to develop a micro-hydro system that would be inexpensive, relatively easy to install and maintain, and would provide enough electricity for an average household. We have researched two case studies and have conducted two field trials. With the data collected, we are confident that a feasible system could be designed and developed that would have a base cost of under \$1000 (not including installation) and would be able to pay for itself in as little as 2 years. Our goal is to manufacture these systems locally and install them throughout the North Country.	Essex County

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Model Neighborhood Project		Joe Short	The Model Neighborhood Project (MNP) is subsidizing the purchase and installation of high efficiency, fully automated pellet boilers in homes, affordable housing units and municipal buildings in pilot communities to demonstrate the efficiency, cost-savings and ease of use of these systems.	All Counties
Natural Gas Distribution Lines Analysis to Identify Potential Communities for Biomass Conversion		Katie Malinowski	The use of wood for thermal heating has a large emphasis in the North Country. However, in communities where natural gas lines are located wood does not compete economically. By doing a GIS analysis of what communities have access to natural gas, it would highlight those that don't have natural gas and would help hone efforts to implement projects to convert individual homes or create district heating opportunities.	All Counties
Net-Zero Building For Palliative Care Office		Robin McClellan	Hospice and Palliative Care of St. Lawrence Valley has recently purchased a small home adjacent to their main office to house the offices of the Palliative Care Division. The house is unremarkable but students in SUNY Canton's Alternative and Renewable Energy program are developing a plan to do a "deep energy retrofit" on the building and make it energy self-reliant—net-zero—by well insulating it, using geothermal heating and the appropriate quantity of PV panels. We believe this would be the first net-zero professional building in the North Country.	St. Lawrence County
Net-Zero Stockholm Town Offices		Robin McClellan	This project is for a new net-zero Town Hall for the Town of Stockholm. A group of SUNY Canton students in the Alternative Energy Design course is preparing a basic design for the building and is doing the analysis to determine what is needed to achieve net-zero. The building will be well insulated, take advantage of passive solar gain and be equipped with sufficient PV to produce all the power used by the building over the year. We chose net-zero as the standard we wish to achieve over LEED certification because it is simple to gauge success: the meter tells all. That said, we will consider LEED criteria that make sense in a rural area.	St. Lawrence County
Promote the Installation of On-Farm Digesters in the North Country	Working Landscapes	Jennifer Harvill	Look for opportunities to install on farm digesters to reduce energy consumption and cost and promote economic development opportunities for the farmer.	All Counties

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ReEnergy Chateaugay		Tom Beck	ReEnergy Chateaugay is a 20-megawatt biomass-to-energy facility, currently idled for economic reasons. When operational, it uses locally sourced sustainably harvested forest residue biomass as its primary fuel to produce approximately 130,000 MWh of electricity per year -- enough to supply nearly 17,000 homes. When operational, the facility employs 18 full-time well-paid workers and sustains approximately 100 other jobs in the region.	Clinton and Franklin Counties
Regional Digester to Process Manure and Food Waste for Energy and Soil Amendments	Working Landscapes; Materials Management	Robin McClellan	A regional digester would accept a variety of organic materials for digestion including manure, whey, food waste from institutional kitchens and restaurants, etc.. The end products would be biogas to run an electrical generator, organic solids that would be used as soil amendments and wastewater with a reduced nutrient value that could be spread on fields in greater volumes because of the lower nutrient value. There will also be waste heat from the generator and a use could be found for that.	Franklin, Essex and St. Lawrence Counties
Rehabilitation/Replacement Study for St. Regis Falls Dam	Livable Communities; Water	Matt Foley	The timber crib dam in St. Regis Falls was constructed in 1947 by the local volunteer fire department to have water available to fight fires. In the fall of 2012 the Federal Energy Regulatory Commission expressed concern for the deteriorating condition of the dam. An analysis was made of the dam by P.E. John Carr, NYDEC Regional Dam Safety Engineer Dominic Fontana, and FERC representatives Jerry Cross and Eugene Gall who determined that within the next year substantial repairs must be made or a plan and schedule prepared for complete replacement. Azure has asked an engineer to prepare estimates for replacement of the dam with a permanent concrete structure.	Franklin County
Residential Rehabilitation, Energy Conservation and Weatherization Project	Livable Communities	John K. Bartow, Jr.	The project is aimed at providing resources to address residential emissions of greenhouse gases from residential homes (single and multi-family) – the second largest leading source of greenhouse gas emissions in the North Country. The project makes funding available for the upgrading or replacement of thermal heating units as well as energy conservation and weatherization improvements that reduce overall energy use.	All Counties

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Rivermede Solar Thermal	Working Landscapes	Dan Mason	Currently, Rivermede Farm has greenhouses running 8 months of the year with supplemental heat provided by electricity, propane or fuel oil. This proposal reflects a new, transformational, approach in the north country that utilizes solar thermal, and raised beds, to gain a 12 month/year operation. The Rivermede Farm Solar Thermal Greenhouse Project has 4 elements: 1) change 4 operating greenhouses from oil fired heat and that are currently operated 8 months out of the year to Solar Thermal greenhouses operated 12 months out of the year, 2) develop and use performance metrics to assist other farms in making similar decisions, 3) share lessons learned from project experience and performance metrics with Adirondack Harvest and 2013 North Country Clean Energy Conference. The project is expected to remove 1800 gallons of fuel oil, or 46,800 lbs of CO2, from the environment, move 3 seasonal positions (currently) to 2 full time positions post project completion and is a cooperative effort between Rivermede Farm and Public funding	Essex County
Unlocking Barriers to Community Economic Development through Energy Conservation		Curt Gervich	This project proposes to create an “Assistance Center for Local Energy Conservation Research and Implementation” that will provide municipal electric utilities and local governments with assistance reducing energy use in their localities and integrating energy planning into economic development plans.	Clinton, Essex, Franklin, Jefferson and St. Lawrence Counties
Woody Biomass Learning Center	Working Landscapes	North Country School, Inc.	There is broad interest in the use of woody biomass to produce thermal energy for heating buildings in the North Country. However, transitioning to a solid fuel like woody biomass poses significant challenges for homeowners, schools, municipalities and other institutions. In addition, as has been seen in a variety of communities, harvest techniques often degrade natural resources. If the use of woody biomass is to be a sustainable fuel for the North Country then better techniques need to be developed to reduce or eliminate the potential for natural resources degradation.	Essex County

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Livable Communities				
Cure Cottages & Saranac Lake Revitalization - the Development of a New "Old" Tourism Industry		Sandra Hildreth	Saranac Lake has a rich history that combines health, recreation, and the arts. The Village has hundreds of identified historic "cure cottages" - most of which are private homes and apartments and are in poor condition. The Village could become much more of a tourist destination for cultural history fans if 1) the "cure cottages" could be renovated and restored and made energy efficient; 2) some could be converted into bed & breakfasts; others open for tours; 3) the whole concept of coming to the Adirondacks for health & wellness could be promoted and combined with eco-tourism, locally grown foods and our abundant outdoor recreational activities; 4) this could provide jobs in architectural design and restoration; construction; energy efficiency; hospitality; tour guides; outdoor recreation guides; etc, 5) this would bring business to existing lodging and dining businesses and encourage the development of new ones.	Franklin County
Grow Local, Buy Local	Working Landscapes	Amanda Root	CCEJC's Grow Local Buy Local initiative will increase producers' revenues and build local infrastructure by increasing direct marketing opportunities for local products in Jefferson and Lewis Counties, a designated food desert area, and will increase access to healthy foods in the food desert. The project will provide training, education, networking, and technical assistance.	Jefferson and Lewis Counties
Indian Lake Main Street Revitalization		Brenda Valentine	The 2011 Indian Lake Strategic Plan identified the abandonment of retail and housing along Main Street and the condition of buildings as a serious concern. This project is to subsidize the repair of facades along Main Street, preserve, revitalize and retain the mix of commercial and residential structures	Indian Lake, Hamilton County
Indian Lake Outpost		Brenda Valentine	We propose to construct a retail development that can house a variety of fresh food providers. Since the local market closed three years ago there is an ongoing need/ vision for a variety of fresh, affordable food that is available in our community for year round residents as well as seasonal residents and visitors. By having a food market stall and other related retail storefronts, we can provide fresh food year round and attract tourists with a unique venue.	Hamilton County
Indian Lake Waterfront Development		Sally Stanton	Indian Lake would like to revitalize the waterfront that frames the entrance/exit to the Town along Rt 28/30 with an accessible, esthetically pleasing waterfront that encourages people to stop as they drive through the Adirondacks.	Hamilton County

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Little Ausable River Trail, Phase I	Working Landscapes	Adele Douglas	The Town of Peru is working to link its four parks, the School, Post Office and hamlet area with a trail system. This project is listed in the Town's Comprehensive Plan, which encourages development in the hamlet and the protection of agricultural lands. The Little Ausable River Trail, Phase 1, is the first major section of the overall trail project. This park is a treasure, it's in the center of Town, it's a beautiful site and has a very interesting yet similar history to many other North Country towns. In the winter the non-motorized trail will be open for cross country skiing. Along the trail route additional interpretive signs are planned, one on river ecology and one on the Ausable Branch of the D&H railroad. The work on the trail within Heyworth/Mason Park, the trailhead park, was completed this year, work on the construction of the trail as it leaves from the back of the park is planned for 2013.	Clinton County
Local Venture Center		Chelle Lindahl	The Local Venture Center is to be located in the heart of the St. Lawrence River Valley between Potsdam and Canton, NY. To be housed on the farm site of the Homestead Learning Community (or HLC, with a core curriculum of agriculture, energy, forestry, building, and rural skills), the Center will house small-scale food processors and other curriculum-relevant small business incubation services and facilities. Facilities to include move-in ready office space, partition-able light manufacturing and/or storage space, and shipping depot - providing a business address and one-stop services for small business start-ups relevant to the core interests of the HLC. Potential for retail and office space is high, as are amenities for tourism and a strong community education component, along the corridor of a hoped-for expansion of the Scenic Byways program. The project has strong ties with many regional services that will be partnered into the project, rather than duplicate services.	St. Lawrence County

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Lyons Falls Mill Site Redevelopment Project	Energy	Eric Virkler	The Lyons Falls Pulp and Paper Mill site is a 9.4 acre Brownfield site located in Lyons Falls, NY. The redevelopment vision for this site is to create a mixed-use site integrating three related activities: -A wood fiber based bioproducts technology launch pad. Bioenergy production at this site will allow for the commercialization of multiple bio-products creating the potential for additional businesses to develop in the surrounding area. -Facilitating the expansion of an existing hydroelectric facility owned by Northbrook Lyons Falls, LLC. -A Controlled Environmental Agriculture/ Combined Heat and Power (CEA-CHP) facility.	Lewis County
Staying Connected Initiative	Working Landscapes	The Wildlife Conservation Society	In 2009 WCS became a key partner in the Staying Connected Initiative, a four-state, 21 partner collaboration. The goal of the Staying Connected Initiative is to conserve, maintain and enhance the priority habitat linkages in the Northern Appalachian/Acadian Ecoregion (see Map) to ensure landscape scale connectivity across the region from the western edge of the Tug Hill Plateau in New York through Vermont, New Hampshire and Maine and on to Quebec's Gaspé Peninsula and into Nova Scotia. SCI partners achieve this goal using three strategies: land protection, transportation barrier mitigation, and land use planning.	All Counties
The Tahawus Project(TLC) for Learning, Culture and Community		Craig Brashear	The repurposing, renovation, and revitalization of a 100-year old building, now called the Tahawus Center, into a hub of culture, creativity, and learning on Main Street, Au Sable Forks. It will benefit the neighborhood and the region. The Center offers varied education and community activities for adults and youth, including art exhibits, dance, science labs, and more. The Center employs both local and guest instructors and artists in its mission to strengthen community through exposure to and access to the arts.	Essex County
The Valley Kitchen		Heather Morgan	To establish a community space within the Au Sable Valley that provides three specific functions: a certified community kitchen, a retail space, and a gathering space.	Essex County

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West Eden Community Development		Donald Merrick	West Eden will be a development of 20 homes. These homes will be built by a local contractor and will employ only local workers in the construction. Should someone be needed with a particular skill (installation of gas lines) an attempt will be made to hire locally. If there is no one locally, a subcontractor can be hired with the stipulation that any laborers needed must come from this area. (Creation of 8-9 jobs for at least 3 years.) We will also be using local products as much as possible.	Franklin County
Materials Management				
Continuous Flow Drum Composter	Energy	North Country School, Inc.	Large volumes of food wastes from institutions such as schools, hospitals, prisons, restaurants, etc. end up in landfills. Once covered, these food wastes are decomposed by anerobic bacterial, producing significant amounts of methane. In addition, due to the density of many of these food wastes there is a substantial carbon footprint associated with their transportation. We propose to construct a continuous flow, rotating drum composter capable of accepting 150 pound of compost per day. The design will be scalable, capable of handling much larger volumes of food scraps. The carbon bulking agent will be wood chips, obtained from our sustainable forestry operation. We intend this to be a demonstration project for decision makers at other organizations and institutions.	Essex County
Transportation				
Adirondack Teleworks	Livable Communties	Bill Murray	The AT Project focus is bringing teleworking jobs to the Adidondack Park. These are green jobs with an almost zero carbon footprint. Since the majority of driving most people due is job related teleworking jobs will greatly reduce the amount of travel done by most residents.	Hamilton County
Water				
Alternative to Sewage Sludge Disposal	Energy	Michael J. Sligar	Alternative to Sewage Sludge Disposal through elimination of incineration, upgrading anaerobic sludge digestion, incorporation of land application of biosolids, and the installation of alternative electricity production (micro turbine technology). The project will include energy generation for plant operation, a reduction in fuel oil used to ship sludge off site, reduction in the volume of landfill-disposed wastes, and the creation of fertilizers for use in land application.	Jefferson County

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Community and Aquatic Ecosystem Resilience to Climate Change	Transportation	Connie Prickett	The Champlain Valley suffered widespread damage due to extensive spring flooding and Tropical Storm Irene in 2011. There was extensive and costly damage to private property and to transportation infrastructure, including culverts and roads, across the northeastern U.S. Locally, the Ausable watershed experienced severe impacts, with many roads destroyed and millions of dollars of damage to public and private property. Following the storm, awareness of economic and safety issues associated with stream crossings and an opportunity to build on current work focused on the ecological value of culverts developed. Outreach efforts to local highway departments in the watershed led to understanding about their culvert priorities: which culverts are the sites of frequent flooding, which culverts require ongoing maintenance, which culverts are likely to fail in future storms, and what are the obstacles to upgrading these culverts. As a result, the partner organizations (The Nature Conservancy, Ausable River Association, SUNY Plattsburgh, United States Fish & Wildlife Service) have identified a select set of culverts that are ecological and community priorities for upgrade or replacement. “problem” culverts have the greatest potential to block the movement of stream dependent organisms, cannot withstand high water volumes and floating debris, and present frequent maintenance problems for local towns.	Clinton, Essex and Franklin Counties
Installation of a Disinfection Facility at the Pollution Control Plant		Michael J. Sligar	The City owns and operates a 16.0 MGD Pollution Control Plant (wastewater treatment facility). Its effluent discharges into the Black River, a Class C Stream. Until now, it never was required to disinfect its effluent. The NYSDEC has imposed upon the City the requirement to disinfect and the City is in the design phase for its \$6,100,000 hypochlorite disinfection and dechlorination facility. The Black River at the City is a white water recreational river for rafting and kayaking. Seasonal salmon migrations from Lake Ontario, entering Black River Bay at Dexter and proceeding upstream as far as Watertown (as well as a variety of freshwater fishing) is also a popular attraction. As such, the Black River in the Watertown area is a significant component of a tourism marketing package for our area in the northeastern region of the United States. The disinfection and dechlorination facility will enhance this reach of the Black River at Watertown, significantly improving its recreational attributes.	Jefferson County

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Living Machine Demonstration Project		North Country School, Inc.	We propose to incorporate a “living machine” into our wastewater treatment process for the purpose of demonstrating an alternate methodology to traditional wastewater treatment. The living machine would be designed to treat a small percentage of our wastewater stream, during the summer months, in a series of aerobic bioreactors. The bioreactors would be housed within a greenhouse with enough space to accommodate individuals interested in learning about the system.	Essex County
Progressive Water Treatment			In the Town of Willsboro, a constructed wetland system was installed to reduce phosphorus loading from treated effluent being discharged into the Boquet River, a tributary of Lake Champlain. Through a series of treatment cells, the wetland system provides additional solids removal and phosphorus reduction using wollastonite tailings. The effluent is then directed to one of two catch basins prior to being discharged to the river. This project illustrates an alternative to conventional plant upgrades driven by regulatory changes and can be used as an example for other wastewater treatment facilities.	Clinton County
Solar PV at St. Armand Wastewater Treatment Facility	Energy	Garrett Dague	The St. Armand WWTF has experienced various equipment failures and plant deficiencies, resulting in consent orders and demands for mandated upgrades from NYS DEC and DOH. In an effort to develop a cost effective, sustainable and affordable improvement project, special consideration was given to energy efficiency in the proposed design for plant upgrades. The facility requires an upgrade to 3-phase electrical power, however a preferred alternative is the installation of three 20,000 watt photo-voltaic systems. It is estimated that the photo-voltaic system will not cover the total power requirement, and will necessitate the use of some grid power from the utility company. The break-even point for the cost of solar panels vs. the cost of 3-phase power is estimated at 11.4 years. By the end of a typical 20 year solar panel warranty period, the Town will save over \$165,000. By the end of a typical 30-35 year useful life, \$350,000-\$450,000 could be saved, enough to pay for new panels and make operations affordable. This project will reduce the amount of energy pulled from the grid to run the plant, thereby reducing annual operating costs and reducing the plant’s carbon footprint. The treatment plant site contains open space and direct sun exposure in all directions which makes it uniquely suited for solar power. This project could be expanded in the future with additional solar panels, potentially to provide electricity to other nearby buildings.	Essex County

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Installation of PH Control Facility		Michael J. Sligar	Installation of a pH control facility at the chemical dosing station of the drinking water coagulation basin and the rehabilitation of the down stream face of the coagulation basin dam.	Jefferson County
Working Landscapes				
Adirondack Harvest	Livable Communities	Laurie Davis	Adirondack Harvest operates as a non-profit program of Cornell Cooperative Extension Association of Essex County, NY. It is the largest local food initiative and brand of the Adirondack region, covering 13 counties. Our mission envisions a picturesque and productive working landscape connecting local farmers to their communities and regional markets. Our goals are to increase opportunities for profitable production and sale of high quality food and agricultural products and to expand consumer choices for locally produced healthy food.	All Counties
Black River Blueway Trail/Scenic Byway	Livable Communities	Katie Malinowski	The Black River Trail/Maple Tradition Scenic Byways and the Black River Blueway Trail have adopted management plans that identify several implementation items. The overall goals for the Scenic Byways is to promote tourism while preserving the Byway's natural, historical, cultural and recreational resources and maintaining the route's distinctive qualities and character. The complementary Blueway Trail seeks to promote the Black River as a regional asset for tourism, recreation, and community development.	Jefferson, Lewis and St. Lawrence

Note: Projects are not recorded in any particular order.

North Country Homegrown Sustainability Plan
Information on Submitted Project Proposal Forms
Current as of: Monday, November 19, 2012

Project Name	Sub-Category	Contact Person	Project Description	County
Gaines Marina	Water; Materials Management; and Transportation	Joe and Naomi Treadwell	New York State does not currently have a Clean Marina Program, however, Vermont, our co-steward of Lake Champlain does. The establishment of this type of facility in the region would be an important improvement in marina infrastructure and would increase the area's appeal for Canadian boaters. Currently a large portion of the economic benefit of Canadian boat traffic is lost to Vermont due to perception that the tourism infrastructure is superior on the eastern shore of the lake. Gaines Marina proposes to investigate Vermont's Clean Marina program and develop a plan to become a prototype "Green Marina" for the North Country region and the entire state. Part of this effort would involve the construction of an indoor, heated boat storage building, which would allow winter storage of boats, thereby eliminating the need for the extensive plastic shrinkwrapping currently used. Gaines Marina would use this facility to repair and restore boats, extending the seasonal marina economy and generating additional full time jobs for the community. The Green Marina Program would also promote good stewardship of the Lake and preservation of water quality as well as energy conservation.	Clinton County
Conduct a Woodshed Analysis on Regional Basis	Energy	Katie Malinowski	With demand for wood evolving and changing as hardwood lumber, softwood lumber, pulp, and biomass markets change, there is a need for a planning tool that provides up-to-date information on stock, growth rates, harvest rates, and business demands so that potential new markets can determine if there is a sustainable supply for wood within certain radii.	All Counties
The New Farmer Institute		North Country School, Inc.	Our intent is to expand and improve upon the farm intern program that we have been running for over ten years. The purpose would be to provide experiential learning opportunities for people interested in learning how to start and run a diversified farm for profit. Training opportunities would be open to a wide audience but because we operate the highest elevation farm in the state of New York the experience would be especially useful to high latitude, high altitude locations such as found in our seven county North Country region.	Lake Placid
Tug Hill Recreation Portal	Livable Communities	Katie Malinowski	The Tug Hill Recreation Guide is out of print and its on-line version is dated. This project would revamp the online version, offering updated, GPS'd maps with downloadable coordinates, interactive map, etc. modeled after the Adirondack Recreation Portal recently funded by the NCREDC. A print version would be available as well.	Jefferson and Lewis Counties

Note: Projects are not recorded in any particular order.

