

Climate Smart Communities Webinar

Telephone call-in number

- 1-866-394-2346
- Code: 1982360347#
- No audio signal will be transmitted over the Internet



Welcome

Kim Farrow

Environmental Program Specialist

Office of Climate Change

New York State

Department of Environmental Conservation



Climate Smart Communities Webinar

E-Mail Addresses



- Mark Lowery
mdlowery@gw.dec.state.ny.us
- Kim Farrow
kxfarrow@gw.dec.state.ny.us
- Climate Change Office
climatechange@gw.dec.state.ny.us

Climate Smart Communities Webinar

Website Address



<http://www.dec.ny.gov/energy/50845.html>

U.S. EPA State and Local Climate and Energy Program

Andrea Denny

Climate Smart Communities Webcast
February 13, 2014



Local Climate and Energy Program



EPA's State and Local Climate and Energy Program



Helping state and local governments reduce GHGs and prepare for regulatory compliance opportunities

- We use co-benefits strategies to achieve GHG and policy goals
 - Environmental, energy, economic, health benefits
 - Example: EE/RE/CHP can lower costs to comply with air standards
- We foster inter-agency collaboration
 - States – air offices, energy offices, PUCs
 - Locals – planning, environmental services, energy and others
- We help state and local governments make the case for action
 - Best practice-based policy approaches
 - Analytical tools and information
 - Communications resources including peer exchanges, lessons learned
- We support adaptation efforts for holistic climate action



Resources for Local Governments



- Climate Showcase Communities
 - 50 models of local climate change action
 - Case studies, templates, and other resources to support replication
 - www.epa.gov/climateshowcase
- Key Guidance and Tools
 - Comprehensive Local Climate and Energy Website
 - www.epa.gov/statelocalclimate
 - *Local Government Climate and Energy Strategy Series* on EE, RE, transportation, waste management, and community design topics
 - www.epa.gov/statelocalclimate/web-podcasts/local-webcasts.html
 - Newsletter updates on funding, tools, and events
 - www.epa.gov/statelocalclimate/web-podcasts/local-webcasts.html
 - Access to other federal technical support programs
- Peer Exchanges
 - Webcast Series on mitigation and adaptation topics
 - <http://www.epa.gov/statelocalclimate/web-podcasts/index.html>

CSCs in New York



- Central NY Climate Change Innovation Program
 - Central NY Regional Planning and Development Board
 - Worked with 7 communities to complete GHG inventories, plans, and demo projects
- Monroe County, Community Based Bio-fuel Program
 - Producing recycled bio-diesel from waste oil
 - Upcoming workshop for other communities at RIT
- Tompkins County EcoVillage
 - Exploring climate-friendly land use and development
 - New urban pocket neighborhood
 - Expanding an ecovillage with passive house standards



EPA Contacts



- Headquarters-Local Climate and Energy Program
 - Andrea Denny
denny.andrea@epa.gov
 - Emma Zinsmeister
zinsmeister.emma@epa.gov
 - Victoria Ludwig (also Heat Island lead)
ludwig.victoria@epa.gov

- Region 2 Contacts
 - Irene Nielson
Climate Change Coordinator
nielson.irene@epa.gov
(212)637-3586

 - Juan Gutierrez
Regional ENERGYSTAR Coordinator
Gutierrez.Juan@epa.gov
(212)637-3495

Local Government GHG Inventory Tools



Andrea Denny
USEPA Local Climate and Energy Program

Climate Smart Communities Webcast
February 13, 2014



Local Climate and Energy Program



Background and Goals



- respond to requests for assistance with measuring GHG emissions
- support local governments across the US to evaluate GHGs associated with both municipal operations and community wide activity
- aid development of baselines for tracking emission trends, developing mitigation strategies and policies, and assessing progress towards meeting goals
- provide a **free**, easy to use tool consistent with accepted protocols and methodologies