North Country Homegrown Sustainability Plan
Information on Submitted Project Proposal Forms
Current as of: Monday, November 19, 2012

Project Name	Sub-Category	Contact Person	Project Description	County
Whallonsburg Grange Community Kitchen	Livable Communities	Jori Wekin	The Grange Community Kitchen is currently a certified commercial kitchen with basic facilities. Our goals are to increase the capabilities of the Kitchen by adding equipment (to enhance processing – steam kettle, dehydrators, blast freezer, convection oven, vacuum packer), classes and space for community use, and promoting the facility as an incubator for small businesses and value-added processing for local farms.	Essex County
USDA Shrub Willow Project	Energy	ReEnergy Holdings, LLC	The U.S. Department of Agriculture (USDA) is investing \$4.3 million to encourage the growth of shrub willow as a renewable energy fuel in Central and Northern New York. Critical to the project is a collaboration between ReEnergy and the SUNY College of Environmental Science and Forestry (ESF) in Syracuse, which will offer an outreach program to educate~ local government officials, agricultural leaders, farmers and landowners about the opportunity to grow willow.	All Counties
Adirondack Regional Invasive Species Initiatives	Water	Hilary Smith	The Adirondack Regional Invasive Species Initiatives will protect natural and agricultural resources, communities, and local economies by advancing key projects to prevent and manage invasive species. Several projects are underway and in need of funding to expand their scope, and several projects are in their infancy and require start-up support. The work builds upon current efforts underway by more than 30 partners in the region through the Adirondack Park Invasive Plant Program to develop shared solutions to protect the region from the negative impacts of non-native invasive species.All Counties	All Counties

Note: Projects are not recorded in any particular order.

F Stakeholder Engagement Process

North Country Home Grown Sustainability Plan Public Consultation and Stakeholder Engagement Process

NYSERDA Cleaner Greener Communities

Deliverable under NYSERDA Task 5

I. NYSERDA/Management team/consultant interaction

The CGC Grant Program project was formally launched on April 2, 2012 in Lake Placid, Essex County, with a project kick-off meeting involving New York State Research and Development Authority (NYSERDA), the Adirondack North Country Association (ANCA), Ecology and Environment (E&E), TRC, and members of the newly formed Consortium. At this time, the planning team was defined as ANCA (Kate Fish as Principle, and Jennifer Perry as Stakeholder Outreach Coordinator) and E&E (Chris Rohner as Project Coordinator and Nicole Parganos as Project Assistant). The consortium consisted of at least 1-2 representatives from each county-typically from the County Planning Offices (see Appendix I-A, I-B, and I-C). The purpose of the meeting was to fully introduce the plan to members, gather important feedback from the Consortium and to provide a venue for an open discussion among the Consortium and the Project Team to set the course for the North Country Sustainability Plan. Additionally, priorities, opportunities and potential barriers were outlined for each county. This meeting set the tone for the entire project, and generated the brand, *North Country Homegrown Sustainability Plan*. The tone and content of the meeting was established as a result of one on one conversations conducted between the planning team and consortium members.

Since the contract was finalized between Essex County and NYSERDA, ANCA and E & E have participated in biweekly conference calls with Ross Woodson from TRC, and on bimonthly calls (when scheduled) with NYSERDA. In addition, ANCA and E & E are in near daily communication both by phone and via email, as each phase of the project is planned, implemented and completed. E & E and ANCA are managing a highly coordinated and collaborative effort, with each organization giving input into the other's draft materials and outreach actions. E & E & ANCA staff have organized, managed, coordinated and participated in all the working group meetings both on conference calls and in-person meetings. The Consortium receives regular updates about the project, and has direct contact with E & E and ANCA staff as needed. The Consortium reviews all final drafts before submission to Essex County and to NYSERDA and is asked for their input at all critical junctures in the planning process. Consortium members have been active and many made introductory remarks at the public outreach meetings in their respective counties. Most attended the all-working group meeting on October 3 in St. Lawrence County.

ANCA has regular contact with the Regional Economic Development Council (REDC) and keeps them updated on plan processes and deliverables. This strong connection ensures that input from the REDC is reflected in the planning process.

The following support materials are included in Appendix I:

I-A-Consortium List

I-B-Planning Team List

I-C-Consortium invitation letter template

II. Focus Area Working Group Selection:

The Cleaner Greener Communities Focus Area Working Group selection was based primarily on ensuring representation on each of the working groups from the seven county base. The second consideration was to include a broad range of representative interests including not for profits, private business owners, state and regional governmental officials, public service operators and academics. Great attention and care were taken to ensure that key players and subject matter champions were included. A number of individuals who fit these criteria were identified by the consortium and the planning team. Other members were sought based on ANCA's knowledge of previously active regional participants. In addition, ANCA worked to ensure that groups and individuals who have not been involved in these types of efforts in the past were included. An invitation letter was sent to all potential working group members, a total of over 200 individuals (see Appendix II-A). Most people agreed to participate, and additional members were recommended by those invited. This resulted in a working group base of approximately 220 people (see Appendix II-B).

The following support material is included in Appendix II:

II-A-Invitation letter

II-B-Working Group spreadsheet

III. Working group meeting schedule/format

Working groups each met several times throughout the planning process. This meeting schedule was based on feedback provided by the Consortium. Both in-person meetings, as well as conference and individual calls were made to connect with groups.

Round One Meetings

Date	Working Group	Attendance
June 13 th	Energy	23
June 29 th	Working Landscapes	16
June 29 th	Land Use/Livable Communities	11

July 2 nd	Economic Development	18
July 2 nd	Materials Management	9
July 3 rd	Water Management	12
July 3 rd	Transportation	13

In the interest of limiting vehicle miles traveled, and in consideration of the broad geographic range of the North Country Region, it was decided to conduct the first set of meetings via a series of 90 minute conference calls (see Appendix III-A for agenda). A total of 102 working group members were in attendance. During the call, E&E provided a general overview of the scope of the project, including a time line for expected working group involvement. The format of the first face to face meetings was discussed, including a request to identify a draft set of goals, opportunities and constraints for each working group in advance of the meeting. The primary goal of the conference call was to be informational in content, however at this time, participants agreed to merge the Waste and Water Treatment groups given apparent overlap in interests and stakeholder roles. A summary of the call, along with the first draft of goals and indicators as suggested by E&E was sent to working group members as a Working Group Report (see Appendix III-B). These reports were to serve as the format for incorporating working group feedback throughout the planning process. They ultimately served as the rough draft for the Plan. Members were encouraged to review these reports and to provide detailed feedback to E&E relative to their content.

Round Two Meetings

Date	Working Group	Attendance
June 21 st	Energy	38
July 11 th	Working Landscapes	15
July 11 th	Land Use/Livable Communities	11
July 12 th	Economic Development	3
July 12 th	Materials Management	9
July 16 th	Water Management	7
July 16 th	Transportation	12

Round two meetings were held at the Wild Center in Tupper Lake, and at the Clean Energy Conference in Lake Placid. A total of 95 working group members were in attendance. E&E began the meeting with a brainstorming session listing opportunities and constraints relative to each working group topic. This was followed by review of the draft sets of goals and baseline indicators as compiled by E&E, in consultation with working group members previous to the meeting. Comments were recorded allowing E&E to incorporate feedback into the Working Group Report (see Appendix III-B).

Nearly every group expressed a desire to craft a Plan that was resilient and adaptable. A second universal theme recognized how intrinsically dependent the North Country economy is upon the protection of its natural capital. It was agreed that North Country natural capital benefits the region in a vast number of ways including drawing visitors to pristine landscapes, wind capacity for wind

farms and rivers that generate hydroelectricity that allow the region to be a net-exporter of electricity, forests with the potential to meet the biomass needs of the region and beyond, ground and surface water that remains largely uncontaminated, and large tracts of agricultural lands in the region's fertile valleys. .

Round Three Meetings

August 21 st	Energy	22
August 21 st	Working Landscapes	12
August 22 nd	Land Use/Livable Communities	10
August 22 nd	Economic Development	5
August 22 nd	Materials Management	13
August 23 rd	Water Management	12
August 23 rd	Transportation	11

The third series of working group meetings were conducted during a 90-minute conference call format and were intended to finalize the goals, develop framing statements, and work toward the finalization of the baseline indicators. 85 members were in attendance. The working group report (see Appendix III-B) and draft set of baseline indicators were used as the guiding documents for this discussion. Suggestions made during these conversations were incorporated into the working group report, again intended for use as an outline for the final Plan. Working group members were also asked to begin to identify points of potential collaboration, synergy and overlap in preparation for the upcoming all working group meeting. They were also asked to begin to identify potential projects for inclusion in the Plan.

Round Four Meeting (All Working Groups)

On October 3rd, the fourth meeting convened all working group and some consortium members in a collaborative effort at St. Lawrence University. 100 members were in attendance, including several students from local educational institutions. In an effort to address the working groups' collective desire to draft a resilient Plan, the Planning Team, in consultation with the Consortium, convened an all working group meeting with the intent of identifying areas of potential overlap, synergy and complement between all working group categories. Additionally, it was intended to provide an opportunity for collaboration between a wide range of regional interests, who might not otherwise have an opportunity for interaction.

The meeting started with a plenary session introducing preliminary GHG inventory data, as well as presenting a progress report on the planning process to date. Subsequently, attendees met in their respective groups for an overview provided by subject matter experts from E & E and working group chairs. In order to achieve the complicated task of identifying synergy between 6 distinct working group categories, a round robin approach was developed by the Planning Team. To

accomplish this, each group moved from table to table visiting each of the remaining working group stations. They spent 30 minutes each at each station. While at the stations, their goal was to identify overlap between their own group and the working group station they were visiting (see Appendix III-C). All thoughts were recorded graphically on a sheet of paper by a moderator who was coached by the Planning Team prior to the start of the meeting. Each group also identified projects which were believed to be in alignment with Plan goals, were reproducible, would create jobs and would reduce greenhouse gas emissions. At the end of the day, groups convened according to County to discuss and identify county-specific projects that would be eligible for the implementation phase of the planning process (see Appendix III-D). In general the meeting was viewed to be a major success and included the deepening of collaborative relationships across the region. E&E and ANCA conducted several phone conversations to follow-up from this meeting. During these conversations, additional data was gleaned and recorded relative to specific projects, and data source recommendations for inclusion in the baseline indicators section.

Greenhouse Gas Inventory Webinar: November 8th. E&E provided a two-hour webinar presentation to all interested working group and consortium members to present the completed Greenhouse Gas Inventory. The presentation was also posted to the ANCA website for public review, and was emailed to the consortium and all working group members. Approximately 35 individuals participated.

The following support material is included in Appendix III:

III-A-Meeting Agendas

III-B-Meeting Reports

III-C-All Working Group Meeting Structure

III-D- Mindmap Images

IV. Selection of additional stakeholders involved

In addition to the core working group members and the consortium, a group of interested stakeholders requested to be updated on the Planning process. These individuals had heard about the Cleaner Greener Project through the website, news articles, newsletters, radio advertisements, from colleagues, etc. This group was notified of public outreach meetings, and received periodic updates as relevant materials were added to the website. A portion of them provided feedback to the Planning Team by way of comments on the goals, and suggestions of potential projects to be included.

V. Public meetings and outreach

Outreach: E & E and/or ANCA staff involved the public in the planning process at each phase of the project through a variety of methods. These included informing the public and requesting feedback via the CGC website, public meetings, the ANCA newsletter, radio announcements on

North Country Public Radio, and newspaper press releases. The CGC website proved to be an important outreach tool. Details regarding the planning process were presented along with outreach related forms such as a goal survey and project requests. ANCA contracted with NCPR as an underwriter running advertisements presenting the Sustainability Plan on a regular basis through mid-November. Additionally, announcements were placed in regional newspapers throughout the planning period.

Public Meetings

E&E and ANCA presented information and sought feedback from the public at several public events including the Common Ground Alliance Annual Forum, the Paul Smiths College Homestead Festival, and the Clean Energy Conference in Lake Placid. Feedback on the goals and potential projects was requested at these events via surveys, face to face contact and requests for follow-up dialogue.

The most intensive outreach occurred during 8 consecutive days of meetings covering the 7-county region. During this time, E & E and ANCA participated in informational exchanges with local stakeholders who presented summaries of existing projects from their region (see Appendix V-B). E & E in turn presented a summary of the planning process to date, including results from the greenhouse gas inventory. Project and goal forms were handed out for completion to attendees. Lastly, a number of individuals contacted ANCA by phone, email, or in person to ask more questions regarding the CGC process. These individuals were included in email regarding Plan progress.

Date	Location	Host/Event	Attendance
6/7	Essex County-Lake Placid Conference Center	Renewable Energy Conference	38
7/18	Franklin County-Long Lake Pavilion	Common Ground Alliance	250
9/29	Franklin County-Paul Smiths College VIC	Homestead Festival	40
10/1	Hamilton County-Blue Mountain Museum	Indian Lake Revitalization Committee	12
10/2	Clinton County-Clinton Community College	Casella Waste Management	21
10/3	St. Lawrence County-Edward's Knox School	Wood chip heater tour	5
10/4	Jefferson County-Fort Drum	Fort Drum tour and presentation	13
10/5	Essex County-Lake Placid High School	Anaerobic biodigester presentation	24

10/5	Franklin County-Paul Smiths College	Presentation on sustainability efforts at Paul Smiths College	15
10/6	Lewis County-American Maple Museum	Tour of Croghan mill and dam	13

Comment Period

The Plan was submitted to the Consortium and Working Group members for comment and review in early January. Comments are to be submitted to E&E and ANCA for consideration in the final draft by January 11th using a comment document (see Appendix V-C).

Public Meeting Plan Presentation

A meeting is scheduled to be held at the Wild Center in Tupper Lake on Wednesday, January 23rd for final presentation of the Plan to the public. This meeting will include the option for online comment and viewing for those who cannot travel personally to Tupper Lake. A final comment period will ensue in which the Plan be posted on the ANCA website for public review and comment.

The following support materials are included in Appendix V:

V-A-Sample of email/save the date

V-B-Cover page for public outreach presentation

V-C-Final Plan comment and review form

VI. North Country Regional Economic Development Council involvement

The NCREDC was updated at all the NCREDC meetings that took place during the course of the development of the Sustainability Plan. Several of the consortium members also play key roles on the NCREDC, either as members or on committees. Their input has been invaluable in terms of aligning both plans. . The Sustainability Plan was reported on as part of the NCREDC 2012 progress report, which was awarded one of the Top Performers in the State. Sustainability is recognized by Council members and in the economic development plan itself as a central component of North Country economic development strategies. In addition, key State agencies (DEC, DOT, APA, DOS, ESD) were also involved in the Working Groups and at meetings throughout the planning process.

VII. Communication methods

Email

The most commonly used method of communication involved email (see Appendix V-A). Several distribution lists were created consisting of all working group members. Email exchanges between

the Planning Team and Working Group members were frequent. A secondary distribution list was also compiled consisting of non-consortium or working group stakeholders who received updates on the Planning process as per their request.

North Country CGC Website

The CGC website, hosted on ANCA's website (www.adirondack.org/green) was used to provide updates and summaries of the CGC process. Documents including the goal survey, project forms, and the greenhouse gas inventory presentation were posted for public feedback and input.

SharePoint Website

A SharePoint Website was created by E&E staff and was used for internal communication between working group members, the planning team and the consortium. The SharePoint website allowed planning team members to post documents, enabling working group members the opportunity to review and comment as their schedules allowed. Additionally the website allowed members the opportunity to communicate with each other and to post supporting material for all to review.

News Releases

Several news releases were posted in area publications including the Press Republican, the Watertown Daily Times, the Adirondack Daily Enterprise and the Hamilton Express. Additionally, ANCA established an underwriting account with North Country Public Radio which also advertised the CGC process up to 8 times per week.

Webinar

A greenhouse gas inventory webinar was conducted for the consortium, working members, and relevant local governmental officials on Thursday, Nov. 8th summarizing the results of the greenhouse gas survey. Approximately 35 individuals were in attendance. The results of the inventory were presented in detail allowing for a Q&A session upon its completion. Additionally, presentation of the final draft of the Plan at the Wild Center is scheduled to be offered as a webcast, allowing individuals to join and comment remotely.

**APPENDIX I-A: NYSDERDA/Management team/consultant interaction-North Country
Cleaner Greener Consortium**

COUNTY	PRIMARY CONTACT	SECONDARY CONTACT
Essex County	Garrett Dague Associate Planner	Sue Montgomery Corey Board of Supervisors
Franklin County	Tom Leitz County Supervisor	Chastity C. Miller District Manager Franklin County Soil and Water Conservation District
Lewis County	Eric Virkler Economic Development and Planning Planner	Renee Beyer Senior Planner
Hamilton County	Ann Melious Economic Development and Tourism Director	Bill Farber
Clinton County	Rodney Brown Deputy County Administrator, Deputy Clerk of the Legislature	
Jefferson County	Don Canfield Director of Planning	Bob Hagemann County Administrator
St. Lawrence	Keith Zimmerman Director Planning Office	Jon Montan Retired Planner

**APPENDIX I-B: NYSDERDA/Management team/consultant interaction-North Country
Cleaner Greener Planning Team**

Chris Rohner*	Plan Coordinator	E&E
Kate Fish	Executive Director, ANCA	ANCA
Nicole Parganos	Plan Assistant	E&E
Jennifer Perry	Stakeholder Outreach Coordinator	ANCA

*Chris developed a medical emergency in November which required him to take a leave of absence. Nicole Parganos took over the role of Plan Coordinator for the remainder of the planning period.

APPENDIX I-C: NYSDERDA/Management team/consultant interaction-Consortium invitation letter from Essex County as drafted by ANCA

May 31, 2012

Garrett Dague
Deputy County Planner
Office of Community Resources
Essex County
PO Box 217
7533 Court Street
Elizabethtown, NY 12932

Dear Mr Dague,

_____ County agrees to participate in the development of the North Country Cleaner Greener Communities Sustainability Plan. We understand that our involvement will include active participation on the Consortium Leadership Team, and that we will recommend participants for the Working Groups. We understand that each county will be eligible for reimbursements of up to \$8000.00 during the grant period for their participation and that we will need to invoice Essex County for costs associated with this project.

Program Overview

The Cleaner, Greener Communities Program (CGC) was announced by Governor Andrew M. Cuomo in his 2011 State of the State address. The Program will empower the North Country region to create more sustainable communities by funding smart development practices. Essex County was awarded a grant on behalf of the North Country, and will be working with the Planning Team Adirondack North Country Association (ANCA) and Ecology and Environment (E&E) and partnering with public and private experts across a wide range of fields, along with community residents, to lead the development of a regional sustainability plan and implementation strategy which will guide the funding of projects that will significantly improve the economic and environmental health of their areas. This effort will guide integrated, sustainable solutions-from statewide investments to regional decision-making on land use, housing, transportation, infrastructure, energy, and environmental practices-to improve our quality of life.

Phase I of the program is intended to provide the necessary resources for each region to develop a comprehensive sustainability plan. Phase II funding will be provided on a competitive basis for the implementation of specific projects that provide the greatest opportunities for achieving goals outlined in the sustainability plan.

County Involvement

The CGC program requires that each funded region create a Consortium with membership of all counties, engaging them in a planning process to develop the Regional Sustainability Plan. The Planning Team is seeking to develop a planning process that is strongly connected to county and municipal governments.

The following is a general description of the responsibilities that the County agrees to support:

Consortium Leadership Group Members

The members of the Consortium Leadership Group will be responsible for working with the county level government to engage in program development, working with local municipalities, organizations, associations, etc. and for garnering program support. They will also be responsible for reviewing project

deliverables and progress at key points in the plan development process and advising the Planning Team on strategy and policy decisions.

Working Groups

Working Groups are being formed to develop materials for the Plan. Members of the Working Groups will come from various sources: government staff, local experts, involved citizens, and business leaders, non-profit and other organizations. These groups will be facilitated by ANCA and E&E and will focus on the following topics:

- Energy
- Economic Development
- Transportation
- Waste Treatment
- Water Treatment
- Working Landscapes
- Land Use/Livable Communities

We are delighted to be part of this important statewide initiative.

Sincerely,

APPENDIX II-A: Focus Area Working Group Selection-Working Group Invitation Letter

First Name Last Name

Employer

Job Title

Dear First Name,

We would like to invite you to participate in a Working Group being formed to support the development of a Sustainability Plan for the North Country. This initiative is Phase One of a \$100M Statewide Cleaner Greener Communities program that has just been announced by Governor Andrew Cuomo. Essex County received a grant on behalf of the seven county North Country as part of the winning North Country Regional Economic Development Plan award announced in December 2011. The North Country region encompasses Franklin, Essex, Hamilton, Jefferson, Clinton, St. Lawrence and Lewis Counties.

The Program empowers regions to create more sustainable communities by funding smart development practices. Planning teams are partnering with public and private experts across a wide range of fields, along with community residents, to lead the development of regional sustainability plans and to implement the projects that will significantly improve the economic and environmental health of their areas. This effort will guide integrated, sustainable solutions—from statewide investments to regional decision-making on land use, housing, transportation, infrastructure, energy, and environmental practices—to improve our quality of life.

Project Goals

This plan (dubbed the North Country Homegrown Sustainability Plan) will outline tangible actions for improving the long-term sustainability of our communities, municipalities, businesses, residents and our natural capital. The final Plan will include:

- A Greenhouse Gas Inventory, building on the Statewide inventory currently being developed by NYSERDA
 - A baseline assessment of the region
- Sustainability Indicators and Targets
 - Including goals in each of the following areas: reducing energy use and increasing use of renewable, local resources; transportation; land use and livable communities; waste and water management; agriculture and forestry; and economic development
- An implementation strategy
 - Immediate and short-term projects and programs to get work moving now

This stakeholder-driven plan will help identify projects that could be eligible for funding in Phase Two of this program. This phase is expected to launch in 2013 and will provide funding, awarded on a competitive basis, for the implementation of specific projects that are consistent with the goals laid out in the sustainability plans developed by each region.

Project Organization

The Plan will be prepared by a Planning Team including Ecology and Environment, Inc. (E & E), the Adirondack North Country Association (ANCA), and Essex County, with oversight by a Consortium comprising representatives of the seven counties. The Planning Team will provide

program support, information sharing, and project progress review as well as assistance with data collection, identification and outreach to stakeholders, and review of project deliverables. Topic-specific Working Groups are being formed to bring stakeholder knowledge into each focus area of the regional planning effort.

Working Groups

The Working Groups will be facilitated by project staff and each will comprise of ten to twenty members of municipal and local governments, universities, businesses, state agencies, and not-for-profits. Working Group members will be asked to contribute to and evaluate strategies, projects, and initiatives for inclusion in the Plan.

The following Working Groups have been identified for evaluation and inclusion in the Plan: **Energy, Transportation, Land Use and Livable Communities, Waste Management, Water Management, Working Landscapes and Economic Development.**

You are being invited to participate in the in the Transportation Working Group. We are seeking your active participation through October 31, 2012, to provide your expertise during two meetings, several conference calls, and public input events as appropriate.

The Transportation Working Group is tasked to evaluate Transportation practices and infrastructure throughout the North Country and to determine strategies to implement a transportation system tailored to the specific needs and resources of the North Country.

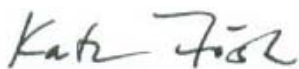
The first Transportation Working Group conference call is scheduled on Tuesday, July 3rd from 1:00-2:00.

The first Transportation Working Group meeting is scheduled on July 16th at the Wild Center, from 10:00-1:00.

If you are interested and available to participate, please confirm your participation to Jennifer Perry at jperry@adirondack.org or by phone at 518-891-6200 or 518-588-2965. She is also available to answer any questions.

Thank you in advance for your participation in this important project. If you have any questions About this project or your potential involvement, please do not hesitate to contact me.

Sincerely,



Kate Fish
Executive Director
Adirondack North Country Association
518-891-6200
518 222 6500

**APPENDIX II-B: Focus Area Working Group Selection-Cleaner Greener Communities
Working Group Members**

<u>Working Group</u>	<u>First Name</u>	<u>Last Name</u>	<u>Employer/Affiliation</u>	<u>County</u>
Energy	Curt	Gervich	SUNY Plattsburgh	Clinton
Energy	Curt	Snyder	Crest Solar	Clinton
Energy	Jim	Murray	Greenway Energy Solutions, Inc	Clinton
Energy	Dan	Mason	North Country Clean Energy Conference	Essex
Energy	Jeff	Woods	North Country School	Essex
Energy	Jennifer	Monroe	Community Power Network of NYS	Essex
Energy	John	Culpepper	North Country Camp Treetops	Essex
Energy	Larry	Masters	Biologist	Essex
Energy	Matt	Foley	Riverrat Glass and Electric/Azure Mountain Power	Essex
Energy	David	Trudeau	Honeywell	Franklin
Energy	Greg	Hart	Workforce Development Institute	Franklin
Energy	Jamie	Rogers	ANCA	Franklin
Energy	Stephanie	Ratcliffe	The Wild Center	Franklin
Energy	Jack	Valentine	Town of Indian Lake	Hamilton
Energy	Jon	Voorheers	Indian Lake Hydro	Hamilton
Energy	Augustus	Withington	Fourth Coast	Jefferson
Energy	Judy	Drabicki	NYS DEC	Jefferson
Energy	Vanessa Lynn	McKinney	Cornell Cooperative Extension	Jefferson
Energy	Kate	Malinowski	NYS Tug Hill Commission	Jefferson/Lewis
Energy	Glen	Gagnier	Lewis Co Development Corporation	Lewis
Energy	Joseph	Lawrence	Cornell Cooperative	Lewis

			Extension	
Energy	Katie	Liendecker	Village of Lyons Falls	Lewis
Energy	Jeff	Forward	Yellow Wood	Regional
Energy	Art	Garno	SUNY Canton	St Lawrence
Energy	Dan	Parker	Kruger Energy Inc.	St Lawrence
Energy	Jason	Clark	Business Development Corporation Greater Massena	St Lawrence
Energy	Amanda	Lavigne	St. Lawrence University	St. Lawrence
Energy	Ben	Dixon	St. Lawrence University	St. Lawrence
Energy	Doug	Welch	SLS Energy Task Force	St. Lawrence
Energy	Jill	Chamberlain Winters	NY Power Authority	St. Lawrence
Energy	Jon	Montan	St. Lawrence County	St. Lawrence
Energy	Klaus	Proemm	NYS Office of Temporary & Disability Assistance	St. Lawrence
Energy	Leigh	Rodriguez	St Law Co Industrial Development Agency	St. Lawrence
Energy	Patrick	Kelly	St Law Co Industrial Development Agency	St. Lawrence
Energy	Relani	Prudhomme	The Occupational Health Clinical Center of the North Country	St. Lawrence
Energy	Richard	Burns	National Grid	St. Lawrence
Energy	Robin	McClellan	SUNY Canton	St. Lawrence
Energy	Stephen	Bird	Clarkson University	St. Lawrence
Energy	Susan	Powers	Clarkson University	St. Lawrence
Energy	Ann	Heidenreich	SLC No Country Symposium/Energy Task Force	St. Lawrence
Energy	Carol	Murphy	Alliance for Clean Energy New York	Regional
Energy	Fred	Hanss	Potsdam Office of Planning and Economic Development	St. Lawrence

Energy	Maria	Leonardi	Northern Forest Center	Regional
Energy	Rob	Campany	Fourth Coast	Jefferson
Energy	Sean	Ross	Lyme Timber	Regional
Energy	Tom	Beck	ReEnergy Holdings	Regional
Energy	Joe	Short	Northern Forest Center	Regional
Economic Development	Erin	Hynes	The Development Corporation	Clinton
Economic Development	Dave	Mason	Keene Broadband Project	Essex
Economic Development	Jenn	Holdereid	The Golden Arrow	Essex
Economic Development	Zoe	Smith	Wildlife Conservation Society	Franklin
Economic Development	J.Justin	Woods	Ticonderoga Revitalization Alliance	Hamilton
Economic Development	Carl	McLaughlin	Fort Drum Regional Liaison Organization	Jefferson
Economic Development	Dave	Zembiec	JCIDA	Jefferson
Economic Development	Eric	Constance	Small Business Development	Jefferson
Economic Development	John	Bartow	Tug Hill Commission	Jefferson
Economic Development	Tom	Sauter	DANC	Jefferson
Economic Development	Rick	Porter	Lewis Co. IDA	Lewis
Economic Development	Dan	Kelleher	The Adirondack Park Agency	Regional
Economic	Steve	Erman	ANCA	Regional

Development				
Economic Development	Brian	Wells	Town of Indian Lake	Hamilton
Economic Development	Craig	Brashaer	Tahawus Lodge Center	Essex
Economic Development	David	Dungate	ACT Bioenergy LLC	Regional
Economic Development	Ernest	Hohmeyer	Hohmeyer Lodge Lake Clear	Franklin
Economic Development	Jim	Murphy	Adirondack Economic Development Corporation	Regional
Economic Development	Pat	Curran	Curran Renewable	St. Lawrence
Economic Development	Paul	Shatsoff	Workforce Dev. Inst.	Regional
Economic Development	Rebecca	Kelly	Tahawus Lodge Center	Essex
Economic Development	Scott	Travers	Minas Basin Pulp & Power Co. Ltd.	Regional
Land Use/Livable Communities	Glen	Cutter	Clinton County Planning Department	Clinton
Land Use/Livable Communities	Alan	Hipps	Housing Assistance Program of Essex Co	Essex
Land Use/Livable Communities	Emily	Kilburn	Adk Community Housing Trust	Essex
Land Use/Livable Communities	Hilary	Smith	The Nature Conservancy	Essex
Land Use/Livable Communities	Jim	Herman	Adk Futures	Essex
Land Use/Livable Communities	Leslie	Karasin	Wildlife Conservation Society	Essex

Land Use/Livable Communities	Ray	Curran	Adirondack Sustainable Communities	Essex
Land Use/Livable Communities	Stu	Baker	Ticonderoga Planning Board	Essex
Land Use/Livable Communities	Boyce	Sherwin	Regional Solutions	Franklin
Land Use/Livable Communities	Brett	McLeod	Paul Smiths College	Franklin
Land Use/Livable Communities	Dan	Spada	APA	Franklin
Land Use/Livable Communities	Ellen	Beberman	Common Ground Garden/AFMC	Franklin
Land Use/Livable Communities	Mary	Scharf	Town of Malone	Franklin
Land Use/Livable Communities	Todd	Smith	Adirondack Sustainable Communities	Franklin
Land Use/Livable Communities	Jesse	Schwartzberg	Black Mountain Design Build LLC	Franklin/Essex
Land Use/Livable Communities	Brenda	Valentine	Indian Lake Main Street Revitalization Committee	Hamilton
Land Use/Livable Communities	Andrew	Nevin	Jefferson County Planning Department	Jefferson
Land Use/Livable Communities	David	Crandall	Environmental Design and Research	Jefferson
Land Use/Livable Communities	Denise	Young	Fort Drum Regional Health Planning Organ.	Jefferson
Land Use/Livable Communities	Faith	Lustik	Jefferson County Public Health	Jefferson
Land Use/Livable Communities	Jennifer	Voss	Jefferson County Planning Department	Jefferson
Land Use/Livable	Kristi	Dippel	Clayton Local Development	Jefferson

Communities			Corp	
Land Use/Livable Communities	Phil	Street	Tug Hill Commission	Jefferson
Land Use/Livable Communities	Vanessa Lynn	McKinney	Cornell Cooperative Extension	Jefferson
Land Use/Livable Communities	Renee	Beyer	Lewis Co Planning Department	Lewis
Land Use/Livable Communities	Richard	Grover	Earthworks	St Lawrence
Land Use/Livable Communities	Doug	Welch	St Lawrence Co Planning Board/North Country Symposium	St Lawrence
Land Use/Livable Communities	Mark	Dzwonczyk	Nicholville Telephone Co	St Lawrence
Land Use/Livable Communities	Chelle	Lindahl	Adk Sustainable Living Project	St. Lawrence
Land Use/Livable Communities	Kristen	VanHodzeweche	SUNY Potsdam	St. Lawrence
Land Use/Livable Communities	Relani	Prudhomme	The Occupational Health Clinical Center of the North Country	St. Lawrence
Land Use/Livable Communities	David	Wurzburg	United Helpers	Clinton
Land Use/Livable Communities	Greg	Hill	Retired	Franklin
Land Use/Livable Communities	James	Martin	The LA group	Regional
Land Use/Livable Communities	Jamie	Konkoski	Public Health	Franklin
Land Use/Livable Communities	Ron	Testa	RJ Testa and Associates Architects	Regional
Transportation	James	Bosley	Clinton Co Public Transportation	Clinton

Transportation	Nancy	Dougal	Essex County	Essex
Transportation	Randy	Douglas	Town of Jay	Essex Co
Transportation	Jim	Ellis	Adirondack Scenic Railroad	Franklin
Transportation	Stephen	DeHond	Green Circle	Franklin
Transportation	Tracy	Eldridge	Hamilton Co	Hamilton Co
Transportation	David	Bradford	SUNY Canton	Jefferson
Transportation	Hartley	Bonisteel	Jefferson County Planning Dept.	Jefferson
Transportation	Howard	Ganter	Jefferson Rehabilitation Center	Jefferson
Transportation	Robert	Freemen	Freeman Bus/Clarence Henry Coach	Jefferson
Transportation	Scott	Docteur	DOT Region 7	Regional
Transportation	John	Casserly	Yes 11!	St. Lawrence
Transportation	Toby	Bogart	St. Lawrence Co	St. Lawrence
Transportation	John	Danis	Development Authority of the North Country	Regional
Transportation	John	Hutchins	Frank Co	Franklin
Transportation	Dawn	Klemm	Remsen-Lake Placid Travel Corridor NYSDOT	Oneida
Transportation	Joseph	Langs	Lewis Co	Lewis
Transportation	James	Lawrence	Jefferson Co	Jeff Co
Transportation	Gerardo	Mendoza	NYSDOT	Multiple
Transportation	Sam	Purington	Volunteer Transportation Center	Jefferson
Transportation	Barbara	Piersma	Adirondack Scenic Railroad	Regional
Transportation	Albert	Rascoe	Clinton Co	Clinton
Transportation	Nancy	Robert	St Lawrence Co	St. Lawrence
Transportation	David	Rotella	Essex Co	Essex Co
Transportation	Mary	Shantie	Franklin County	Franklin

Transportation	Denise	Watso	Department of Transportation	Regional
Transportation	Kathy	Webster	City of Watertown	Jefferson
Working Landscapes	Anita	Demming	Cornell Cooperative Extension	Clinton
Working Landscapes	Peter	Hagar	Cornell Cooperative Extension	Clinton
Working Landscapes	Tony	LaPierre	Clinton Co Farm Bureau	Clinton
Working Landscapes	Connie	Prickett	Adirondack Land Trust	Essex
Working Landscapes	Daniel	Spada	Adirondack Park Agency	Essex
Working Landscapes	Laurie	Davis	Adirondack Harvest	Essex
Working Landscapes	Robert	Stegeman	Department of Environmental Conservation	Essex
Working Landscapes	Bernadette	Logazar	Cornell Cooperative Extension	Franklin
Working Landscapes	Brett	McLeod	Paul Smiths College	Franklin
Working Landscapes	Chastity	Miller	Franklin Co SWCD	Franklin
Working Landscapes	Joe	Orefice	Paul Smiths College	Franklin
Working Landscapes	Melinda	Little	Farm to Family Food Network	Franklin
Working Landscapes	Sean	Ross	Lyme Timber	Franklin
Working Landscapes	Travis	Zedick	Sudexo	Franklin
Working	Rich	Redman		Franklin

Landscapes				
Working Landscapes	Brian	Wohnsiedler	Jefferson County Soil and Water Conservation District	Jefferson
Working Landscapes	Jay	Matteson	Jeff County Ag Development Corp	Jefferson
Working Landscapes	Jennifer	Harvill	NYS Tughill Commission	Jefferson
Working Landscapes	John	Bartow	Tughill Commission	Jefferson
Working Landscapes	Michael	Richardson	Fort Drum Plans, Analysis and Integration Office	Jefferson
Working Landscapes	Vanessa Lynn	McKinney	Cornell Cooperative Extension	Jefferson
Working Landscapes	Linda	Garrett	Tughill Tomorrow Trust	Lewis
Working Landscapes	Michele	Ledoux	Cornell Cooperative Extension	Lewis
Working Landscapes	Colin	Beier	SUNY ESF	Regional
Working Landscapes	Eric	Dumond	RE Energy	Regional
Working Landscapes	Hilary	Smith	The Nature Conservancy	Regional
Working Landscapes	Jeff	Forward	Yellow Wood	Regional
Working Landscapes	Neil	Woodworth	Adirondack Mountain Club	Regional
Working Landscapes	Sarah	Metzgar Boggess	RE Energy	Regional
Working	Sloane	Crawford	Department of Environmental	Regional

Landscapes			Conservation	
Working Landscapes	Timothy	Barnett	The Nature Conservancy	Regional
Working Landscapes	Thomas	Cutter		St. Lawrence
Working Landscapes	Chelle	Lindahl	Adk Sustainable Living Project	St. Lawrence
Working Landscapes	Pat	Curran	Curran Renewable Energy	St. Lawrence
Working Landscapes	Ross	Whaley	ADK Landowners	St. Lawrence
Materials Management	Jonathon	Ruff	City of Plattsburgh	Clinton
Materials Management	Dave	Reckahn	Essex Co Solid Waste Department	Essex
Materials Management	Tammy	Morgan	Lake Placid High School	Essex
Materials Management	Victor	Putman	Greater Adirondack Resource Conservation and Development Council, Inc	Essex
Materials Management	Jill	Wood	Franklin Country Solid Waste	Franklin
Materials Management	Tracy	Eldridge	Hamilton County	Hamilton
Materials Management	Jennifer	Lauzon	Department of Environmental Conservation	Jefferson, Lewis, and St. Lawrence Region 6
Materials Management	Eugene	Hayes	City of Watertown	Jefferson
Materials Management	Jim	Lawrence	Jefferson County Recycling	Jefferson
Materials	Richard	LeClerc	DANC	Jefferson

Management				
Materials Management	Sue	Lyndaker	Lewis County Solid Waste	Lewis
Materials Management	Richard	Gast	Cornell Cooperative Extension	Regional
Materials Management	William	Meyers	Casella Waste Management	Regional
Materials Management	Scott	Thornhill	St. Lawrence Co Solid Waste Dept	St Lawrence
Materials Management	Rich	Straut	Barton and Loguidice	Regional
Water Management	Nichelle	Billhardt	Lewis County SWCD	Lewis
Water Management	Allison	Buckley	Adirondack Council	Essex
Water Management	Kris	Dimmick	Bernier Carr and Associates	Jefferson
Water Management	Fred	Dunlap	NY Department of Environmental Conservation	Clinton
Water Management	Diane	Fish	Adirondack Council	Regional
Water Management	Nate	Grue	Clinton Co SWCD	Clinton
Water Management	Bill	Henninger	Village of Potsdam	St Lawrence
Water Management	Eric	Holmlund	Paul Smiths College	Franklin
Water Management	Dawn	Howard	St. Lawrence County	St Lawrence
Water Management	John	Kanoza	Clinton Co Department of Health	Clinton

Water Management	Dan	Kelting	Paul Smiths College	Franklin
Water Management	Bill	Lupo	Department of Environmental Conservation	Regional
Water Management	Elizabeth	Mangle	Hamilton Co SWCD	Hamilton
Water Management	Chastity	Miller	Franklin Co SWCD	Franklin
Water Management	Corrie	Miller	Ausable River Association	Essex
Water Management	Bryon	Perry	Development Authority of the North Country	Jefferson
Water Management	Vic	Putman	Greater Adirondack RC&D Council	Regional
Water Management	David	Reckahn	Essex County	Essex
Water Management	Debbie	Rice		Essex
Water Management	Michael	Sligar	City of Watertown	Jefferson
Water Management	Rich	Straut	Barton and Loguidice	Regional
Water Management	Brian	Wohnsiedler	Jefferson County Soil and Water Conservation District	Jefferson

APPENDIX III-A: Working group meeting schedule/format-Meeting agendas Round One Conference Call

North Country Region – NYSERDA Cleaner, Greener Communities Grant Program

Call in: 800-747-5150 Code: 3886176

Agenda

Objective: To introduce the Energy Working Group members to the Clean, Greener Communities Grant Program and begin discussions on moving forward with Energy Working Group tasks.

Meeting Agenda:

- 1) Program Introduction
 - a. Program overview
 - b. Program deliverables
 - c. Long- and short-term sustainability goals overview
 - d. Working Group concept
 - e. Energy Working Group focus area description
 - f. Energy Working Group involvement
 - 2) Energy Metrics Indicators
 - a. General indicator introduction
 - b. Discussion of indicators for the Energy portion of the program
 - 3) Data Needs
 - a. Review of current data
 - i. Gaps
 - b. Compilation of potential data sources
 - c. Data organization and utilization
 - i. Within Energy Working Group
 - ii. Program as a whole
 - 4) Strategies for Implementation
 - a. Program outcome
 - b. Strategy review and analysis
 - c. Energy Working Group involvement
 - d. Discussion on list of projects and strategies to be used for program implementation
-

APPENDIX III-A: Working group meeting schedule/format-Meeting agendas Round two-face to face meetings

North Country Region – NYSERDA Cleaner, Greener Communities Grant Program

Agenda

Objective: Discuss program goals, indicators, projects, and strategies in relation to the Energy Working Group.

Meeting Agenda:

- 1) Meeting Introduction (**11:00**)
 - a. Welcome
 - b. Introductions
 - c. Program Introduction: Brief review from June 13 conference call
- 2) Sustainability Goals (**11:20**)
 - a. Overview
 - b. Energy Working Group focus area description and involvement
 - c. Round table discussion on Regional Opportunities and Constraints
 - d. Discussion on and draft long- and short-term sustainability goals
- 3) Indicators (**12:00**)
 - a. Discussion of draft indicators
 - i. Review draft indicator memo
 - ii. Review of additional indicators suggested by Group members during/after June 13 conference call
 - b. Breakout groups discussion on indicators (**12:15 – working lunch**)
 - c. Group finalization of indicators (**1:30**)
 - d. Data organization and utilization
 - i. Confirm data sets and calculations for chosen indicators
 - ii. Assign data collection roles
 - e. Existing Projects and Case Studies (**2:00**)
 - f. Identification of existing projects in the North Country
 - g. Integration into the program
 - h. Round table discussion on current projects and case studies
- 4) Strategies for Implementation (**2:30**)
 - a. Identify projects and strategies for program implementation
 - i. Base on long- and short-term goals and indicators
 - b. Discussion of projects and strategies suggested by Group members

- 5) Closing (**3:00**)
 - a. Review of day and outcomes
 - b. Overview of action items and next steps

APPENDIX III-A: Working group meeting schedule/format-Meeting agendas Round three-conference calls

NYSERDA Cleaner, Greener Communities Grant Program North Country Homegrown Sustainability Plan

Meetings – August 21, 22 & 23

Conference Line: 800-747-5150

Access Code: 7010376

Notes: 1) **E&E NYC and ANCA to attend all calls.** WG –SME’s listed below.

2) Meeting times listed in EST

3) Please develop 4-5 “driving questions” for the meeting to help get the group members thinking about;

- How to take the goals/ideas from concept to reality;
- What really needs to happen, how do they see it happening;
- What is most important in developing projects and the criteria for project selection?