Local GHG Inventory Tool (LGIT) Basics



- Excel based (Excel 2007 or later)
- Divided into 2 modules, can be used independently
 - Government Operations Module
 - Community Wide Module
- Designed be flexible to the needs and constraints of different cities
 - data can be entered at any scale, ranging from city-wide activity data to data by facility or meter
 - default emissions factors are provided, but can be over-written with city-specific factors
 - customize year of inventory, number of departments, etc

Government Operations



- Based on the Climate Registry's *Local Government Operations Protocol*, version 1.1.
 - NY Specific version available from NYDEC
 - Covers ten sectors of municipal emissions:
 - Stationary Fossil Fuel Combustion
 - Mobile Fossil Fuel Combustion
 - Solid Waste Management
 - Wastewater Treatment
 - Electricity Consumption
 - Employee Commute
 - Agriculture & Land Management
 - Urban Forestry
 - Waste Generation (offsite disposal)
 - Water Use (offsite supply/treatment)
 - Additional Sources
- Scope 1
- Scope 2
- Scope 3
- Varies

Government Operations: Navigation Page



Table of Contents

Clicking on each box will take you to its respective worksheet in the tool. Use this table of contents to keep track of your progress as you move through the tool.

Completed sheets are filled in. Incomplete sheets have a white background, while sheets that require no action by the user are in grey.

Introduction

Read Me

Definitions

Inventory Control Sheet

Scope 1

Scope 2

Scope 3

Stationary Combustion -
Entry Sheet

Mobile Combustion -
Entry Sheet

Solid Waste -
Control Sheet

Wastewater -
Control Sheet

Electricity Use -
Entry Sheet

Employee Commute
Sheet

Agriculture & Land
Management Sheet

Stationary Combustion -
Data Sheet

Mobile Combustion -
Data Sheet

Solid Waste - Entry,
Calculation & Summary

Wastewater - Entry
Sheet

Electricity Use -
Data Sheet

Water Use
Sheet

Urban Forestry
Sheet

Stationary Combustion -
Calculation & Summary

Mobile Combustion -
Summary Sheet

Wastewater -
Calculation & Summary

Electricity Use -
Calculation & Summary

Waste Production
Sheet

Mobile Combustion -
Calculation Sheet

Additional Emission
Sources Sheet

Inventory Emissions Summary

Community Module



- Based on ICLEI's *Global Protocol for Community-Scale GHG Emissions*, version 0.9
 - Covers nine sectors of community-scale emissions:
 - Stationary Fossil Fuel Combustion
 - Mobile Fossil Fuel Combustion
 - Solid Waste Management
 - Wastewater Treatment
 - Electricity Consumption
 - Agriculture & Land Management
 - Urban Forestry
 - Waste Generation (offsite disposal)
 - Water Use (offsite supply/treatment)
 - Additional Sources
- Scope 1
- Scope 2
- Scope 3
- Varies

Tool Structure



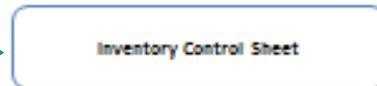
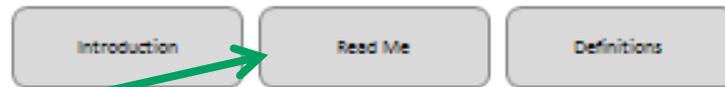
- Table of Contents page
 - main navigational portal
 - track completion of each data source
- Inventory Control Sheet
 - enter name of city and year of inventory
 - set up electricity provider information
- Entry Sheet/Data Sheet
 - enter/review descriptions and consumption activity by unit
 - some sectors allow batch import of data
- Summary/Calculation Sheets
 - show calculations/equations and summary data
 - No data entry required, informational only
- Inventory Summary Page
 - compiles all entered data
 - tables and charts of emissions data