Tuesday, Aug 21st

10:00-11:30 am: Working Landscapes (DW, RS, AD, JW)

1:00-3:00 pm : Energy (JW, CR)

Wednesday Aug 22nd

10:00-11:30am : Land Use Livable Communities (AD, RS)

1:00-2:30pm : Economic Development (RF)

Thursday, Aug 23rd

10:00-11:30: Waste and Water (BS, NP)

1:00-2:30: Transportation (BG)

AGENDA:

1. Project Update.

- a. NYSERDA presentation update to E & E.
- b. Project Public Website.

2. Working Group Report Discussion.

Note: Documents were shared via email as well as uploaded to SharePoint for review.

- a. Discussion, Feedback and Q/A.

3. Indicator List Discussion.

Note: Documents were shared via email as well as uploaded to SharePoint for review.

- a. Discussion, Feedback and Q/A.

4. New Project Ideas Discussion.

- a. Discuss Project Criteria worksheet.

5. Next Steps and Meeting Dates.

6. **SharePoint Update** - Activate Alert Function.

APPENDIX III-A: Working group meeting schedule/format-Meeting agenda-All working group meeting:

All-Group Working Group Meeting 3

Date: October 3, 2012
Time: 9:45AM to 4:00PM
Location: St Lawrence University

Agenda

Event	Estimated Time
Registration	9:45 to 10:10 AM
Welcome	10:15 to 10:20
Opening Remarks	10:20 to 10:40
Project Update and Outcomes for the Day	10: 40 to 11:00
Break – Reorganize tables and chairs	11:00 to 11:10
Break Out Session	
• Session 1	11:10 to 11:40
• Session 2	11:45 to 12:15
• Session 3	12:20 to 12:50
Lunch	12:50 to 1:25
Break Out Sessions Continue	
• Session 4	1:25 to 1:55
• Session 5	2:00 to 2:30
• Session 6	2:35 to 3:05
Short Break	5 minutes
County Level Review	3:10 to 3:50
Closing Remarks	3:50 to 4:00

End of the Day

4:00 PM

**APPENDIX III-B: Working group meeting schedule/format-Working Group Reports-
Energy**

Cleaner, Greener Communities Grant Program

DRAFT for Review by Working Group

ENERGY

Table of Contents

- Introduction
- Definition – this is a definition of the Focus Area
- Goals – these are the goals developed by the Working Group
- Opportunities
- Constraints
- Framing Statements – these are statements that were used to help create goals and are meant to further clarify ideas, identify direction, to be used in developing targets, help brainstorm ideas for projects.
 - Governance – identified issues for this subsection
 - Climate Adaptation – identified issues for this subsection
 - Strategies, Topics and Practices Not Included – if needed, noting items that are not included.

1 Introduction

This document is the first of several summaries of key discussion points raised during the deliberations of the energy working group to help structure the energy management component of the North Country Homegrown Sustainability Plan (Plan). As a summary of the discussion at the energy working group meeting June 21, it is not intended to be a report created by the group, nor is it a deliverable from the group. Rather, this and any following summaries are to be used to measure ongoing progress and to stimulate further discussion within the energy working group concerning its eventual input to the Sustainability Plan.

The Plan is being developed under a New York State Energy Research and Development Authority (NYSERDA) Grant as part of the Cleaner, Greener Communities Grant Program. The North Country, consisting of Jefferson, Clinton, Hamilton, Essex, St. Lawrence, Lewis, and Franklin counties, is one of 10 regions eligible for the grant. The North Country has retained a team consisting of Ecology and Environment, Inc. (E & E) and the Adirondack North Country Association (ANCA) to support the process. The energy group is one of six working groups meeting concurrently to help define needs and develop the Plan.

For this initial summary of discussion points, each working group has developed its own format and approach for presenting information. Information will continue to be revised and refined during the discussion process. During final preparation of the sustainability plan it is anticipated that a single report format will be used for all Plan sections.

2 Definition of the Focus Area

The North Country Homegrown Sustainability Plan group seeks to evaluate energy costs and potential energy savings as well as greenhouse gas (GHG) emissions associated with energy generation and use in the North Country. Energy sources considered include electric generation and on-site combustion by building type (residential, commercial, industrial, and institutional). Electricity use was also evaluated. The Plan includes short-, medium-, and long-term based strategies to address the energy efficiency of existing buildings as well as to identify appropriate energy building standards for new construction. The planning team also considered financing tools that support energy efficiency and renewable energy investment; innovative ownership, financing, or leasing mechanisms for renewable energy systems; and community-scale energy systems (e.g., district heating and cooling).

3 Goals of the Sustainability Plan

1. Reduce Energy Use: Promote energy conservation for residents, businesses, industries, schools, and government.
2. Increase Energy Efficiency: Improve the energy performance and efficiency of the region's existing infrastructure (transportation, electrical distribution, water, and wastewater, waste management, and buildings, including rehabilitation of existing housing stock).

3. Develop Renewable Sources: Promote the development of renewable energy technologies such as wind, solar, biomass, and hydropower within the region.
4. Meet regional energy requirements through locally produced energy resources before considering how to export excess energy.

4 Opportunities and Constraints

OPPORTUNITIES	CONSTRAINTS
Energy Use Reduction/Conservation	
Reducing energy use is the easiest and cleanest way to free up BTUs.	
Energy Efficiency/Conservation	
The Adirondacks can serve as a rural example nationally and state-wide.	
	There are political constraints in how efficiency programs are developed (Need more information here).
Everyone has the ability to control their use of energy and control regional energy resources.	
Programs should be refocused to meet more rural goals and timelines.	Many programs have goals that cannot be obtained by rural regions (e.g., installations, number of retrofits).
Community net metering is needed to allow more flexibility in systems (aggregate production).	Needs legislation.
Various existing programs have positive outcomes.	Existing programs or projects?? are slow to be completed.

OPPORTUNITIES	CONSTRAINTS
Renewable Energy Generation	
Biomass	
Thermal is best option for biomass = heat-wood/grass.	
Creates local energy system of resource collection, production, delivery and use.	
Creates jobs in forestry and local production jobs.	
It can be done on small scale and is local.	
NYSERDA is already interested and looking to network programs to gain efficiencies and to better serve the North Country.	
Scale appropriate to rural environment.	
Wind	
	Article 10 needs to be assessed, focusing on community and local processes.
Large wind companies need to consider the needs of local communities better. A better which reduces local in-fighting, provides more community benefit is needed.	If region is going to do more large-scale wind it needs to find a process that is not so disruptive to communities. Until now too much infighting and arguments among towns, which hurts communities.
Government/Regulations/Markets	
Stay focused on local and state markets and regulations	

NYS Power Authority framework.	The State needs to be more efficient, in it ways of helping people move project forward, reduce paperwork, reduce time needed.
	The renewable portfolio standard (RPS) needs a to support more smaller scale systems, and providers. Meet rural needs; needs to include municipal as well as residential.
	Small projects are not economically feasible: natural gas is driving the price of electricity down so small-scale and renewable projects can't compete without incentives.
	Need program to be scaled to regions rather than to a- one-size-fits-all on the state level.
	Big utility buy-in needed.
	Regulatory constraints on small businesses.
	Competition between states (race to the bottom).
Use system benefit charges more wisely; let communities decide (rural model).	
Opportunity to contribute to the next RPS.	RPS needs to be updated (2004).
North Country Power Authority (2010 established).	People noted difficulty – but not defined . <i>Need more feedback from Working Group member.</i> Personality differences noted. <i>What can we do here for this plan? .</i>
Transmission	
	Constraints on sending power around state (from generation site to population center). <i>Is this an issue of infrastructure or policy, how do we address here?</i>
	Improvements needed in the local system to support community renewable projects and net metering.
	Storage needed.

	The Federal Energy Regulatory Commission (FERC) environmental regulations need to be adjusted/updated. <i>What are the details here? What can we say in this plan?</i>
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5 Framing Statement

The North Country Homegrown Sustainability Plan shall promote energy strategies and practices that will support the goals of the North Country region as follows:

1 Achieve Energy Use Reduction/Conservation

Engage residents to build grass roots support for energy conservation and promote through education by creating local energy working groups in cities, towns, and villages.

2 Promote Energy Efficiency

1. Support local businesses that provide clean energy and energy-efficient services.
2. Promote green energy in tourism, including working with the Green Energy Tourist Board.
3. Encourage implementation of green building programs for new and existing buildings; especially measure reducing current high energy use for heating.
4. Coordinate with existing programs such as NYSERDA's Green Jobs Green New York, NYSERDA's Energy \$mart Communities, utilities' energy efficiency programs, NYSERDA's Empower program, the Wild Center's Adirondack Climate Action Plan, and other ongoing programs to enhance the rate and scale of energy retrofits.
5. Build contractor awareness of benefits of energy efficiency; offer access to training through SUNY Canton's Center for Energy Efficiency and Building Science and other training centers.
6. Coordinate with NYSDOL's Career One-Stop Centers to steer unemployed individuals to training opportunities.
7. Expand referral programs for energy retrofits from homeowner to homeowner and business to business.

3 Develop Renewable Energy Sources

1. Produce enough renewable energy to meet regional demand, prioritizing fully meeting regional needs before exporting excess.
2. Support initiatives to develop renewable energy capacity; include specific objectives set out in the North Country Regional Development Economic Development Plan.
3. Identify challenges that limit development of renewable energy (regulations, permitting, siting, and transmission) and explore ways to address these challenges.
4. Ensure renewable energy generation efforts are scalable so opportunities exist for residents, local businesses and communities to gain a stake in energy development, including employment and training opportunities or local contractors.
5. Develop guidance for small-scale power (renewable) economics.

3.1 Wind Power

1. Investigate best practices and siting (wind mapping) to further develop the North Country as an ideal location for wind power.
2. Develop wind power in a way that is acceptable to the community in which it is placed, whether residential, community, or regional in scope and size.
3. Investigate planning models that reduce negative community impacts and community infighting over development and siting rights.

3.2 Solar Power

1. Investigate successful models of residential and community-based solar power, including solar thermal.
2. Support the expansion of existing capacity of solar electric and solar thermal for residential, commercial, and institutional applications.

3.3 Hydropower

1. Assess economic viability and conduct preliminary evaluations of potential for hydropower, including gathering data on existing dam infrastructure, land-use, property, water conditions, and local transmission infrastructure.
2. Research best practices and current technology for small or micro-hydro installations.
3. Engage landowners, local construction and design companies in full-scale programs.
4. Work with appropriate agencies on any restrictions affecting existing dam structures (Governance).

3.4 Biomass

1. Research best practices and current technology for biomass installations.
2. Engage regional stakeholders, including the existing and potential business sector, forest product companies, agricultural interests, sustainability accreditation organizations, educational institutions, environmental interests and the public.
3. Investigate the issue of what is the region's potential "sustainable yield" or "woodbasket" for use in developing sustainable practices and to understand capacity for biomass expansion and adoption.
4. Identify residential, business, or institutional (public and private) partners who are interested in converting to thermal biomass.
5. Research the "energy life cycle" of biomass and the connectivity of the supply chain management within the region.
6. Use NYSERDA and other funding sources (Department of Agriculture) as well as support from other state agencies (Adirondack Park Agency (APA), NYSDEC) to convert energy systems in the region to use biomass as a thermal fuel source.

Energy Transmission

Engage with power distribution companies to identify challenges to power transmission, storage and distribution and develop solutions.

Identified Connections to other Focus Areas (JW)

Renewable Energy

1. Feasibility- What is the wood resource really? (This could be a project. Getting a real good picture of what the resource is, how it can be used regionally.)

2. Investigate the issue of what else needs to be known about the region's potential "sustainable yield" or "woodbasket" for use in developing sustainable practices and to understand capacity for biomass expansion and adoption.
3. Solar and Wind: what scale is feasible, commercial or public enterprise?

Where should we focus?

1. Identify the need for pilot programs.
2. Based on evaluation of what the resource is, in terms of energy generation, return on investment, prioritize renewable energy development into short-, medium- and long-term efforts. Initial efforts and projects should be targeted at 'low-hanging fruit' to gain traction for renewable energy generation through early successes.

6 Research and Data Sources

Short statements on the primary resources we find

Important Projects

ReEnergy Shrub Willow Biofuel

The U.S. Department of Agriculture (USDA) is investing \$4.3 million to encourage the growth of shrub willow as a renewable energy fuel in central and northern New York. Critical to the project is collaboration between ReEnergy and the SUNY College of Environmental Science

and Forestry (ESF) in Syracuse, which will offer an outreach program to educate local government officials, agricultural leaders, farmers, and landowners about the opportunity to grow shrub willow.

The willow will be grown on marginal farmland throughout a nine-county region and used as fuel for biomass-to-energy facilities that are operated by ReEnergy Holdings LLC. Over the 11-year life of the project, it is expected that almost 400,000 green tons of biomass will be produced and used in the ReEnergy facilities. The willow, which can be harvested every three years, will have the potential to continue producing biomass for at least another decade after the program is completed.

Lyons Falls Mills

The Lewis County Development Corporation (LCDC) recently obtained ownership of an abandoned pulp and paper mill on a 9-acre Brownfield site in downtown Lyons Falls, NY. The LCDC is currently partnering with the Village of Lyons Falls, the County of Lewis, the Lewis County IDA, the NYS Tug Hill Commission, SUNY College of Environmental Sciences and Forestry, Northbrook Lyons Falls, LLC, and Applied Bio-refinery Sciences, LLC actively to redevelop this site into a mixed-use site integrating three related activities:

1. A wood fiber-based bio products technology launch pad. Bioenergy production at this site will allow for the commercialization of multiple bio-products creating the potential for additional businesses to develop in the surrounding area.

2. An existing hydroelectric facility owned by Northbrook Lyons Falls, LLC is intended to expand.
3. A Controlled Environmental Agriculture/ Combined Heat and Power (CEA-CHP) facility. CEA-CHP is a system of growing produce in greenhouses using hydroponic growing systems and power generating/heating systems designed to sell electricity and heat the greenhouses.

Northern Forest Carbon Exchange

A project aimed at helping landowners sell carbon offsets from managed forests.

Contact: Northern Forest Center, Joe Short, Program and Policy Director – Northern Forest Center, jshort@northernforest.org 603-229-0679 x 104

Pellet Boilers

A neighborhood project aimed at developing the residential and light commercial market for fully-automated, highly efficient pellet boilers. Contact: Maria Leonardi – Northern Forest Center mleonardi@northernforest.org, 603-229-0679 x 114

Rodman Highway Garage Solar Panels

Contact: Town of Rodman (Jefferson County), Katie Malinowski, Tug Hill Commission, Gary Stinson, Town Supervisor, supv@frontiernet.net, (315) 232-2522

Rodman Town Hall Solar Panels

Contact: Gary Stinson, Town Supervisor, supv@frontiernet.net, (315) 232-2522

St. Lawrence County Climate Action Plan Project Implementation

Analyses provided in this Climate Action Plan indicate major energy and cost savings can be achieved from the following county projects:

- Vehicle procurement: purchasing vehicles with a fuel economy of 20% higher than EPA 2016 standards
- Establishment of employee commuting/telecommuting programs
- County online vehicle route optimization
- Installation of photovoltaic solar panels on both the County Correctional Facility and the Human Services Center and entering a Power Purchase Agreement (PPA) with either the New York Power Authority or the New York State Energy Research and Development Authority. Using a PPA, the county will not be responsible for the maintenance of the panels, and would simply benefit from the lowered energy costs.

- A green office program should be designed and implemented.
- Participation as an offset mechanism via the reforestation of parts of the County's forest from timber production.

8 Identified Case Studies

South Lewis Woody Biomass Boiler (Good case study and some lessons to be learned re state education funding), South Lewis School District, Katie Malinowski, Tug Hill Commission

Barry Yette, School Business Administrator, byette@southlewis.org, 315-348-2503

Noble Wind Project and Horizon Marble River Wind Project Noble was the first major wind project in the North Country and the first project of its type for the Clinton County IDA. Currently Nobel has windfarms in the Towns of Altona, Chateaugay, Clinton, and Ellenburg. The company's vision is to be a leading supplier of clean, renewable energy from environmentally responsible facilities that will be a source of pride and benefits to the communities in which they are located. http://www.noblepower.com/ Horizon Marble River is the second major wind project in the North Country and the second project of its type for the CCIDA. This project proposes 200 MW of power and is scheduled to be built in the Towns of Clinton and Ellenburg. http://www.horizonwindfarms.com/home/	Clinton County IDA Noble Environmental Horizon Marble River	<u>Erin Hynes</u> <u>(emhynes@thedevelopcorp.com)</u> Contacts: Jeremy Tucker, Noble Environmental (tucker@noblepower.com) Erika Nelson, Horizon Marble River (Erika.nelson@horizonwind.com) Adore Kurtz, Executive Director CCIDA (ccida@thedevelopcorp.com)
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9 Potential Reference Sources

- Kraft Digester
- Lewis County Community Digester
- Heating the NorthEast with Renewable Biomass: A Bold Vision for 2025
- USEPA Boiler Inventory; has inventory of boilers of 100,000 BTU /Hr or larger

- ReEnergy Fort Drum
- <http://www.northernforest.org/default/ny.html>
- Has a huge inventory of projects in NY!! Slightly dated but a really good start.
<http://www.dec.ny.gov/energy/50845.html>
- Climate Smart Communities on DEC's website - Greenhouse Gas Inventories?

APPENDIX III-B: Working group meeting schedule/format-Working Group Report-Working Landscapes

Cleaner, Greener Communities Grant Program

DRAFT for Review by Working Group

Working Landscapes: Agriculture, Forest Resources, Outdoor Recreation

FOR THE REVIEWERS

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- Goals – these are the goals developed by the Working Group
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- Framing Statements – these are statements that were used to help create goals and are meant to further clarify ideas, identify direction, to be used in developing targets, help brainstorm ideas for projects.
- Governance – identified issues for this subsection
- Climate Adaptation – identified issues for this subsection
- Strategies, Topics and Practices Not Included – if needed, noting items which are not included.

1 Introduction

This document is the first of several summaries of key discussion points raised during the deliberations of the working landscape focus group to help structure the working landscape component of the North Country Homegrown Sustainability Plan (Plan). As a summary of the discussion at the working landscape group meeting July 11, it is not intended to be a report created by the group, nor is it a deliverable from the group. Rather, this and any following summaries are to be used to measure ongoing progress and to stimulate further discussion within the working landscape group concerning its eventual input to the Sustainability Plan.

The Plan is being developed under a New York State Energy Research and Development Authority (NYSERDA) grant as part of the Cleaner, Greener Communities Grant Program. The North Country, consisting of Jefferson, Clinton, Hamilton, Essex, St. Lawrence, Lewis, and Franklin counties, is one of 10 regions eligible for the grant. The North Country has retained a team consisting of Ecology and Environment, Inc. (E & E) and the Adirondack North Country Association (ANCA) to support the process. The working landscapes group is one of six working groups meeting concurrently to help define needs and develop the Plan.

For this initial summary of discussion points, each working group has developed its own format and approach for presenting information. Information will continue to be revised and refined during the

discussion process. During final preparation of the sustainability plan it is anticipated that a single report format will be used for all plan sections.

2 Definition of the Focus Area

The North Country Homegrown Sustainability Plan (Plan) shall address agricultural businesses and lands, forest businesses and lands, outdoor recreation and related businesses, and the multiple economic and ecological roles fulfilled by those enterprises and lands as they relate to social, economic, and ecological sustainability.

The agriculture, forestry, and recreational lands implementation strategy will be carefully coordinated with the land use and livable communities, energy, water, and economic development focus area plans. Each of these areas is a vitally important resource for the region. While subregions within the North Country have varying levels of involvement with each of the three areas, taken together they represent the most dominant physical features and drive the economic impacts in the North Country.

3 Goals of the Sustainability Plan

1. Increase the local food and forest product processing and sales within the region.
2. Increase the use of biomass to meet the region's thermal energy needs.
3. Increase use of the entire region's recreational resources such as trail systems, facilities, and services; improve the condition of recreational infrastructure; and provide for long-term infrastructure maintenance.
4. Enhance forest management through increased use of best management forestry practices, encouraging third party certifications for sustainability where applicable, and implementing invasive species management and control.
5. Upgrade and maintain existing infrastructure, including housing and equipment for farming and forestry, for energy efficiency and enhancing the region's attractiveness to tourists and new residents.
6. Expand new farmlands on a selective basis to complement existing surrounding land uses.

4 Opportunities and Constraints

OPPORTUNITIES	CONSTRAINTS
More markets for biomass production. Proper harvesting, storage, and market could create big opportunities with the harvesting, storage, and market.	
Food production/greenhouses heated with biomass (jobs, local food, use of low grade biomass for heat)	Lack of local processing plants/processing capacity. Challenges are large-commodity based production versus small-scale local farmers; allocation of funds; and land-large-farms

OPPORTUNITIES	CONSTRAINTS
	gobbling up small farms. Slaughterhouse/ animal processing in the region is also limited (Plattsburgh just got approval for a facility).
Schools are often the largest building in small communities. Most economical to convert to biomass– connect wood heating with curriculum.	
Implement Farm to School programs – healthy, educational, and economical.	USDA inspection process for selling meat and vegetables to restaurants can be prohibitive.
Biomass – focus on replication rather than scaling. Can easily repeat in multiple areas. Great for local economy.	NYSERDA concept of large, centralized biomass facilities won’t benefit the small communities in North Country.
Branding for locally grown and processed Adirondack wood products. Implement a wood processing facility/area in the North Country to prevent loss to Canada, and increase processing capacity in region. Include wood products industry.	Currently, logs shipped to Canada returns to the region after processing because there is no infrastructure in North Country region to process wood (this is potentially an opportunity).
Region can start with small steps and build slowly, people are not looking for mega development. Cash can be hard to raise, need to develop local markets.	No matter what is produced it needs a market. Tough to have the cash to start up and maintain while a market develops. Limited cash flow hinders the resilience of farmers.
Region has heavy dairy production and can support businesses like cheese production (as seen in other areas of the state)	
Community wide facilities – food co-ops supermarkets and sales locations and Community supported agriculture (CSA)	Local food safety (i.e., how do you get local food into institutions that have strict food safety regulations and rules. There is a risk for the entrepreneur— if someone gets sick the owner can lose farm. State food-safety regulations need to find solutions for small vendors for agriculture/markets.