Community Module: Navigation Page

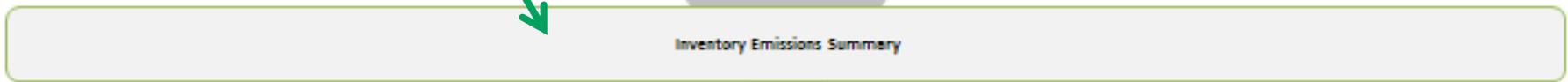
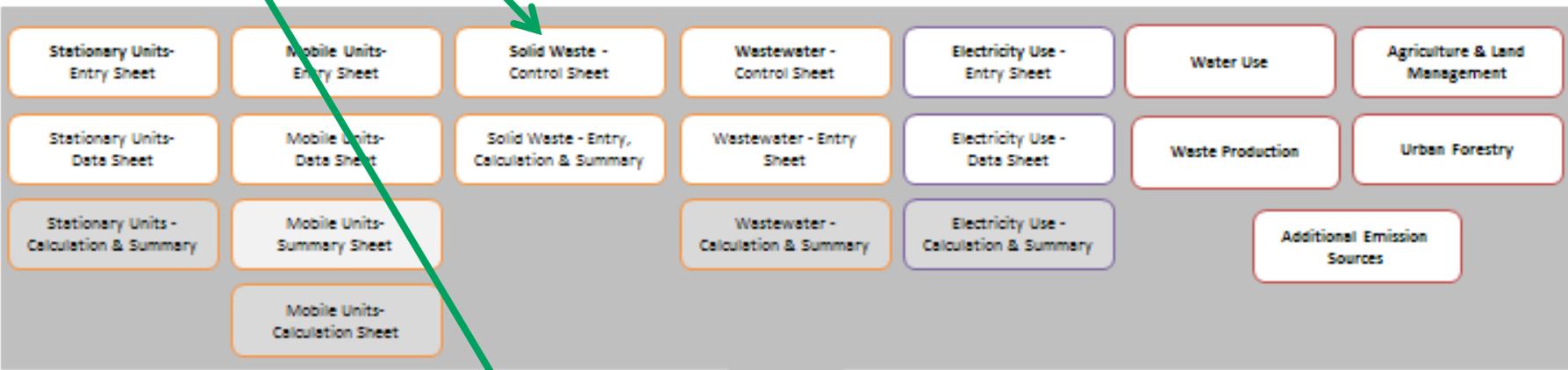
Table of Contents

Clicking on each box will take you to its respective worksheet in the tool. Use this table of contents to keep track of your progress as you move through the tool.
The background color of completed sheets are filled in below. Incomplete sheets have a white background, while sheets that require no action by the user are grey.

Click anywhere in the Table of Contents to jump to a section of the tool



Scope 1 Scope 2 Scope 3



Community Module: Inventory Control Sheet



Q44

Inventory Control Sheet

Return to Table of Contents Check if you have completed this sheet.

Complete the 4 steps below to set up the tool for your community.

1) Please enter the name of your city and the inventory year below.

City

Year

2) The sectors included in the community inventory are defined below. These are the main sectors defined in the Global Protocol for Community Scale GHG Emissions and the main sectors used to categorize GHG emissions. These sectors will be used to standardize data entry for calculations throughout the tool.

- Residential
- Commercial/Institutional
- Industrial
- Energy Generation

3) Select the eGRID subregion where your community is located and enter utility-specific emissions factors, if available, for the utilities that provide electric service for your community.

These utility selections and emission factors will be used to help calculate your community emissions throughout the tool. Please see the map below the table to identify the eGRID subregion that includes your community.

eGRID Subregion	Emission Factors (lb/MWh)			Total EF lb CO ₂ e/MWh
	CO ₂	CH ₄	N ₂ O	
Utility Name				-
<input type="checkbox"/>				-
<input type="checkbox"/>				-
<input type="checkbox"/>				-

52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71

Introduction Read Me TOC Definitions Control Sheet Stationary-Entry Stationary-Data Stationary-Calcs Mobile-Entry Mobile-Data

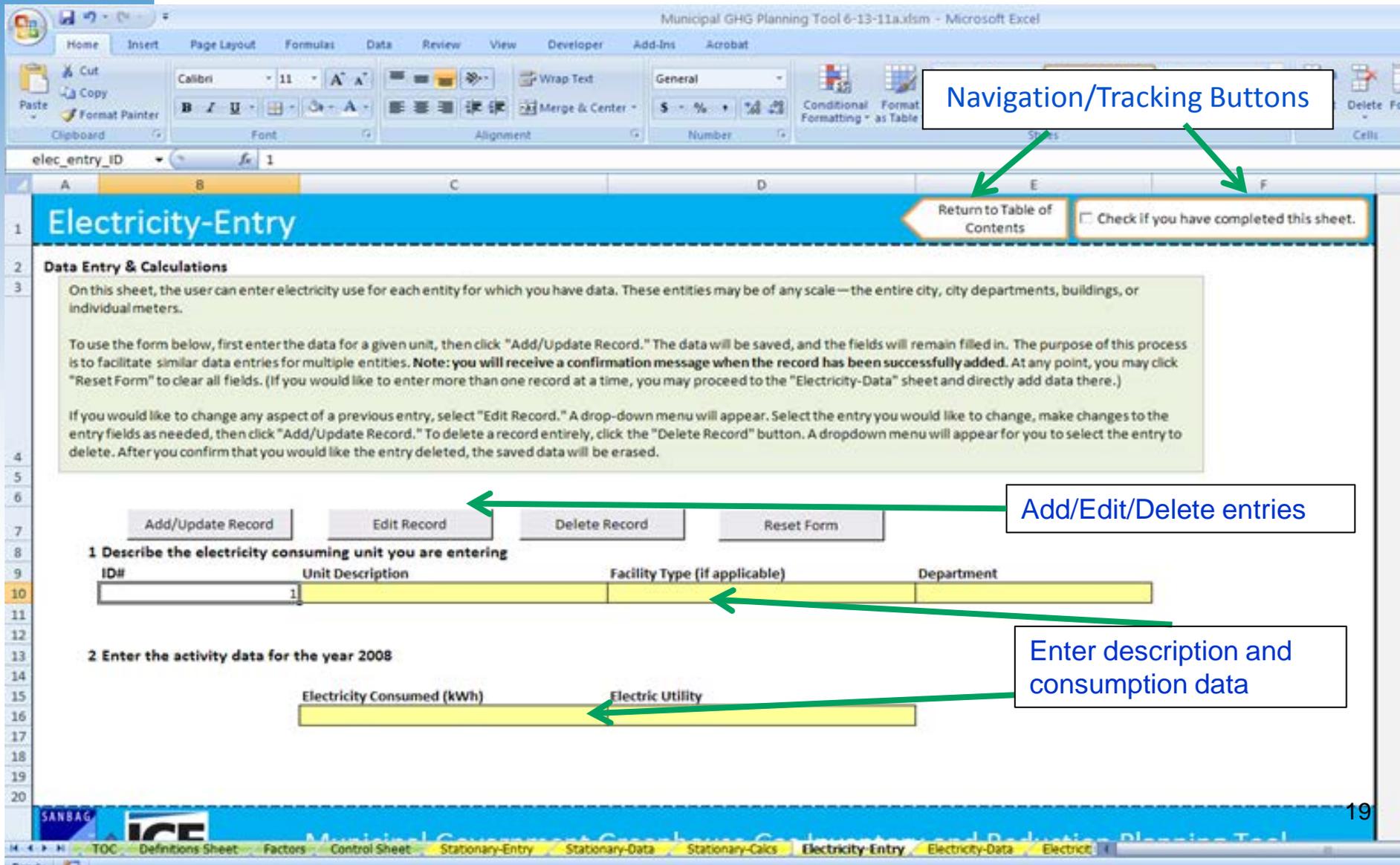
Enter City Name and Inventory Year

Select eGRID subregion or enter utility factors

"Set Up" Inventory



Community Module: Data Entry Page



Municipal GHG Planning Tool 6-13-11a.xlsm - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Add-Ins Acrobat

elec_entry_ID 1

Electricity-Entry

Return to Table of Contents Check if you have completed this sheet.

Data Entry & Calculations

On this sheet, the user can enter electricity use for each entity for which you have data. These entities may be of any scale—the entire city, city departments, buildings, or individual meters.