OPPORTUNITIES	CONSTRAINTS
Capitalize on the local food movement. The local food movement is catching on, more so than the organic movement.	Need outlets for food distribution to local residents.
All renewable energy involves added jobs, reducing the cost of energy, promoting local “homegrown” economy. Try to promote through schools since school outreach is a good way to reach people.	
Distributed local small-scale power generation – renewables, fuel programs. Create a local market not a regional market.	
Thermal biomass - much greater efficiencies for biomass when used for heating vs. electric. Biomass used for heating does not require a large scale. Fuel oil expenses make thermal biomass an attractive alternative.	Can biomass meet colder winter needs? (This past winter was mild). And with climate change, are we going to need less heating and more cooling?
Lack of natural gas in the region. Helps support renewable options	
Systems/strategies need to be adaptable as climate changes.	
Land values in North Country are lower, which means protecting lands is affordable.	Funding for land protection.
Higher land values can lead to more variety in opportunities	
Incentivize working landscapes. Encourage open landscapes to be utilized and encourage new, young farmers who want to work the land. Land Trusts have a relationship to farming and finding farmers to work the land.	Lack of young/new farmers. How to attract new farmers to use the lands that are available. How to transition land from someone who wants to sell/stop farming, to a new farmer? Abundance of unused agriculture lands. Regulatory challenges for local growers. Workforce challenges.

OPPORTUNITIES	CONSTRAINTS
Combine recreational infrastructure with wind development. Wind infrastructure on leased land, lands can still be used for other uses.	
Development of a bona fide ecotourism presence.	
There are innovative ways for communities to benefit from recreational opportunities. More citizen/community ownership of shared aspects – nature preserves, trail rehabilitation, outdoor resources in face of shrinking government presence. Determine how to create community benefits (economically) from their own maintenance of recreation resources.	Loss of access to recreation infrastructure (shrinking role of NYSDEC). Many recreational resources and infrastructure have been lost or damaged recently because of Hurricane Irene. Budget cuts have left areas with little access and poor management How do we improve and make this sustainable? How can local communities draw economic benefits from current tourism? Access to recreation is limited by private ownership of the land.
Support locals with small events, for example kayak days, community days – increase people’s knowledge about their own resources, build awareness. Many people recreate in their own towns north of Adirondack park.	Fiscal constraints– local communities cannot afford the cost of maintaining roads and recreational areas. Need to incentivize local investment in public resources, e.g., Moose River Plains Rd. Inlet/Indian Lake. Strategic action is lacking in recreation because of lack of leadership. Need to define/cultivate leadership.
View the NC as a region with certain areas producing products best suited to that region to be used locally, e.g. a bioregional relationship between the rich warmer fertile lands of St. Lawrence County and Jefferson County capable of producing food, and the forested Adirondacks capable of producing wood products.	
New invasive species legislation	
Fort Drum presence - market NY to the base population. Fort Drum is an Army base of 50k, high re-enlistment and retirement. Service people	Transportation to access the Adirondacks – how to minimize impacts in tourism transportation (once people arrive should inter-area transit be

OPPORTUNITIES	CONSTRAINTS
who get to know the Adirondacks area usually want to stay in the region.	provided?) Tourism – more people driving to the region is counter to sustainability. Concerns of carbon footprint by bringing tourism into the region.
Integration of more local individuals into regional recreational opportunities.	

5 Framing Statement

Agriculture

The Plan shall consider strategies and practices as follows:

1. Strengthen the economic viability of the significant agricultural resources and businesses in the North Country and communities that are supported by those enterprises, including ongoing and long-standing agricultural businesses.
2. Encourage the growth of value-added processing of the North Country's agricultural supply to reduce energy costs of providing food to the region. Incentivize food manufacturing firms to locate and/or expand in the North Country so that the majority of the food and dairy products are processed and distributed within the region instead of being exported. Encourage sustainable food production and distribution methods.
3. Promote best management practices for sustainable farming and food production in the North Country.
4. Promote the use of integrated pest management programs and other best management practices to reduce the reliance on pesticides by North Country agricultural businesses.
5. Promote environmental stewardship practices by agribusiness, with emphasis on meeting Concentrated Animal Feeding Operations (CAFO) requirements.
6. Foster educational programs at the 10 institutions of higher learning, regional agricultural associations, and local communities in the North Country to build awareness of the economic and environmental benefits of best management practices and other practices, including organic production methods that increase the sustainability of farming.
7. Promote and publicize innovations in sustainable food production. Foster agricultural research in the region that addresses the specific needs and opportunities of the North Country.

8. Conserve prime farmlands designated by the U.S. Department of Agriculture (USDA National Resources Conservation Service). Also conserve lands designated as farmland of statewide importance, farmland of local importance, and unique farmland.
9. Identify and conserve farmlands at greatest risk of being developed.
10. Promote agricultural use on suitable lands that have existing non-agricultural uses. Encourage continued agricultural use of productive farmland.
11. Encourage agricultural programs and processes that prevent the spread of invasive species. Encourage the continued management and control of invasive species and promote education programs to maintain the ecological balance in the region.
12. Encourage the region's farming industry to continue to maximize direct and wholesale marketing to local consumers, institutions and businesses. Foster programs that incentivize farms within the region to direct-market and sell wholesale.
13. Promote weekly farmers market programs that provide local produce in rural towns, villages, and hamlets.
14. Promote community-based and local food production through the distribution and sale of local farm products in North Country grocery stores and farmers markets.
15. Promote local food production through sales to institutional buyers in the region such as schools and large businesses.
16. Increase direct access to high quality foods by incentivizing community gardens within North Country towns, villages, and hamlets.
17. Reduce distance food is transported to minimize the energy costs and environmental impacts, and to increase North Country residents' access to locally grown foods by improving distribution and marketing facilities and processes.
18. Encourage farmers market programs to accept WIC or federal food assistance coupons (where not already accepted) as payments to increase access to locally grown food at all income levels.
19. Promote eco- and agri-tourism programs in the region.
20. Foster more efficient uses of energy inputs and natural resources produced on the land of the region.
21. Decrease farm operation costs through renewable energy conversions and using agricultural by-products for energy production.

22. Reduce operating costs and save energy through development of energy audits and energy management plans and by facilitating upgrades and modernization of farm facilities with energy/fuel-efficient equipment.
23. Provide adequate incentives, including financial assistance, for farm enterprises to invest funds, labor, and management resources in energy efficiency technologies and methods.
24. Educate students, consumers, taxpayers, and local officials about:
 - a. The benefits of retaining agricultural enterprises and keeping farmland in production.
 - b. The relatively lower demand for taxpayer provided services of farmland and forest land.
 - c. The connections between farming and the health of the region's economy and quality of life.
25. Investigate the feasibility of setting up a regional agricultural entity (non-profit or "council") to coordinate efforts to retain and modernize agricultural businesses and improve their economic and environmental sustainability.

Forest Resources

The Plan shall consider the following strategies and practices:

1. Strengthen the economic viability of forestry enterprises and communities that are supported by those enterprises.
2. Promote the growth of sustainable forestry-related industries.
3. Capitalize on the forest resources, timber production, and under-utilized land as sources for renewable energy through investigation of strategies to generate renewable biomass for conversion to fuel.
4. Encourage fuel generated from renewable biomass to meet local energy needs in the North Country.
5. Promote and encourage sustainable forestry management and timber production programs.
 - a. Encourage North Country forest owners and managers to become Forest Stewardship Council (FSC)-certified (FSC Forest Management Certification) to demonstrate that their forests are managed responsibly in compliance with social and environmental standards.
 - b. Encourage North Country timber manufacturers, processors, and traders to obtain FSC chain-of-custody certification to confirm FSC-certified wood products are kept separate from uncertified products.
6. Foster educational programs that promote sustainable forestry management and timber production programs at the 10 institutions of higher learning, regional forestry associations, and local communities within the North Country. Increase awareness of FSC certification

and the access it can provide to new markets including highly environmentally sensitive markets.

7. Encourage the reduction of vehicle miles traveled (VMT), alternative fuel use, or other emission-reduction methods for the region's exported forest products. (Forest products have the region's top location quotient, indicating export beyond the region's boundaries).
8. Encourage forestry programs and processes that prevent the spread of invasive species. Encourage the continued control and management of invasive species and promote education programs to maintain the ecological balance in the region.
9. Provide adequate incentives, including financial assistance, for forestry enterprises to invest funds, labor, and management resources in energy efficiency technologies and methods.

Outdoor Recreation

The Plan shall consider the following strategies and practices:

1. Capitalize on the many areas of the North Country's natural capital such as the 1000 Islands/St. Lawrence River, Lake Champlain, Tug Hill Plateau and the Adirondack Park among others to promote low impact recreation and eco-tourism opportunities.
2. Promote the recreational venues near the Olympic Training Center in Lake Placid. Encourage integrating sustainable management and building practices for new and existing outdoor recreation facilities at Lake Placid.
3. Promote conservation of the region's varied open spaces for outdoor recreation opportunities. Foster educational programs that coincide with outdoor recreation activities to increase awareness of the benefits of maintaining healthy ecological processes, implementing conservation measures, low environmental impact recreation activities, etc.
4. Promote the North Country's natural capital and outdoor recreation opportunities to the potential visitor population in the U.S. and Canada who live within a day's drive of the region. Promote the region as a destination for the environmentally conscious traveler.
5. Promote education programs to prevent importing or spreading invasive species through recreational activities in order to maintain the ecological balance in the region.
6. Encourage green building practices for lodging and tourism related venues related to outdoor recreation in the North Country.
7. Attract tourists from urban and suburban areas by promoting and maintaining the North Country's open spaces that contribute to the region having the largest "dark sky" in the

northeast U.S. Encourage outdoor lighting that meets light pollution reduction standards within towns, villages, hamlets, and outdoor destinations.

8. Promote incentives for outdoor recreation tourism businesses to utilize clean energy technologies.

6 Governance [Placeholder]

7 Climate Adaptation [Placeholder]

8 Strategies, Topics. and Practices Not Included

Where strategies and practices addressing working landscapes where they primarily relate to other focus areas, this plan will defer to those other focus area plans. For example:

- Land use designations and land management policy that will reduce residential sprawl and promote the continued operation of agricultural businesses will be covered in depth in the land use and livable communities focus area.
- Biomass industry strategies and details related to fostering the industry as a whole will be covered under the energy focus area. Other strategies directly related to growing biomass as a renewable energy source will be covered under the working landscapes focus area.
- Watershed conservation and water quality improvement strategies related to agricultural practices will be covered in-depth in the water focus area. Promotion of the use of best management practices will be covered under the working landscapes focus area.

9 Identified Connections

See above as some initial notes on this subject.

Use the notes, and your own powers of mental observation, to begin to tie some of the WG ideas together, make notes. Once we all develop our own reports, we can share them, and fill this section out more. Can be done as bullets or a table.

10 Research and Data Sources

Short statements on the primary resources we find.

11 Important Projects

Short statements on the primary projects we find.

12 Identified Case Studies

- CSA Model – Essex Farm
- Long Lake Inlet – potential leadership model

**APPENDIX III-B: Working group meeting schedule/format-Working Group Reports-
Economic Development**

Cleaner Greener Communities Grant Program

DRAFT for Review by Working Group

Economic Development

FOR THE REVIEWERS

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 - Climate Adaptation – identified issues for this subsection
 - Strategies, Topics and Practices Not Included – if needed, noting items which are not included.

1 Introduction

This document is the first of several summaries of key discussion points raised during the deliberations of the energy working group to help structure the economic development component of the North Country Homegrown Sustainability Plan (Plan). As a summary of the discussion at the economic development working group meeting July 12, it is not intended to be a report created by the group, nor is it a deliverable from the group. Rather, this and any following summaries are to be used to measure ongoing progress and to stimulate further discussion within the economic development working group concerning its eventual input to the Sustainability Plan.

The Plan is being developed under a New York State Energy Research and Development Authority (NYSERDA) grant as part of the Cleaner, Greener Communities Grant Program. The North Country, consisting of Jefferson, Clinton, Hamilton, Essex, St. Lawrence, Lewis, and Franklin counties, is one of 10 regions eligible for the grant. The North Country has retained a team consisting of Ecology and Environment, Inc. (E & E) and the Adirondack North Country Association (ANCA) to support the process. The economic development group is one of six working groups meeting concurrently to help define needs and develop the Plan.

For this initial summary of discussion points, each working group has developed its own format and approach for presenting information. Information will continue to be revised and refined during the discussion process. During final preparation of the sustainability plan it is anticipated that a single report format will be used for all plan sections.

2 Definition of the Focus Area

The North Country Homegrown Sustainability Plan's implementation strategy will carefully coordinated with the region's economic development strategic plan, *Transformational – Leading the Economic Renaissance of New York's Small Cities and Rural Communities – North Country Regional Economic Development Council Strategic Plan*. The economic development benefits of the implementation strategies identified in the plan shall be quantified and the report shall address how the goals of the sustainability plan intersect with and support those of the strategic plan. The planning team shall work closely with the regional economic development council (REDC) throughout the planning process to ensure that the strategies identified by the two plans support both the economic development and sustainability goals of the region whenever possible.

Economic development is an integral part of all the other focus areas—energy use and management; transportation; water use and waste management; livable communities and land use; and the working landscape, i.e., land used for agriculture, forestry, and outdoor recreation—and must be coordinated with these focus areas plans.

3 Goals of the Sustainability Plan

Economic development goals evolved from the framing statements noted below. The economic development working group proposed/developed the following goals:

1. Promote a local economy by encouraging the use of local products, incentivizing local processing of materials and goods, and increasing local jobs.
2. Promote a year-round economy that highlights seasonal activities and is adaptable to possible future variations in climate patterns and industry changes.
3. Encourage community identity, possibly through localized and regional branding to support economic growth and tourism. Focus on expanding centers of existing tourism to new areas.
4. Reduce infrastructure operating and maintenance costs by implementing sustainable practices and energy efficiency projects.
5. Increase broadband installation throughout the region to improve communication and access to outside resources and markets.

4 Opportunities and Constraints

4.1 Opportunities

1. Overall beauty of and quality of life in the region is attractive to residents and business.
2. Proximity to Canada, specifically Montreal.
3. Large availability of recreational systems (i.e., Northville-Placid Trail, Great Escape, Wild Center, Champlain, etc.).
4. Demographics: Fort Drum recruits (and retirees) use the area for hunting and fishing as well as the shops, restaurants, and hotels. Connection between the “ruggedness” and outdoor activities with the similar interests of recruits.
5. Possibility that there are marketable amounts of rare earth metals in the region.
6. Attractive to non-resource consuming businesses (i.e., biotechnology companies).
7. Potential for a local economy based on an Adirondack brand rooted in responsible stewardship of the land.
8. Renewable energy generation potential, e.g., solar panels can be installed at former landfill sites or transfer stations; digesters can be installed at former landfill sites or transfer stations.

4.2 Constraints

1. Regional airport is small and not easily accessed.
2. No single location (website or resource) that captures all the wonderful things the region has to offer. It is hard to search for or identify places to go. Broadband access is limited.
3. Lending difficulties because rural area and location in the Adirondack Park makes bank loans a high risk.
4. Regulatory constraints, both real and perceived, including zoning and Adirondack Park.
5. Difficulty of starting conversations between industries and cities.
6. Lack of interstate access across the North, but construction, expansion, or extension of these routes may destroy communities by diminishing traffic through smaller towns.
7. Rail access is limited and it is cost-prohibitive to build commuter rails.

5 Framing Statement

Note: These statements overlap very closely with statements within other Focus Areas. This is positive, as members see that other more sustainability related concepts do have a direct link to economic development. This will be important as we define planning statements and make project determinations.

The North Country Homegrown Sustainability Plan shall consider the following strategies and practices:

Waste and Water

1. Promote source reduction through purchasing (consumer, businesses and government) from manufacturers that have waste reduction policies in place. Another way to promote reduction is pay per pound waste removal.
2. Explore ways to attract and retain recycling industries or recycled content-based products in the region to support recycling and create jobs and revenue as well as find ways to upgrade and maximize usage and potential of recycling and recycling programs.
3. Explore approaches to encourage expansion of the waste-to-energy sector in the region.
4. Evaluate options for biological waste (such as food oils) collection for use as biofuels.
5. Discuss relationship between job creation via recycling and the creation of waste-related commodities/products (i.e., compost, recycled materials, energy, etc.).
6. Evaluate ways to use wastes as an energy form (i.e., methane from landfills).

7. Secure funding to push forward existing plans for water treatment facilities.
8. Prevent the construction of new housing/infrastructure. Instead, emphasize the benefits of rehabilitation and maintenance up to a maximum before approving new builds.
9. Locate new utilities and infrastructure in targeted areas where they will enhance economic development.
10. Determine long-term economic benefits of providing water management infrastructure for priority growth areas, giving consideration to modernizing water fixtures and refurbishing existing housing stock plumbing systems; improving storm water run-off quality and quantity, implementing water conservation programs, and preserving and improving watershed quality.
11. Find ways to get state aid and support for improving water quality.
12. Consider the possibilities of treating waste water from hydraulic fracturing in the Southern Tier.

Land Use and Livable Communities

1. Determine long-term economic benefits of implementing smart growth principles defined in the land use and livable communities focus area (locating priority growth areas near existing development, encouraging Main Street development programs).
2. Define and expand regional and international business trading options.
3. Determine how to capitalize on the currently expanding New York State investments such as biotechnology clusters, etc.
4. Explore options for educating the public on sustainable land use planning using planning staff as educators to aid in the public's reception of change, and in turn establish a strong sense of ownership of planning in individual communities and the North Country as a whole.

Evaluate the importance of culture and arts (i.e., local theaters are closing because they cannot afford to update to digital).

Working Landscapes: Agriculture, Forest Resources, Recreation

1. Strengthen the economic viability of agricultural and forestry enterprises and communities that are supported by those enterprises. Identify revenue benefits of strengthening working farms within the region. Encourage support programs and resources to increase revenue of small-scale farming operations and foster the development of new farmers.

2. Incentivize food manufacturing firms to locate and/or expand in the North Country so that the majority of food and dairy products are processed and distributed within the region instead of being exported:
 - i. Encourage sustainable food production and distribution methods (cross reference with waste and energy opportunities).
 - ii. Identify the economic benefits of distributing food directly within the region.
 - iii. Promote local food, not necessarily organic, as an economic driver for all parts in the process, growing, processing, distribution, sales, etc.
 - iv. Find funding for the food distribution model.
 - v. Encourage the region's farming industry to continue to maximize direct and wholesale marketing to local consumers, institutions, and businesses. Foster programs that incentivize farms within the region to direct-market and sell wholesale. Identify the economic benefits of direct-sale and wholesale methods.
3. Encourage eco-and agri-tourism programs in the region that provide positive economic development.
4. Continue to promote export of forest products both in and outside the region. However, encourage emission reduction methods for the region's exported forest product and increase awareness of Forest Stewardship Council (FSC certification) and the access it can provide to new markets including highly environmentally sensitive markets.
5. Capitalize on the North Country's natural capital such as the 1000 Islands/St. Lawrence River, Lake Champlain, Tug Hill Plateau, and the Adirondack Park to promote low- impact recreation and eco-tourism opportunities. Identify potential economic development benefits.
6. Address food desert (lack of healthy, affordable food) issues in the North Country.
7. Incorporate local industry in the planning process (i.e., Stewarts Shops, Empire State Forest Products Association, local Cornell Cooperative Extension, etc.).
8. Explore how APA-zoned industrial areas can be developed. Barton Mines is the single largest site in the Park.
9. Using Canada as a model, explore growing season extensions, e.g., greenhouses.

Energy

1. Promote the North Country's effort to become the greenest economy in the state by becoming a center of growth for renewables and a net exporter of energy.
2. Determine economic development benefits associated with renewable energy development within the region, both as an exporter and user of the energy by North Country residents.

3. Promote energy-efficiency programs and retrofits and identify related economic development benefits.
4. Identify economic development benefits associated with developing the power transmission system and potential smart grid upgrades within the North Country region.
5. Establish specific energy goals over time and encourage community net metering.
6. Identify industries that can use greener power.

Transportation

1. Encourage rail and high-speed rail infrastructure to bring economic development to the North Country through construction and maintenance, high technology jobs, access to the region, and tourism.
2. Identify opportunities and strategies that directly support and enhance economic development, especially small business growth, through increased use of rail and waterways to transport goods and people.
3. Encourage developing transportation infrastructure such as public transit, sustainable fuel sources etc., that foster economic development and community connectivity.
4. Encourage development of high speed rail and CSX rail infrastructure and identify related economic development benefits.
5. Identify the economic development benefits associated with improving connections with Canada, developing transportation manufacturing, and improving regional airport infrastructure while also incorporating sustainability initiatives.
6. Broadband internet may go here best as a mechanism for transporting information.

Climate Adaptation

Overarching Economic Development Considerations

The plan shall consider strategies and practices that include the following:

1. Increasing job growth in the North Country region through the implementation of sustainability strategies defined in all focus areas. Identify the sectors that will experience increased job growth.

2. Increasing the business start-up rate in the region by implementing sustainability strategies defined in all focus areas. Identify the sectors that will experience an increase in small-business and other business start-ups, including relocations to the region.
3. Increasing the ratio of tax-base property to vacant property in the region by reusing existing buildings, participating in Main Street redevelopment programs, locating priority growth areas according to smart growth principles etc.
4. Increasing regional tourism revenue through the creation of eco-tourism and agri-tourism opportunities.
5. Increasing the number of jobs that are considered “family sustaining jobs” and provide a living wage through the implementation of sustainability strategies defined in all focus areas. Identify the sectors that will experience an increase of “family sustaining jobs.”

Governance

1. Determine local or state legal, permitting, or licensing constraints that limit the expansion of specific business opportunities by category (e.g., agriculture – local sales, ordinances on milling of grains, a processing technique that requires resource to be exported and re-imported). Outline possible solutions for research.
2. Determine ways to get county, regional, or state aid for the expansion and maintenance of infrastructure needs, including, but not limited to, rail services, broadband access, water and wastewater utilities, etc.
3. Achieve support for community net metering or monitoring of energy consumption. Develop ways of “showing” communities how they can save (various studies show this to be true). Community by community mapping can demonstrate how using green energy and/or energy consumption can be successful. Education can allow people to take more ownership in their personal usage

Strategies, Topics, and Practices Not Included

The plan will not consider strategies and practices that address economic development that primarily relates to resources that are addressed in other focus areas (e.g., discussions related to development of alternative energy transportation are presented under the transportation focus area rather than the energy focus area; discussions in the context of energy used in waste management are presented under the waste management focus area rather than under the energy focus area).

6 Identified Connections

The North Country Homegrown Sustainability Plan will be structured to increase job growth and resilience of existing businesses and the business start-up and success rate in the North Country region through the implementation of sustainability strategies. This will be accomplished through the combined goals of all the focus areas. The economic development focus area goals and indicators are deeply intertwined with most of the other defined focus areas because of the comprehensive nature of the economic development plans, strengths, and goals. Economic development and other focus areas tie together (see Section 5 above, economic development framing statement) in the following ways:

Energy/Waste/Water

- (1) Promote source reduction, water conservation, and energy-efficiency programs.

Energy/Waste

- (1) Encourage expansion of and support job creation for waste-to-energy and options for waste biofuels.

Energy

- (1) Become a center of growth for renewables and a net exporter of energy.
- (2) Determine economic development benefits associated with renewable energy development within the region.
- (3) Identify economic development benefits associated with developing the power transmission system and potential smart grid upgrades within the North Country region.

Waste

- (1) Encourage expansion of and support job creation for recycling and reuse programs.

Water

- (1) Consider the possibilities of treating wastewater from hydraulic fracturing in the Southern Tier.
- (2) Improve water quality in general and preserve/improve watershed quality.

Land Use and Livable Communities/Water

- (1) Determine long-term economic and other benefits of providing water management infrastructure upgrades and modernization.

Land Use and Livable Communities

- (1) Using smart growth principles, emphasize the economic benefits of infrastructure upgrades before approving new builds and identify locations where utility or infrastructure expansion could enhance economic development.
- (2) Educate the public on sustainable planning to promote local ownership of facilities.
- (3) Evaluate the importance of culture and arts (i.e., local theaters are closing because they cannot afford to update to digital).
- (4) Expand broadband and cell phone connections.

Working Landscapes

- (1) Capitalize on the North Country's natural capital to increase regional tourism revenue by promoting low impact recreation, eco-tourism, and agri-tourism opportunities.
- (2) Identify the economic benefits of sustainable food production and distribution within the region, and distributing food directly.
- (3) Promote local food, not necessarily organic, as an economic driver for all parts in the process, growing, processing, distribution, sales, etc.
- (4) Incorporate local industry in the planning process (i.e., Stewarts Shops, Empire State Forest Products Association, local Cornell Cooperative Extension, etc.).

Working Landscapes/Energy

- (1) Encourage emission-reduction methods for the region's exported forest product.
- (2) Increase awareness of Forest Stewardship Council (FSC certification) and the access it can provide to new markets including highly environmentally sensitive markets.

Transportation

- (1) Encourage rail and high-speed rail infrastructure, waterway transportation, and airport infrastructure improvement, while incorporating sustainability initiatives, to bring economic development to the North Country through construction and maintenance, high technology jobs, access to the region, and tourism.
- (2) Encourage developing transportation infrastructure, such as public transit, sustainable fuel sources etc., that foster economic development and community connectivity.

Governance

- (1) Determine possible solutions for local or state legal, permitting, or licensing constraints that limit the expansion of business opportunities.
- (2) Determine ways to get county, regional, or state aid for the expansion and maintenance of infrastructure needs, including, but not limited to, rail services, broadband access, water and wastewater utilities, etc.

7 Research and Data Sources

Short statements on the primary resources we find.

8 Important Projects

Short statements on the primary projects we find.

9 Identified Case Studies

If anyone notes a project that could be a case study, let us and Jennifer Perry at ANCA know.

**APPENDIX III-B: Working group meeting schedule/format-Working Group Reports-
Livable Communities and Land Use**

Cleaner, Greener Communities Grant Program

DRAFT for Review by Working Group

Livable Communities and Land Use

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 - Governance – identified issues for this subsection
 - Climate Adaptation – identified issues for this subsection
 - Strategies, Topics and Practices Not Included – if needed, noting items which are not included.

1 Introduction

This document is the first of several summaries of key discussion points raised during the deliberations of the livable communities and land uses working group to help structure the livable and land uses component of the North Country Homegrown Sustainability Plan (Plan). As a summary of the discussion at the working group meeting July 11, it is not intended to be a report created by the group, nor is it a deliverable from the group. Rather, this and any following summaries are to be used to measure ongoing progress and to stimulate further discussion within the livable communities and land uses working group concerning its eventual input to the Sustainability Plan.

The Plan is being developed under a New York State Energy Research and Development Authority (NYSERDA) grant as part of the Cleaner, Greener Communities Grant Program. The North Country, consisting of Jefferson, Clinton, Hamilton, Essex, St. Lawrence, Lewis, and Franklin counties, is one of 10 regions eligible for the grant. The North Country has retained a team consisting of Ecology and Environment, Inc. (E & E) and the Adirondack North Country Association (ANCA) to support the process. The livable communities and land uses working group is one of six working groups meeting concurrently to help define needs and develop the Plan.

For this initial summary of discussion points, each working group has developed its own format and approach for presenting information. Information will continue to be revised and refined during the discussion process. During final preparation of the sustainability plan it is anticipated that a single report format will be used for all Plan sections.

2 Definition of the Focus Area

The planning team is addressing land-use planning as it relates to sustainable development and smart growth and improvement, both in location-efficient infrastructure and the economy and the creation and preservation of livable communities. Based on natural resource mapping, existing infrastructure and the North Country's regional economic development council's (REDC) strategic plan, the planning team shall identify appropriate guidelines for future development of and within existing urban and rural communities.

Also, the plan shall identify and promote guidelines and support priority revitalization areas in the North Country context that facilitate targeted, sustained growth in location-efficient, developed areas with increased mobility options. The planning team shall consider strategies that either encourage implementation of existing comprehensive zoning plans or promote adoption of updated or new local comprehensive zoning plans and infrastructure investment to support comprehensive land-use development; encourage the new construction and redevelopment of existing housing that is location-efficient and provides the necessary infrastructure to increase access to employment centers and transportation options; stimulate investment in mixed-use development and land recycling in existing communities; protect natural ecosystems; and prevent unsustainable use of natural resources.

Strategies shall be addressed for the North Country's small cities and rural communities to use land efficiently and sustainably while providing local economic growth, employment, and quality of life for their residents. Emphasis will be placed on recirculating resources (natural and capital) within the North Country region.

The Livable Communities and Land Use implementation strategy will be carefully coordinated with the transportation, working lands, and economic development focus area plans.

3 Goals of the Sustainability Plan

1. Focus revitalization on existing main streets, downtown areas, and existing sites with infrastructure to reduce and prevent sprawl.
2. Enhance local building codes and update comprehensive plans to include energy efficiency, allowances for renewable technologies, and mixed-use zoning or the use of commercial overlays).
3. Create healthy communities by improving public health and occupational health and safety.
4. Support sustainability programs/demonstration projects through local schools, which are often the largest building in a community. Schools can be used to encourage education on sustainability as well as sites for pilot programs such as biomass heating.
5. Conserve North Country's natural capital such as forest and water resources by using available fallow agricultural land before using greenfield land.
6. Seek opportunities for shared transit and/or transit resources between counties and regions.

Working Group Note: Growth for the sake of growth is not what the planning team is looking for. The focus is to create local jobs and create a supportive local economy where local dollars are not exported, in part by using the natural and human capital of the region effectively and comprehensively.

4 Opportunities and Constraints

OPPORTUNITIES	CONSTRAINTS
<u>Land Use Pattern/Code</u>	
Code enforcement staff can have greater authority and can use this authority to influence their roles on codes and bring them up to date.	Outdated zoning plans, little money for updating. Need to set clear goals in order to implement effective zoning changes. Code enforcement staff are not really empowered to enforce the energy code.
Return to early community design elements: early housing stock was solid, focused on hamlet/village life; beautiful buildings need to be	Tax-structure creates a double taxation environment, which is a disincentive to live in the village: people do not want to pay village and

revitalized. Well-cared-for original homes are “tight” and low cost. Promote this as an asset. Reuse, rehab of beautiful old buildings that are being left to fall into disrepair.	town taxes, so they move out of the village, creating sprawl. This situation contributes to sprawl by effectively shifting growth outside of hamlets/villages. Taxes currently incentive sprawl: Adapt tax structures limit affordability for people to live within hamlets. For example, in tri lakes if you don’t live in village you pay less tax.
Return to mixed-use zoning to improve walkability and encourage business in residential areas; opportunities to incorporate urban agriculture (e.g., allowing chickens to be kept in the villages).	The distances between communities; rural roads negatively affect countryside because too much fuel is used. Lack of workable transportation, trails, bike lanes, opportunities for transit other than cars.
	In some instances, people believe that behavior change is required of individual citizens to embrace these changes, Some will love it, others will hate it, regardless of the idea.
<u>Energy</u>	
Huge amount of open space to use for projects available (appropriate locations, renewable energy installations, etc). Community-based renewable energy opportunities (solar panels on closed dumps).	Regulatory hurdles, challenges of common ownership: who owns what? who is responsible for maintenance, etc.
Community solar in one location, people who live in forested communities can lease a few panels and gain benefits of solar power	BPI training necessary to energy efficiency projects. Bottleneck in accreditation (NYSERDA green jobs for NY). In general, training for contractors is a challenge with long distances for travel and time involved.
Consider incentives to help people avoid upfront costs associated with sustainable long-term investments.	
<u>Building and Development</u>	
Mandate more durable buildings	People don’t have disposable income and are investing in cheaper, short-term housing and investment opportunities (not sustainable).
Develop existing infrastructure before building new.	Limited life cycle thinking: new construction looks at upfront costs instead of long-term life cycle costs; restructuring of financing is needed.

<u>Tourism/Agriculture</u>	
Develop community place and pride (attracts tourism and investment).	Lack of education on how to make different communities known and accessible to tourists.
Tourism is an opportunity in some areas (not typical to all). Lots of community spirit, identity, which is intangible but attracts visitors.	Teaching students the possibilities of the region, how to use the resources available.
Scenic Byway development.	
Promote a cultural perception change/create unique cultural centers for each area.	Limited advertisement of tourist opportunities.
Community Garden Development (check out Seattle Tithe).	
Think of NC as an interconnected region...St. Lawrence and Champlain Valleys as food baskets to feed the rest of the region. (When trains to Midwest opened, this area died).	
Need to promote agro-tourism and heritage tourism. Cider tours.	
Develop agri-tourism, ecotourism and cultural tourism: Region has the largest number of dairy producers in the U.S. and a large percentage of organic producers. How to incorporate local farmstands, orchards, etc. into tourism and economy (like Quebec has). Quebec implements better zoning, maintain farms through a quota system so farms are more valuable.	
<u>Infrastructure</u>	
Complete streets (narrowing streets, encouraging pedestrian and bike traffic). Opportunity for engagement with NYS agencies to function with local interests.	DOT policies for the north of Blue Line (the Adirondack Park boundary) are incompatible with local character. Policies focus on moving traffic, so at every opportunity they make their roads as wide as possible. This creates bottlenecks where roads change widths and confusing for driving. DOT creates a policy that makes traffic move too fast through villages, removes parking from sides of roads, and destroys downtowns. The (DOT) refused to plant native trees and instead planted invasive species.
	Loss of countryside due to infrastructure (wide

	roadways).
Broadband – create industry without local infrastructure. Create a knowledge economy. State has plans to fix broadband issues soon. Broadband conquers distance, brings people to more year-round communities. Seasonal residents want broadband, added value for hotels, etc. Also helps people to telecommute, keep communities alive when local jobs are not there. Broadband development (creates jobs, provides high tech connection, encourages influx of professionals into area).	
FCC is subsidizing rural broadband instead of rural telecom. Big change and means significant broadband will come. NYS budget allocated \$25 miloion in broadband this year.	
Federal government to change subsidies to phone to include broadband.	
<u>Other</u>	
Community resilience-importing new brain power/diversity etc.	Cultural climate reacting to “top down” approaches. The North Country needs to be careful to not fall into that ourselves by making all of these recommendations. Starting out as homegrown needs to be a key to keeping it coming from the bottom up. But have to watch out for “state-wide” process.
Create local investment opportunities.	Lack of identity in some communities (how to create this).

5 Framing Statement(s)

The plan shall consider the following strategies and practices:

Promote Priority Revitalization Areas/Locations

- 1) Develop guidelines for revitalization and, if appropriate, future growth, and identify potential priority areas in light of the following:
 - Existing development
 - Existing transportation infrastructure (automobile, bicycle, and transit) or the ability to support inter-modal/multi-modal transportation options
 - Local employment centers
 - Proximity to educational centers (10 institutions)
 - Proximity to Fort Drum
 - Existing Main Street Redevelopment Programs (or those that have the potential to support local land use improvements, building reinvestment and infrastructure support.
 - Other infrastructure: broadband
 - Airport improvements, transportation equipment manufacturing, foster technology clusters
 - Opportunities for tourism
 - Public health
 -
- 2) Priority revitalization locations should include and support the development of:
 - Mixed use development (housing with retail, retail with employment)
 - Sidewalks and bicycle paths
 - Arts and cultural institutions
 - Parks and open space
 - Foster research and entrepreneurial activities
 - Living-wage jobs with local businesses
 - On-site infrastructure (such as storm water treatment)
- 3) Targeting Priority Revitalization Locations will:
 - Maintain efficient use of land for working lands and natural resources and discourage sprawl
 - Protect natural ecosystems

Zoning Standards/Land Management

- 1) Identify zoning issues that encourage urban sprawl or uncontrolled commercial development along arterIALIZED roads and provide alternatives for consideration
- 2) Identify inclusionary zoning to address affordability of housing in livable communities
- 3) Encourage land use designations and permitting processes that support the growing clean energy industry such as wind, solar, low-impact hydropower, and biomass
- 4) Support long-standing agricultural businesses in the North Country.

5) Promote land management practices that correspond and promote local and sustainable farming practices and sustainable food production for a regional food economy

6) Promote land use designations that enhance opportunities for the North Country's tourism industry throughout the region while maintaining the existing character of the area

○ Tourism opportunity areas should reflect existing capacity, local assets, and *opportunities for* increased capacity for necessary infrastructure (e.g. transportation connections etc).

7) Draft guidelines for rural and urban land management

8) Promote land use designations and sustainable management practices that preserve the North Country's natural capital such as forests, mountains, water features, and other natural resources throughout the region. Capitalize on associated low impact recreation and eco-tourism opportunities

9) Develop programs to support local zoning boards and county government to developing comprehensive land use plans

10) Promote land management practices that preserve and enhance the 10 designated scenic byways in the North Country

11) Seek ways to promote zoning and land management practices that incorporate sustainable storm water management within local communities

12) Support sustainable land management practices and associated educational programs that prevent the spread of invasive species

Energy Conservation

1) Foster local land management programs and incentives that promote and support renovations of the existing housing through green building practices (ex. increase energy efficiency)

2) Encourage green building practices for all new construction within the region

Infrastructure

1) Identify ROWs corridors and promote land use easements to develop transmission networks that can link regional clean energy sources to the grid

Other

1) Address the cultural heritage of the region and identify indicators/benchmarks for measuring progress

○ Consider each area's unique cultural and natural heritages as a touchstone

2) Address the connection between all aspects of sustainability: environmental, equity, and economic

3) Create a supportive atmosphere where residents are community-minded and feel invested in their own towns and communities. People who feel invested in their community are more caring of neighbors, support community efforts, and the community resiliency of the region grows

4) Regarding tourism, livable housing needs to be considered

5) Community resiliency needs to be factored in

6) Energy efficiency issues should be included: in reference to upgrading existing housing stock (are of potential overlap)

6 Strategies, Topics, and Practices Not Included

7 Governance

[PLACEHOLDER]

8 Climate Adaptation

[PLACEHOLDER]

9 Identified Connections

Notes on Indicators per WG#1: Introduction

- *Include/integrate health as an indicator*
- *Healthy/quality jobs are important, not just any job*
- *From Dave Crandall: some measure of a region's cultural/natural heritage preservation*

10 Research and Data Sources

11 Important Projects

- Evaluate opportunities to provide reduced or expedited permit fees for buildings that exceed minimum energy standards
- Create a template of policy or code language addressing transfer of development rights and/or infrastructure investments in areas of existing development.
- Develop programs to support local zoning boards and county government to developing comprehensive land use plans.

12 Identified Case Studies

- Rural Broadband Subsidies: currently installing 260+ homes a month in North Country to broadband. People who lost their jobs became telecommuters because of broadband access.
- Saranac Lake: has had good leadership and forward thinking which has led to the creation of a livable community (high-tech, culture etc.)

Other External Resources for national case studies:

- *Institute for Local Self-Reliance*
- *Strong Towns*
- *EPA Smart Growth for Rural Communities Documents*
- *“Save our Lands, Save our Towns”, Hylton*
- *Better Models for Development in Pennsylvania: Ideas for Creating More Livable Prosperous Communities, Edward McMahon and Shelly S. Mastran*
- *National Main Street Center*

APPENDIX III-B: Working group meeting schedule/format-Working Group Reports-Transportation

Cleaner, Greener Communities Grant Program

DRAFT for Review by Working Group

Transportation

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1. Introduction

This document is the first of several summaries of key discussion points raised during the deliberations of the transportation working group to help structure the transportation management component of the North Country Homegrown Sustainability Plan (Plan). As a summary of the discussion at the transportation working group meeting July 16, it is not intended to be a report created by the group, nor is it a deliverable from the group. Rather, this and any following summaries are to be used to measure ongoing progress and to stimulate further discussion within the transportation working group concerning its eventual input to the Sustainability Plan.

The Plan is being developed under a New York State Energy Research and Development Authority (NYSERDA) Grant as part of the Cleaner, Greener Communities Grant Program. The North Country, consisting of Jefferson, Clinton, Hamilton, Essex, St. Lawrence, Lewis, and Franklin counties, is one of 10 regions eligible for the grant. The North Country has retained a team consisting of Ecology and Environment, Inc. (E & E) and the Adirondack North Country Association (ANCA) to support the process. The transportation group is one of six working groups meeting concurrently to help define needs and develop the Plan.

For this initial summary of discussion points, each working group has developed its own format and approach for presenting information. Information will continue to be revised and refined during the discussion process. During final preparation of the sustainability plan it is anticipated that a single report format will be used for all Plan sections.

2. Definition of the Focus Area

The North Country Homegrown Sustainability Plan presents ideas on how to preserve and improve the existing, local transportation network and its connections within New York State and to Canada by providing a more efficient and expanded system operation, the infrastructure to fuel a larger fleet of alternative fuel vehicles, and enhanced multi-modal choices for North Country residents, businesses, and governments.

Improvements in infrastructure for different modes of transportation that provide modal choice for inhabitants such as walking and bicycling (both in-network and pathways), ridesharing, complete streets policies, and public transportation (including bus service and targeted shuttle services) should be considered. Some transportation options may be more viable within specific local boundaries; however, improvements in some systems require removing legal or organizational boundaries and finding more regional solutions.

The planning team identified programs to encourage more efficient transportation modes, fuels, and vehicles and investments in street, rail, highway, transit, and fueling infrastructure that will contribute to regional economic stability and growth, the quality of community life, reduced governmental costs, and improved environmental sustainability.

Comment: To date, there has been little discussion on multi-modal transportation options for the more rural areas of the region, geographic areas between settlements.

3. Goals of the Sustainability Plan

Sustainable transportation goals evolved from the framing statements noted below. The transportation working group proposed/developed the following goals:

1. Improve and create additional bike and pedestrian networks that support and connect communities.
2. Improve and expand regional transit and inter-county connections, focusing on servicing regional “commuter pockets” to reduce emissions from vehicles and vehicle miles travelled (VMT).
3. Improve access into and out of the region, including enhancing rail, bus, and air connections, through expansion of routes, frequency of service, and improved facilities.
4. Promote ridesharing options and other systems for reducing VMT for regional events such as fairs, horse shows, and athletic events.

Other Goals

These three other goals were not included but were expressed as possibly important, based on comments and suggestions from working group members and a review of state policy. The working groups may want to engage in further discussion on these:

1. Support policy and planning efforts to improve freight rail infrastructure/movement in/out and through the North Country region.
2. Improve coordination in the road infrastructure planning process to balance local, county, and regional priorities with state requirements.

Notes: Issue discussed when talking about Malone where there's a perceived tension between improving traffic flow through town and the impact it has on pedestrian flows in downtown, impact on parking and hurting retail activity. A related goal might say something along the lines of improving coordination in the transportation (infrastructure?) planning process to balance local, county and regional priorities.

3. Increase the use of alternative fuels through incremental investments in alternative fuel infrastructure and vehicles.