To use the form below, first enter the data for a given unit, then click "Add/Update Record." The data will be saved, and the fields will remain filled in. The purpose of this process is to facilitate similar data entries for multiple entities. **Note: you will receive a confirmation message when the record has been successfully added.** At any point, you may click "Reset Form" to clear all fields. (If you would like to enter more than one record at a time, you may proceed to the "Electricity-Data" sheet and directly add data there.)

If you would like to change any aspect of a previous entry, select "Edit Record." A drop-down menu will appear. Select the entry you would like to change, make changes to the entry fields as needed, then click "Add/Update Record." To delete a record entirely, click the "Delete Record" button. A dropdown menu will appear for you to select the entry to delete. After you confirm that you would like the entry deleted, the saved data will be erased.

Add/Edit/Delete entries

Add/Update Record **Edit Record** **Delete Record** **Reset Form**

1 Describe the electricity consuming unit you are entering

ID#	Unit Description	Facility Type (if applicable)	Department
1			

2 Enter the activity data for the year 2008

Electricity Consumed (kWh)	Electric Utility

Ready

SANBAG ICE Municipal GHG Planning Tool

TOC Definitions Sheet Factors Control Sheet Stationary-Entry Stationary-Data Stationary-Calc Electricity-Entry Electricity-Data Electric

19

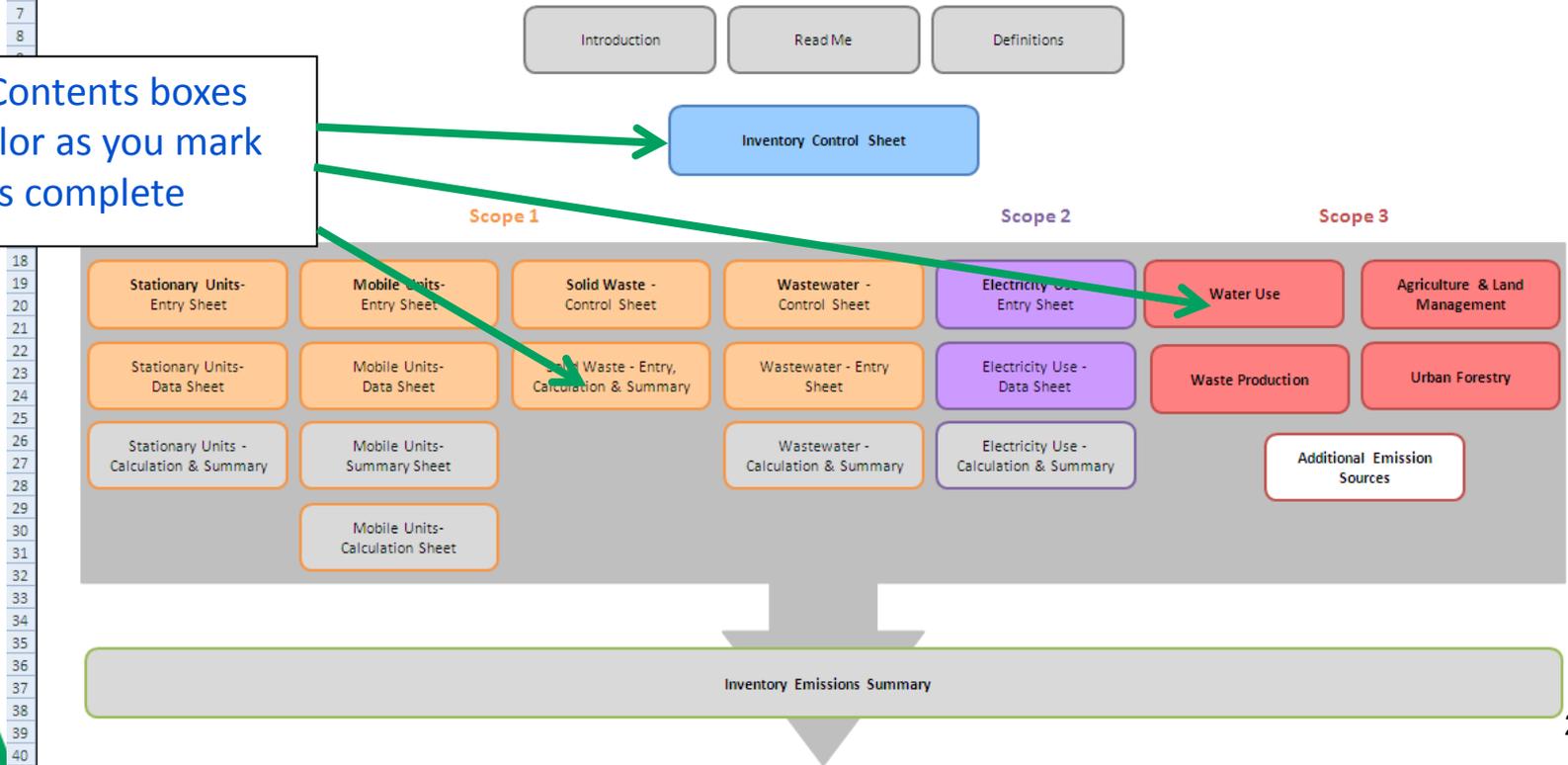
Community Module: Navigation Page Revisited



A1 Table of Contents

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
1	Table of Contents																						
2	Clicking on each box will take you to its respective worksheet in the tool. Use this table of contents to keep track of your progress as you move through the tool.																						
3	The background color of completed sheets are filled in below. Incomplete sheets have a white background, while sheets that require no action by the user are grey.																						
4																							
5																							
6																							
7																							
8																							

Table of Contents boxes change color as you mark sheets complete



Community Module: Summary Page

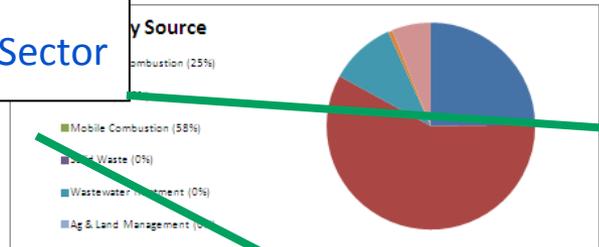
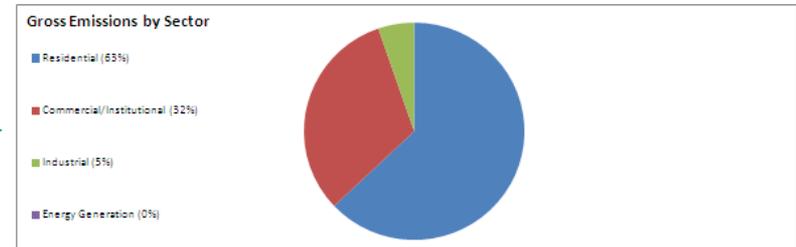
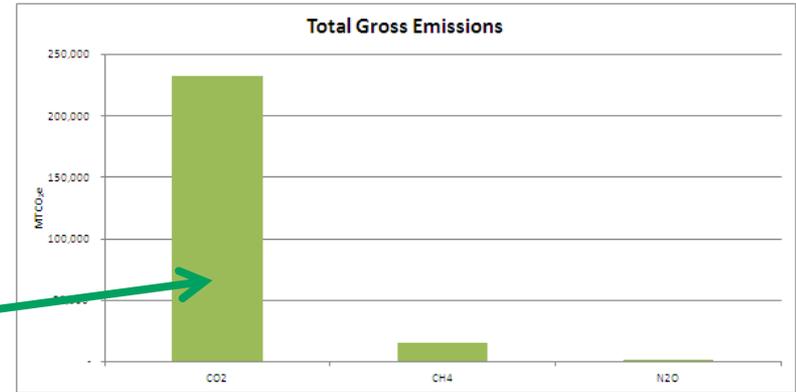
Workbook Views | Show/Hide | Zoom | Window | Macros