Notes: NYSERDA's definition mentions alternative fuels multiple times, but the North Country region has not decided to set a goal around it. Should we discuss the use of alternative fuels for the region? residential or private or public fleets? Do we have a sense for whether municipal fleets already have compressed natural gas (CNG) or electric vehicles or might want to switch more vehicles to alternative fuels? It is understood that there is not a lot of installed natural gas in the region, which may limit Usefulness.

Opportunities / Constraints

Opportunities	Constraints
Mobility and Travel Options	
Apply sophisticated communication tools to support transit.	Information - Tourists need to be made aware of transport options.
Coordinate transit services and routes with universities and institutions such as hospitals (subsidize initially to encourage ridership but also increase ridership so that the system can move away from subsidies).	Public transportation schedules don't line up with individual work schedules; there are many diverse work needs. Not enough time options for people; convenience is an important factor.
Inventory of vacant buildings (yards) in proximity to existing rail and truck routes as opportunities for businesses that might need storage and (rail) shipping capacity, e.g., food processing.	
Ability to transfer from county to county bus lines.	
Improve communication and education to encourage rideshare (online). Advertise and promote transportation networks – tourists seem to use more public transportation, locals not as much. New transportation options such as ridesharing can support the opportunity for local residents to explore their own regions more completely and increase local commerce and recreational opportunities. North Country towns and assets through rideshare and transportation networks.	Rideshare knowledge needs to be developed. (People are not communicating; are you both on the same route? Can you carpool?).
Promotion of long- and short-term rental car options to support people who decide to reduce their car ownership levels. Examples such as Zipcar.com or ECar.	
Expand use of school buses for “other than school” transit options. Use existing resource more effectively. Temporary shift of equipment. Charter trip could be an option that is currently not allowed. Department of Education and DMV need to be involved in these decisions.	Dept. of Education issues/Parents don't necessarily want the public riding with their children on the school bus. Each college has different transportation plans with limited coordination between institutions.
Inventory available transit and village transportation options (to help to identify collaborative options).	Parents may not want to see children on public transit, as it is not something they are used to seeing – expect separate services. Need to know county inventory such as routes and schedules.
Rail-to- trail corridor between Lake Placid and Tupper Lake.	

Opportunities	Constraints
Add bike path alongside Canton-Potsdam rail line. Would need barriers (operating line, landowners don't want people behind their houses).	Push back from property owners against cyclists
Install bike racks on all buses.	
Bike cars on trains	
	There are great distances between locations where people need to travel.
	Weather can greatly impact travel.
Rail	
Rail connection between Tri-Lakes towns (Tupper Lake, Saranac Lake, and Lake Placid. Others spoke of connections along same line to the south as far as Old Forge, Herkimer County).	
Combine electric/broadband infrastructure with existing rail corridors (e.g., Lake Placid-Raybrook) – in general, use corridors for installation of infrastructure.	
Connectivity	
Connect Franklin County to the Lake Placid conference center (transit/transportation options).	Other counties cannot complete these types of connections. For example, Essex County cannot complete these types of connections due to current restraints – connecting Lake Placid to the Wild Center would not work. There are seasonal issues as well – there are no students in summer and in winter there are fewer tourists.
Coordinate with cultural institutions.	
Road and Other Infrastructure	
Interest in exploring best alternative to Rooftop highway issue-with an eye to preservation of communities along the route. There is an overlap between transportation network and available distribution capacity.	Main Streets are also state routes - coordination between DOT, villages and pedestrian needs. DOT maintains the state routes, may need to widen, etc. which is bad for downtown pedestrian traffic. Reroute state routes around towns and make the old routes town roads – this is expensive and can divert people away from businesses so there needs to be a balance.
Complete Streets Programs (seek more grants) add bike lanes as road improvements are occurring (ex/put a bike lane on Old Military Road in Lake Placid since it is being repaved).	Limited DOT resources to add bike lanes to existing improvements.
Rebuild village infrastructure-DOT-water/sewer.	

Opportunities	Constraints
Roads are in good repair and have enough capacity for vehicles travelling on them.	Complete Streets requires DOT to look at needs but does not provide what it takes to meet the needs (no extra funding necessarily).
Improve Route 11 as an alternative to new I-98. Consider bike and walking trails/paths – don't want to lose any existing trails/paths.	Conflicting interests/needs between village commercial interests which promote downtown character/quality and the local desire to move through downtowns quickly/move traffic quickly.
Use existing corridors, combine corridor uses (roads, power lines, fiber optics) instead of making new ones to reduce costs.	Regulatory hurdles-burying lines due to increased frequency of storms.
Governance	
Simplify authorizing approval and requirements among townships and with counties.	Operation authority only exists within the counties; the operating authority needs to be regional. Regional coordination of public transportation systems is currently difficult, must be inspected on a county basis. This limits ability to get from one town to another; cannot travel county to county now without transferring (e.g., LP to PBurgh)
Regional as opposed to county coordination (lump counties together in terms of regulations, have inter-county public transportation).	Low population density (ex/St. Lawrence County). Transportation systems are subsidized. Need to move away from that to make them sustainable. Not going to get enough people right now to do that.
Single point of transportation coordination.	Multiple regional routes with multiple schedules.
Overlay scenic byways information/places of interest into 511 database.	Road improvement issues – not always able to update for safety due to forest reserve, park issues, local pushback.

4. Framing Statement

Miles Traveled by Road/Emissions Generated

1. Develop public transit options and community-based ridesharing systems that improve ability of people to travel together within and between towns while reducing vehicle miles traveled, improving community connectivity and supporting local and visitor access to open space and recreational resources, including promoting environmentally conscious tourist transportation such as bikes, electric cars, etc.
2. Encourage transportation decisions that support local food and energy production and minimize road travel. For example, situate local food processing near existing rail (e.g., abandoned RR yard issue) and inventory large commercial spaces that serve or could serve the food distribution network and connect to transportation systems.

3. Promote regional transportation planning.
4. Identify opportunities and strategies that directly support and enhance economic development, especially small business growth, through increased use of rail and waterways to transport goods and people.
5. Identify activities/areas where there is no practicable alternative to road transportation of people and goods and support prioritization for travel modes that utilize sustainable fuel sources and/or minimize trips.
6. Increase video conferencing, broadband, and remote working inventory/development in order to minimize travel for meetings, classes etc. (This is a good cross-task with the Economic Development Working Group)
7. Promote incrementally use of biodiesel, low-sulfur, electric vehicles, compressed natural gas, and other fuels and advanced technologies.

Rail Infrastructure

1. Support the development of high speed rail and/or incremental improvements to the Montreal-New York corridor, including collaboration with other regions in New York. Encourage the improvement of the Westport Station, increase frequency of stops, intermodal connections.
2. Actively advocate for continued federal and state investment to make incremental improvements along the North Country rail corridors (reduce delays, increase frequency of service, and reduce number of stops by making them optional).
3. Support state, federal, and private investment that is currently funding the rehabilitation of the CSX rail infrastructure from the Watertown area to Newton Falls and southern St. Lawrence County to support paper making and other economic opportunities in that part of the region.
4. Explore Adirondack Railway connection expansion between Tupper and Lake Placid, and Big Moose to Tupper.
5. Amtrak has only limited station stops that serve the North Country. Ensure stations are well served by connecting transit options, providing adequate parking, considering car rental services, maintaining facilities. Promote upgrades and alternatives to rail equipment such as hybrid locomotives and other new technology.
6. Enhance intermodal connections between trains and existing bus stations to create more rail flexibility.
7. Address affordability and marketing of public transportation in the North Country.
8. Combine rail and recreational opportunities by increasing awareness of connections and fostering multi-agency support (e.g., ride the train to cycling locations, connecting different campsites).
9. Explore potential for light rail in the North Country.

The Region's Partnership with Canada

1. Identify measures to optimize fluidity at commercial border crossings, especially Alexandria Bay, Ogdensburg, and Massena, including prioritization for travel modes that utilize public transit, sustainable fuel sources, and/or minimize trips, with a preference for infrastructure improvements that reflect sustainable development principles, e.g., green building.
2. Explore ways, including non-road options, to improve east-west connectivity between I-87 and I-81 corridors to support border crossings and improve connectivity between communities.

Transportation Manufacturing

Develop North Country as part of emerging green economy through its transit equipment manufacturing as a center of excellence for railcar and locomotives.

1. Use the North Country as a pilot program/laboratory for new technologies (e.g., where universities can study the progress of new technologies such as biodiesel/electric vehicles).
2. Provide ongoing support for regional transportation/transit equipment companies, equipment, and technological upgrades and workforce recruitment and training.
3. Attract sustainable transportation/transit equipment-related enterprises such as hybrid and alternative fuel vehicles and infrastructure upgrades (e.g., electric cars as part of ride-share programs, pedi-cabs etc.)
4. Work with region's congressional delegation to gain approval for a new federal transportation authorization bill that will support contract opportunities for North Country transportation equipment businesses.
5. Advocate for support from New York State and various transportation authorities to maximize federal and state transportation/transit equipment purchasing within the state and the North Country region.

Airports and Aviation

1. Develop and upgrade training and resources in support of aerospace and aviation sectors, including initiatives at the region's community colleges and aeronautical institutes and universities. Increase high-school and college student awareness of the job opportunities located at airports (e.g., mechanics, specialists, aviation training).
2. Attract additional investment in increased capacity for North Country regional airports near the border, especially Plattsburg International airport, capitalizing on pending investment of \$200 million for high-tech aircraft Maintenance, Repair and Overhaul (MRO) facility and Lake Clear airport.

3. Explore strategies to reduce energy consumption and greenhouse gas emissions associated with airport operations and utilize green building practices for airport facilities to help manage storm water runoff, reduce water and waste consumption, etc.
4. Support development of infrastructure around Plattsburgh and other regional airports (Watertown, Ogdensburg, and Massena) and within communities adjacent to Fort Drum, prioritizing proposals that promote sustainability, such as use of public transit, incorporation of renewable energy, etc.

Further Discussion: Air travel creates emission issues yet it is vital to economic development and could offset some VMTs by residents and visitors. How do we discuss these issues and frame actions that are environmentally friendly while supporting the local economy?

Pedestrian and Bike Mobility

1. Review existing data on railway rights-of-way (ROW) in the region and consider programs or projects that bring state, federal, and private funding for the eventual rehabilitation of ROWs. Discuss potential projects such as the Adirondack railroad from Remsen to Lake Placid and other opportunities along railways for rail operations that could be combined with or connected to recreational trail use.
2. Inventory rail ROWs. Consider abandoned railway ROWs for recreational purposes (e.g., develop a rails-to-trails program).

Governance

1. Identify regulatory obstacles to the extension of transit service between North Country counties such as requirements for multiple inspections and geographic boundaries of existing transit providers.

Climate Adaptation

1. Consider how transit and other service actions can be configured to support the needs of communities in the case of an emergency. Public transit may be able to provide resource support for weather-related events such as flooding.
2. Transportation infrastructure should consider the possibility of an increase in severe weather impacts on existing/proposed transportation systems and determine if current standards meet the needs of the region. The region may need to consider a change in guidelines to ensure that infrastructure protection is adequate for changing weather patterns to ensure long-term system reliability and effective weather-related incident response.

Strategies, Topics, and Practices Not Included

The plan will not consider strategies and practices that will address transportation where it primarily relates to resources that are addressed in other focus areas (e.g., discussions related to development of alternative energy transportation are presented under the transportation focus area rather than under the energy focus area and discussions of energy used in waste management are presented under the waste management focus area rather than under the energy focus area).

Identified Connections

Increase video conferencing, broadband, and remote working inventory/development in order to minimize travel for meetings, classes etc. (This is a good cross-task with the economic development working group).

Research and Data Sources

Short statements about the primary projects we find.

Identified Case Studies

If anyone notes a project that could be a case study, let us and Jennifer Perry at Adirondack North County Association know.

**APPENDIX III-B: Working group meeting schedule/format-Working Group Reports-
Materials and Water Management**

Cleaner Greener Communities Grant Program

DRAFT for Review by Working Group

Water and Waste Management

Table of Contents

- Intro/Purpose/Background
- Definition – this is a definition of the Focus Area
- Goals – these are the goals developed by the Working Group
- Opportunities
- Constraints
- Framing Statements – these are statements that were used to help create goals and are meant to further clarify ideas, identify direction, to be used in developing targets, help brainstorm ideas for projects.
 - Governance – identified issues for this subsection
 - Climate Adaptation – identified issues for this subsection
 - Strategies, Topics and Practices Not Included – if needed, noting items which are not included.

1. Introduction

This document is the first of several summaries of key discussion points raised during the deliberations of the Water and Waste Working Group to help structure the water and waste management component of the North Country Homegrown Sustainability Plan (Plan). As a summary of the discussion of the Group meeting July 12, it is not intended to be a report created by the Group, nor is it a deliverable from the group. Rather, this and any following summaries are to be used to measure ongoing progress and to stimulate further discussion within the Group concerning its eventual input to the Plan.

The Plan is being developed under a New York State Energy Research and Development Authority (NYSERDA) Grant as part of the Cleaner, Greener Communities Grant Program. The North Country, consisting of Jefferson, Clinton, Hamilton, Essex, St. Lawrence, Lewis, and Franklin counties, is one of 10 regions eligible for the grant. The North Country has retained a team consisting of Ecology and Environment, Inc. (E & E) and the Adirondack North Country Association (ANCA) to support the process. The group is one of six working groups meeting concurrently to help define needs and develop the Plan.

For this initial summary of discussion points, each working group has developed its own format and approach for presenting information. Information will continue to be revised and refined during the discussion process. During final preparation of the sustainability plan it is anticipated that a single report format will be used for all Plan sections.

2. Definitions

2.1 Water

Water is considered one of the most valuable natural resources of the region. It provides ecosystem habitat and is used by many as a recreational resource, while being relied upon for drinking, agriculture, and by other industries. While the North Country is fortunate to have an abundance of water, this critical resource is becoming increasingly scarce in some areas of the United States. It is clear that in the future, this resource will only continue to gain in importance.

Water resources discussed here encompass all of the following types of water:

- Surface and groundwater sources
- Rainwater
- Waters used for recreation
- Water that provides ecological habitats

and uses:

- Potable water (municipal, well, surface, other)
- Wastewater (treated, septic with leachfield) and storm water (potentially contaminated rainwater)

- Water used in industry, including agricultural, forestry consumption or management, and hydro production (hydro-power).

The Group stated that the North Country Homegrown Sustainability Plan shall promote measures to protect and enhance water as a valued resource within the region. The Plan shall provide an evaluation of programs and practices that improve the sustainability of water infrastructure in the region. This includes energy efficiency and reduction of energy used in water production and treatment, greenhouse gas (GHG) emissions associated with potable water production and wastewater treatment, and the appropriate reuse of water.

The Plan shall support the sustainability of communities over the long-term. It shall discuss the impacts that future transportation and development infrastructure projects may have on water resources in the region. The Plan shall also evaluate methods to mitigate invasive species effects on water quality and habitats, and support resiliency to flooding.

The resulting water implementation strategy (WIS) will be carefully coordinated with the land use and livable communities, working landscapes, and transportation focus area plans. The WIS will document governance actions where appropriate.

2.2 Materials and Waste

Note: In order to create a more comprehensive planning language, the Group will begin using the word “material” in its research. This follows the language of NYSDEC’s Beyond Waste, which states that anything that does not end up in a landfill is a “material.” This also begins to address the comment that we need to move beyond waste and “change the concept of what we consider waste.”

The North Country Homegrown Sustainability Plan process shall evaluate typical materials and waste management practices throughout the region and determine strategies to reduce the waste produced and GHG emissions associated with materials and waste management. In parallel with the strategies identified in NYSDEC’s Beyond Waste Program, the Plan shall build upon best management practices already in place in some communities to bring them to scale for implementation throughout the region. The Plan is to evaluate ways to reduce the amount of waste that is currently landfilled or incinerated. This includes improvements to the collection of materials, materials separation, and strategies to increase the quantity of recycled materials.

Recyclable materials include organic (degradable) and inorganic materials (plastic, aluminum, glass, some construction and demolition wastes). While some organic materials (yard waste, compost, biosolids, forestry waste, food waste, and some construction and demolition wastes) may be recyclable, much of it is compostable. Composting is a more desirable outcome because it pulls this bulky, high-water content waste from the waste stream at an earlier time, before it requires much transportation. The Plan will develop strategies to encourage good material reuse practices and cultivate markets for recyclable and reusable materials. The plan will consider waste-to-energy opportunities, product stewardship, and the creation of markets for recycled and compostable materials.

The materials and waste implementation strategy will be carefully coordinated with the Working Landscapes and Economic Development focus area plans. The plan shall assess a representative set of local recycling policies and waste-reduction programs and use the Governance section of the plan to put forth possible solutions for review.

Discussion Topic: Incineration is a form of waste to energy and is seen by some as a renewable resource because waste continues to be available, even with reduction policies. What does the WG think about supporting or not supporting incineration?

3. Goals

The following are the defined goals of water resources and waste management, as defined by the Working Group:

1. Promote the conservation of water and reduction of solid waste generation.
2. Implement water management planning from a regional or watershed-level scale
3. Increase the percentage of waste recycled or reused within the region.
4. Maintain quality of natural water resources
5. Reduce infrastructure maintenance costs by implementing sustainable best management practices and improving energy efficiency
6. Incorporate strategies that create benefits and reduce the costs of providing water and waste services such as composting and anaerobic digestion to reduce the need for hauling and landfill fees

The following implementation strategies have been identified towards achieving the goals:

1. Upgrade and maintain existing facilities and infrastructure (prior to building new) *(through completing projects favoring energy savings, conservation, and sustainable initiatives).*
2. Reduce infrastructure maintenance costs *(by implementing sustainable best management practices and improving energy efficiency).*
3. Reduce capital and operational costs on communities *(Promote the conservation of water, and reduction of solid waste generation).*
4. Reduce the costs of providing water and waste services *(Incorporate strategies that create benefits and such as composting and anaerobic digestion).*
5. Reduce the need for hauling and landfill fees.
6. Replicate successful community recycling and waste reduction programs in surrounding areas *(by sharing program information).*
7. Cultivate markets for recyclable and reusable materials.

Discussion Note: Materials management seems a little underrepresented in the Goals. Discuss.

4. Opportunities *(notes)*

4.1 General

1. Open space is available to implement opportunities (coordinate with land use and livable communities).
2. Local colleges and universities can assist with planning, research, and technologies.
3. Case studies from Vermont (just across Lake Champlain) can show how they can be implemented in this region. Highlight successful programs to improve interest and attitudes towards change.
4. Integrate sustainability education into school systems. Students have the interest but need more guidance.
5. Region has good examples to compile sustainable best management practice guidance for both water and materials management. (Actual examples to be determined and collected.)
6. Evaluate financial incentives that may help the region achieve its water and materials management goals.

4.2 Water Resources

1. Implement sustainable best management practices for storm water to improve future waterfront development and allow incremental improvements to occur
2. Consider public health when promoting the sustainable management of public water systems
3. Look for specific opportunities to regionalize water infrastructure and distribution systems where it makes financial sense. Consolidation can be more cost-effective; however, implementation strategies may vary within the region.

4.3 Materials and Waste

Promote reuse or recycling by banning material identified as having a reuse or recycling value (such as a market) from landfill disposal.

1. Use material recycling and reuse opportunities to identify existing market opportunities, create new markets, and generate new jobs. Use Governance section to implement county or city level mandates to require three-stream recycling and higher rates of recycling of private haulers.
2. Educate communities about better disposal practices— identify and create alternatives, reduce burning barrels, private dumps, and waste buried by homeowners.
3. Incorporate work share programs for materials sorting and regulation enforcement.
4. Consider distributed materials management system infrastructure (example needed by working group).
5. Implement recycling, reuse and composting practices and initiatives in tourist areas; for example at rest areas. This will promote and support eco-tourism in the region.

5. Constraints

The working group identified several constraints on implementing a sustainable water resources policy:

5.1 General

1. Infrastructure in the region is fragmented, and it is difficult to overcome long distances.

2. Difficult to centralize facilities; the focus should be on locally distributed facilities across the region.
3. Attitude and resistance to change. A clear set of priorities needs to be developed so people understand what is important to each area. Preserving natural resources but also creating energy availability and improving job markets is important.
4. Communities lack the capital to implement improvement projects.
5. Ecology and geography can make it difficult to install water and waste management facilities and systems.
6. Population density is an obstacle. Low-density town centers and residents spread over large areas make systems and infrastructure more costly to start up and maintain.

5.2 Water

1. Water is one of the regions greatest resources but protective regulations also impose heavy constraints. Regulators need to understand how and where to incorporate green infrastructure.
2. Cost of water infrastructure maintenance is difficult to keep up with for many local governments.

5.3 Materials and Waste

1. Organic waste currently makes up 30% to 40% of the waste stream. This is a huge resource but not currently separated out. Green waste (yard waste) is another waste stream that could become an asset if properly managed.
2. Regulations prevent waste facilities in Adirondack Park. Waste must be transported outside the Park border.
3. Local laws could be used to mandate more effective recycling. Towns need to work together to discuss and share methods that work for them.
4. Local recycling and materials handling laws are not consistent.
5. For some counties, waste tonnage creates a significant revenue stream for the locale; reducing the waste stream impacts local revenues. Educate residents on materials management as a commodity increase.
6. Communities (and citizens) are not encouraged to recycle if they know materials are just combined into one stream at transfer stations.
7. Materials and waste collection mechanisms need updating in order for improvements to be implemented. Capital costs of split collection vehicles and waste processing facilities are an obstacle to implementation of projects.

6. Framing Statements

6.1 Water

The North Country Homegrown Sustainability Plan will consider strategies and practices in three focal areas of water management.