A1 | fx | Inventory Emissions Summary

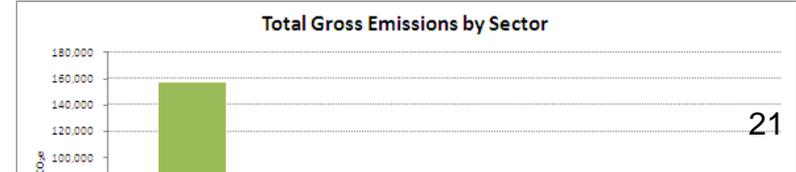
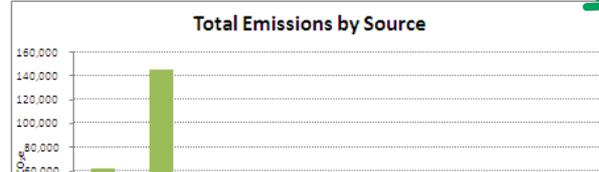
Inventory Emissions Summary Return to Table of Contents

Total Utopia, NY Emissions					
	CO ₂	CH ₄	N ₂ O	Total MT CO ₂ e	Percent of Total
Scope 1	205,473	165	1,102	206,740	83%
Scope 2	25,414	14	114	25,542	10%
Scope 3	(13,804)	15,001	7	1,204	0%
Total Gross Emissions	232,537	15,179	1,224	248,940	94%
Total Net Emissions	217,083	15,179	1,224	233,486	94%

Emissions by Source (MT CO ₂ e)					
Source	CO ₂	CH ₄	N ₂ O	Total	Percent of Total
Stationary Combustion	61,745	7	0	61,752	25%
Mobile Combustion	143,728	158	1,102	144,988	58%
Solid Waste	-	-	-	-	0%
Wastewater Treatment	-	-	-	-	0%
Land Use Change and Forestry	25,414	14	114	25,542	10%
International Air	1,850	1	7	1,858	1%
International Sea	(15,454)	-	-	(15,454)	-6%
International Land	-	15,000	-	15,000	6%
Total Gross Emissions	232,537	15,179	1,224	248,940	100%
Total Net Emissions	217,083	15,179	1,224	233,486	



Gross Emissions by Sector		
Sector	Total Total (MT CO ₂ e)	Percent of Total
Residential	156,700	63%
Commercial/Institutional	79,096	32%
Industrial	13,144	5%
Energy Generation	-	0%
Total	248,940	100%



Charts and Tables of:
Total Emissions
Emissions by Source & Sector

Co-Benefits Risk Assessment (COBRA) Screening Model

A Tool For Estimating
Air Quality, Human Health and Societal Benefits

A Presentation to the NYS Climate Smart Communities
By Denise Mulholland





Co-Benefits Risk Assessment (COBRA) Screening Model At-A-Glance



Energy choices affect peoples' health and social wellbeing. Yet, often policymakers consider only the economic costs of the investment – just a part of the story – and not the benefits.



State and local policymakers can use COBRA to estimate the economic value of human health improvements associated with clean and renewable energy projects and tell the whole story.



State and local policymakers can also use COBRA to estimate and present via easy-to-read maps the local impacts of switching to clean energy.



Energy Choices Matter



Energy from Fossil Fuels



- In 2010, fossil fuels accounted for 70% of the almost 4 trillion kWh of electricity generated in the U.S.
- Burning fossil fuels causes emission of air pollutants like particulate matter, carbon monoxide, sulfur dioxide, and nitrogen oxides.
- Electricity generation is the largest source of U.S. CO2 emissions, representing 38% of total emissions and contributing to climate change in the long term.

Major Source of Air Pollution

Harms Health

- Air pollution decreases the quality of air and increases:
 - Respiratory and cardiovascular illnesses, such as asthma, chronic bronchitis, and heart attacks; and
 - Premature death.
- Children and the elderly are most vulnerable.

- These health effects result in:
 - Work days lost due to illness of employee or family member;
 - School days lost;
 - Medical bills; and
 - Pain and suffering.

Societal Costs



Energy Choices Matter

Clean Energy