1. Water Conservation and Efficiency

- a. Promote the conservation of water by implementing sustainable best management practices, which can reduce the cost of treatment and infrastructure maintenance, reduce energy consumption for water and wastewater treatment, and minimize impacts to surrounding water bodies (within context of existing standards, such as Energy Policy Act, Uniform Plumbing Code, AHSRAE 189).
 - i. Promote regional water conservation programs (e.g., municipal scale, housing, commercial, agriculture).
 - ii. Support leak detection programs for municipal water systems
 - iii. Implement universal metering for municipal water supply
 - iv. Promote programs that support and incentivize the refurbishment and modernization of water fixtures in residences and businesses to reduce water use in the region
 - v. Promote water use reduction for all new construction of homes and businesses through green building practices (inside the home and on-site)
 - vi. Encourage water use reduction through reuse and conservation on campuses, including dorms throughout the North Country. Consider district-scale solutions
 - vii. Where appropriate, encourage the use of tap water for drinking, rather than bottled water. (Opportunity to tie to green hospitality and meeting standards related to the tourism industry)
 - viii. Incentivize the reuses of water, especially rainwater for greywater reuse systems. (Need to clarify Working Group's interest in this: rainwater capture and reuse is one system, and capturing and using graywater is another system. Graywater use can be expensive and is most appropriate for commercial uses when water rates are high)
 - ix. Consider the appropriate reuses of wastewater (blackwater) and promote changes in permitting processes to encourage approved uses.
- b. Implement energy-efficient retrofits for existing water and wastewater facilities, and private wells in order to reduce energy consumption and save operational costs.
 - i. Establish incentives and encourage the use of existing state funding that supports energy-efficient upgrades for water infrastructure such as equipment replacement programs and more efficient control systems.
 - ii. Support energy audits for water and wastewater treatment facilities.
 - iii. Encourage the use of renewable energy sources for water and wastewater facilities and distribution systems.
 - iv. Encourage natural treatment systems of waste water through constructed wetlands.
 - v. Support residential programs such as private well pump replacement to more energy efficient models. (consider pump energy uses vs. other home power systems)
 - vi. Promote reducing the carbon load per gallon through the minimization or offsetting the pumping power associated with the movement of water. Encourage design solutions and/or solar?? energy arrays at pumping stations.

- vii. Identify cost and energy efficient water management strategies to support targeted growth areas (growth areas will be identified by the land use and livable communities).
- viii. Identify cost and energy efficient water management strategies needed to support the growth of industries and facilities within the region including biotech clusters, health care centers, forestry, agriculture, and college campuses.

2. Storm Water Management

- a. Encourage storm water management best practices to reduce runoff and water quality impacts and reduce the volume of storm water sent to wastewater treatment facilities to eliminate any potential for combined sewer overflow in municipal areas.
 - i. Use green infrastructure to support the principles of low impact development (LID) that works to reduce storm water runoff resulting from impervious surfaces such as roadways, parking lots, and developed town centers.
 - ii. Incorporate LID practices such as buffers and bio-swales along the 10 designated scenic byways and areas adjacent to surface waters
 - iii. Promote separation of combined sewers to reduce storm overflow into waterways, and reduce storm flow to wastewater treatment facilities
 - iv. Promote the conservation of natural drainage corridors such as wetlands, ponds, and streams to allow the natural systems to convey, store, and filter storm water, allowing for resilience to flooding
 - v. Promote the development of alternatives to road salt.
 - vi. Promote education of low impact development techniques and the benefits of improving storm water quality and quantity within the North Country.
 - vii. Create demonstration projects to build awareness; partner with the 10 institutions of higher learning within the region to engage students and promote LID projects on campus and in the adjacent communities.
 - viii. Promote the reduction of water quality impacts along the St. Lawrence Seaway from cargo ships

3. Natural Water Quality

- a. Maintain the quality of natural water bodies in the region
 - i. Foster the development of programs that maintain or improve the watershed hydrology and water quality within the region's watersheds.
 - ii. Encourage educational programs that bring awareness to local watershed conservation and water quality issues.
 - iii. Promote programs that preserve or improve the water quality of natural water features and waterways within the North Country.
 - iv. Promote agribusiness/agricultural production processes that minimize impacts to watershed water quality.
 - v. Promote continued improvements in water quality by working to keep medications and other health-related products out of the water system.
 - vi. Improve aging sewers and septic systems serving second homes located on or near lakes and streams. Many of these homes were intended for part-time use and the systems have not been maintained.

- vii. Promote education and programs to reduce impacts of invasive species in the region's water bodies.
- viii. Encourage the establishment of septic system monitoring and routine maintenance to prevent impacts to water quality.

Governance (Water)

The North Country Homegrown Sustainability Plan shall consider strategies and practices that will:

- 1. Promote policies that will protect water from contamination, rather than focus on cleaning up contamination.
- 2. Promote water conservation and energy efficient practices for water infrastructure.
- 3. Evaluate possibility of compensation for damaged water resources from external industrial pollution. (Acid Rain)

Climate Adaptation (Water)

None at this time

Strategies, Topics and Practices Not Included (Water)

The plan will not consider strategies and practices that will address water management where it primarily relates to resources that are addressed in other focus areas (e.g., discussions related to development of alternative energy sources are presented under the Energy Focus Area; discussions in the context of energy used in waste management are presented under the Waste Management Focus Area rather than under the Energy Focus Area).

6.2 Materials and Waste

The North Country Homegrown Sustainability Plan shall consider strategies and practices in five focal areas of materials and waste management.

Source Reduction

- 1. Identify and encourage efforts that reduce solid waste generation, including education programs and commercial initiatives.
- 2. Promote source reduction through purchasing and product stewardship (consumer, businesses and government) from manufacturers that have waste reduction policies in place. Promote product stewardship through a life-cycle (cradle to cradle) program (e.g. New York State's e-waste program).
- 3. Encourage "closed system" thinking for all aspects of waste management.
- 4. Consider incorporating requirements for construction and demolition waste source reduction and recycling into the building permitting process.
- 5. Change perceptions of what is considered to be waste.

Recycling and Reuse

1. Consider mandatory recycling programs, incentives/fees and/or goals for government, residents and businesses that are practicable and feasible for implementation in the region. These may differ between rural, semi-urban, and urban areas.
2. Promote the concepts of reduction, recycling, and reuse to individuals, government, educational institutions, and businesses, including tourism and event-related enterprises.
3. Inventory regulations and rules to develop a series of best management practices for recycling and reuse.
4. Ensure recycling efforts are focused on materials that make up the greatest proportion of the waste-stream and provide the greatest opportunity to reduce solid waste at lowest cost, relative to other more challenging or less marketable materials. These may include aluminum, glass, paper, cardboard, and food waste.
5. Explore ways to attract and retain recycling industries in the region to support recycling and create jobs and revenue.
6. Investigate solutions to materials hauling issues such as distance.
7. Support infrastructure that improves the ability to sort recyclable and organic material from the waste stream.
8. Evaluate a three-stream (food, recyclables, waste) versus single stream material flow.

Organics Recycling (including composting) and Anaerobic Digestion

Explore individual, community, and region wide composting strategies and options

1. Develop and expand organic materials for non-food applications. Organic standards have opted not to include sewage sludge for food fertilizer based on concerns of heavy metals and pathogens. Assess the current use of sludge and possible expansion of using bio-solids as an agricultural, residential, and/or commercial fertilizer.
2. Support aerobic and anaerobic digestion endeavors.
3. Promote centralized composting at the county level for small towns.

Waste Combustion and Landfill

1. Promote waste disposal processes without impacting human health or air quality such as energy recovery and maximize waste diversion technologies.
2. Explore approaches to encourage expansion of the waste-to-energy sector in the region.
3. Evaluate options for bio-waste collection for use as biofuels.
4. Evaluate processes that produce energy for use in new local economies related to sustainability – i.e., reduce cost of heating buildings, agricultural greenhouses, etc.

Governance (Waste/Materials)

1. Determine local or state legal, permitting, or licensing constraints that limit the improvement of sustainable materials management practices. (i.e., installation of digesters). Outline possible solutions for research.
2. Identify and highlight best practices for improving human health in the region as well as general materials management best practices.

Climate Adaptation (Waste/Materials)

None at this time

Strategies, Topics, and Practices Not Included

The plan will not consider strategies and practices that will address waste management where it primarily relates to resources that are addressed in other focus areas (e.g., discussions related to development of alternative energy transportation are presented under the transportation focus area rather than the energy focus area; discussions in the context of energy used in waste management are presented under the waste management focus area rather than the energy FFcus AAREArea).

Identified Connections

Use the notes and your creative thinking to begin to tie some of the Groups ideas together, make notes. Once we all develop our own reports, we can share them and fill this section out more. Can be done as bullets or a table.

Research and Data Sources

Short statements on the primary resources we find.

Important Projects

Short statements on the primary projects we find.

Identified Case Studies

If anyone notes a project that could be a case study, let us and Jennifer Perry at ANCA know.

APPENDIX III-C: Working group meeting schedule/format-All Working Group Meeting Structure Notes

For Distribution to the Working Group Facilitators and Meeting Supporters

The October 3rd All Working Group Meeting Format

After the welcome and the project update, there will be two primary sessions: the Working Group Breakout Session and the County Breakout Session.

Working Group Breakout Session

The primary goal of the breakout session is to allow members of each working group to rotate through a series of tables (one for each group) to talk, learn, share and discuss the themes, goals, and indicators that have been developed. In addition, members will be talking and documenting what connections they see across the working groups. They will exchange ideas and identify potential projects that cross or overlap working group areas.

The format of the event will be as follows:

1. Seven tables will be set up to accommodate each Focus Area Working Group.
2. At each table will be one or more Working Group members acting as a Facilitator and an E & E staff person. The Facilitator and E & E staff person will remain at the table throughout all the rotations and will greet each working group as they arrive for their session.
3. Working Groups (as a group) will move from table to table, spending 30 minutes at each table.
4. As a new group arrives, the Facilitator will be able to use the following documents to introduce the working group to the visiting working group: The Working Group Report, Themes and Goals, and Current Indicators. *Note: These materials will be shared with everyone before the event for their review, so hopefully they are not seeing this material for the first time.*
5. The Facilitator and the E & E staff person can then have a conversation with the visiting Working Group, and the following general topics can be discussed:
 - Working Group themes, goals and indicators
 - Do you see similarities with your working group? What are they?
 - How can these themes and goals be connected – to gain efficiencies and build a stronger plan?
 - Where do you see these goals overlapping with the goals of your working group?
 - What current projects do you know of that capture the goals of this working group?

- What possible new project can you think of that might connect this working group with your working group. (Each table will be provided with Project Description Forms for use during this time)
- Looking into the future what resources or policies would need to be in place before these projects can be moved forward or implemented?

Actions

1. Discussions need to remain focused and targeted. Facilitators should be ready to go through the documents and ask for comments, and move as quickly as possible on to asking questions and collecting ideas.
2. Hand out the Theme and Goal survey tool that they can use to record their notes as they learn about the themes, goals and preliminary project ideas of each group. To help find common threads, and help find connections which will create a stronger more comprehensive final plan.
3. What types of projects could you envision this Working Group doing? We want to connect these groups – how could we connect this group, and your group through a project.
4. They hand the survey back before they go to the next station.

NOTE: As time is short, some ideas and comments may not be able to be discussed. Facilitators and E & E staff should encourage attendees to write out their ideas and leave them behind at the table, or take notes on who has more to say and we can follow up with people after the meeting. ANCA will have staff on hand to take detailed notes as well.

OUTCOMES: Notes on Themes, Goals and Indicators, completed Project Forms, complete Theme and Goals documents, connections between groups notes from discussions that include opportunities for overlap, connections, etc.

Table	Table	1	2	3	4	5	6
1	Econ Dev	Waste	Water	Work Land	LC LU	Transport	Energy
2	Energy	Econ Dev	Waste	Water	Work Land	LC LU	Transport
3	Transport	Energy	Econ Dev	Waste	Water	Work	LC LU

						Land	
4	LC LU	Transport	Energy	Econ Dev	Waste	Water	Work Land
5	Work Land	LC LU	Transport	Energy	Econ Dev	Waste	Water
6	Water	Work Land	LC LU	Transport	Energy	Econ Dev	Waste
7	Waste	Water	Work Land	LC LU	Transport	Energy	Econ Dev

County Breakout Session

1. At the conclusion of the Working Group Breakout Sessions, the seven tables will be relabeled not as Focus Areas, but as Counties.
2. Working Group members will leave their working groups, and self-assign themselves to their county.
3. An E & E staff person will be assigned to each table and will discuss the following with the groups:
 - What did you hear today that has a significant impact on your county?
 - What theme, goal, data point, information, project idea is missing? What does the planning team need to follow up on? Provide support info to help connect the issue with the planner.
 - Was a project or idea described happening in another county that could be happening in your county?
 - What benefits (or possible conflicts) did you identify?
 - How can these be supported or addressed?
 - Looking into the future what resources or policies would need to be accomplished before these projects can be moved forward or implemented?

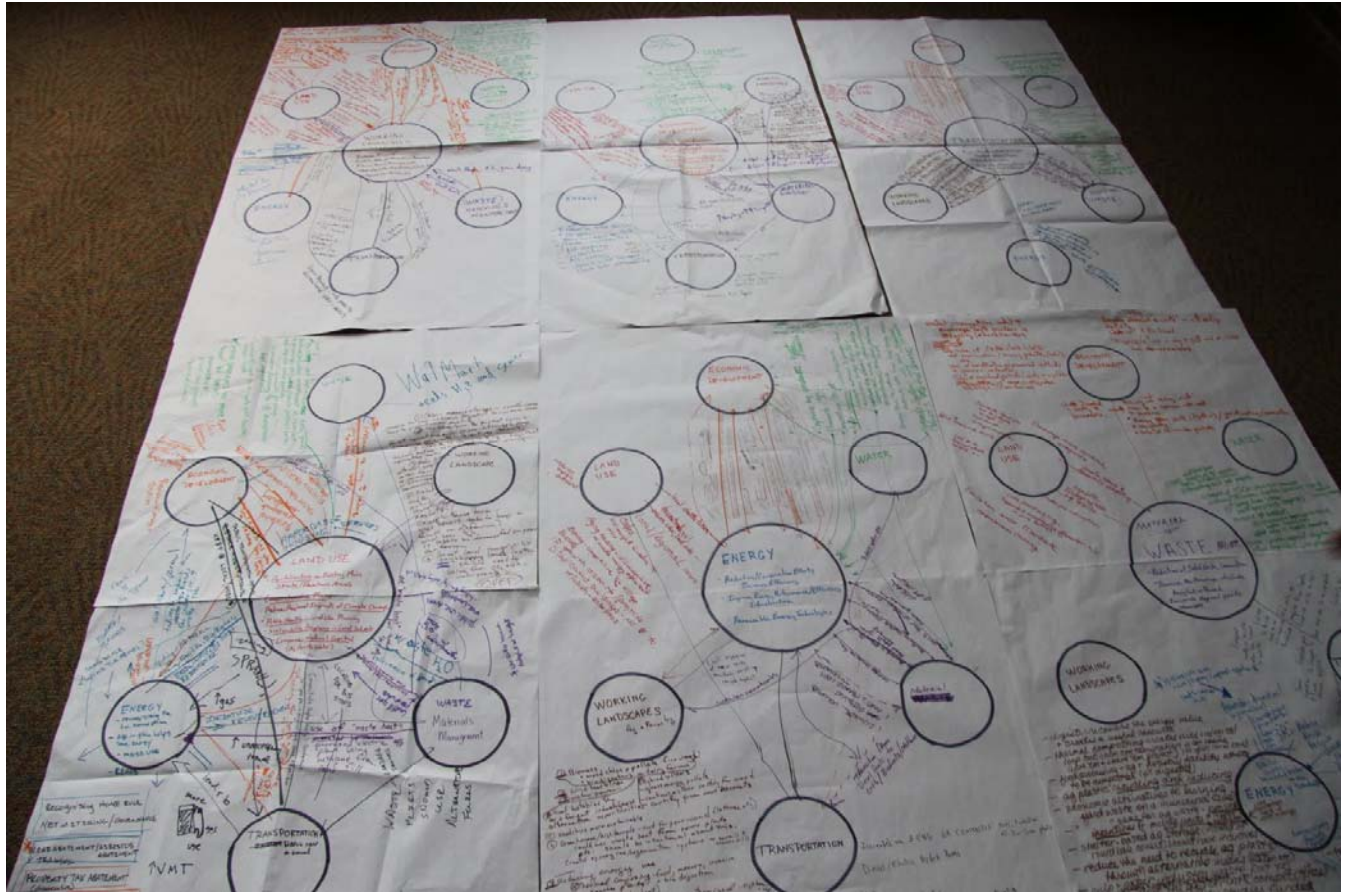
OUTCOME: Focus on data gaps and theme gaps, defining county benefits or conflicts, and identifying policies and resources needed. Notes will be written on large paper and submitted to the planning team.

Table	County	County	County	County	County	County	County
X	Clinton	Essex	Franklin	Hamilton	Jefferson	Lewis	St. Lawrence

North Country Homegrown Sustainability Plan: Public Consultation and Stakeholder Engagement



APPENDIX III-D: Working group meeting schedule/format-All Working Group meeting mindmap summaries



APPENDIX III-D: Working group meeting schedule/format-All Working Group meeting mindmap summaries

PROJECT NAME/CONCEPT	GHG REDUCTION	PROVIDES ECONOMIC IMPACT	CONTRIBUTE TO EMPLOYM.	EXISTING LOCAL CHAMPION
Farmer's Markets - Expansion/Access				
Access to Land - Funding - start up for Substantial Initial Investment Small Farmers				
Incentives/Public Outreach - Biomass				
Urban Forestry Programs - Community Nurseries for Native Species				
Design Guidelines - Model Zoning Codes in Comprehensive Plan Develop Model Language				
Mapping - coordinated/Regional Amenities Recreational / Database built by users-apps Cultural online website				
Education - Local Officials - linkages WL & Land Use				
Expand Shipping Companies for Local Produce	✓	✓		✓ Pottery C&D
Rail - Forestry movement - Products (Maintain existing Rail)	✓	✓	✓	✓ Area NE Economic County
Depot/Distribution Centers (Wood Pellets) - Clustering Markets Community Grant for Depots - ID locations Private Sector run?	✓	✓	✓	✓
Signage - Recreational Amenities / Local Businesses Chamber of Commerce		✓		✓ Mountain Forest Tourism Council
Advertising - Recreational Ops / Tours		✓		
Shuttles/Buses - build reliable schedule / critical mass link to Recreation Assets - is this possible?				
Energy Snowmobiles - Electric etc. / 4 cycle engines Subsidies / Incentives				
Food Hubs - Growing local food: Producing for Local Market (Food Embedded Infrastructure & Education Group Pellet Boilers Pilot Project - Grass Energy (use of empty fields in Dining) Education Programs - like Model Neighborhood Homes pilot use of wood pellets in Homes	✓	✓		
* Wood shed Analysis - Sustainable? Answer Question What can we NC sustainably produce Is this appropriate under NRECA				
Education - Permaculture				

APPENDIX V-A: Public meetings and outreach-Press Release



A HOMEGROWN SUSTAINABILITY PLAN FOR THE NORTH COUNTRY

GET INVOLVED

Members of the 7-county North Country consortium have been working hard on a Sustainability Plan for the region that includes key economic development and environmental goals. You are invited to take part in a public meeting series, where you can hear an overview of the Plan, see some of the principles in action and weigh in on goals and future project ideas. Please join us!

UPCOMING EVENTS

SATURDAY, SEPT. 29: 3:30-5:30 p.m., Homesteading Festival, Paul Smith's College VIC

MONDAY OCT. 1: 6-8 p.m., Adirondack Museum, Blue Mountain Lake. Hosted by Bill Farber.

TUESDAY OCT. 2: 6-8 p.m., Clinton Community College, Stafford Theater; Plattsburgh. Hosted by William Meyers of Casella Waste.

WEDNESDAY OCT. 3: 5-8 p.m. Edwards Knox Central School, Russell. Meeting begins with a tour of the school's biomass boiler system, public comment period starts at 6 p.m. Hosted by John Daniels and Sue Kelly.

THURSDAY, OCT. 4: 6-8 p.m., Fort Drum. Host Carl McLaughlin will highlight LEED certified homes built on post.

FRIDAY, OCT. 5: 10 a.m. to noon, Paul Smith's College, Pine Room

FRIDAY, OCT. 5: 6-8 p.m., Lake Placid High School. Host Tammy Morgan presents on biodigesters

SATURDAY, OCT. 6: 11 a.m. to 2 p.m., Pancake breakfast at American Maple Museum, Croghan, with the meeting at noon. Tour Croghan Dam before breakfast at 10 a.m., meet at 9746 South Bridge St., Croghan



REGISTER AT WWW.ADIRONDACK.ORG

CONTACT: Jen Perry, jperry@adirondack.org, 518-891-6200

FIND OUT MORE AT WWW.ADIRONDACK.ORG

APPENDIX V-B: Public meetings and outreach-Cover slide for outreach presentation



Public Meeting Series



APPENDIX V-C: Public meetings and outreach-Final Plan feedback form

	Column1	Column2	Column3	Column4
Chapter	Reviewer Name	Page Number	Section Number	Proposed Solution or Change
Please fill in comments in each chapter's section, inserting lines where necessary.				
Chapter 1				
Chapter 2				
Chapter 3				
Chapter 4				

Projects included in the appendices or within the content of this report are meant to provide examples of potential ways to address the strategies identified in the report and were submitted to the planning consortiums as part of the public outreach efforts by the consortium. These projects are in no way prioritized or guaranteed to receive funding through Phase II Implementation Funding of the Cleaner, Greener Communities Program. Projects not listed in the appendices section or content of the plan will have equal opportunity to submit an application for funding through Phase II. Regardless of being listed in the plan, a Consolidated Funding Application must be submitted in order to be considered for funding in Phase II. All projects must address the qualifications and eligibility requirements as listed in the Cleaner, Greener Communities Phase II solicitation notice.