

Northern Virginia Greenhouse Gas Inventory Project Plan

MWCOG BEEAC
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Northern Virginia GHG Inventory

- 2012 GHG inventory for Northern Virginia region
- Report emissions for region, counties, cities
- Town data to be part of county reports
- With MWCOG, establish protocol for consistent use across the National Capital Region
- Based on ICLEI 2012 *US Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.0, October 2012*

Northern Virginia GHG Inventory Protocol

- 2012 ICLEI protocol
 - Preferred approach - calculate GHG emissions from community-wide activities, not geographic boundaries
 - Alternate approaches available based on local physical sources
 - Differs from previous inventories based on emissions from physical sources in an locality or region
 - Modifies traditional Scope 1, 2 and 3
 - Calculates direct emissions (Scope 1)
 - Calculates upstream emissions from purchased electricity or thermal energy (Scope 2)
 - Option to calculate other indirect emissions (Scope 3)

Northern Virginia GHG Inventory Scope

- **Use of electricity in the community**
 - Use consumption data from utility providers
 - Account for upstream T&D losses
 - Account for upstream generation efficiencies
- **Use of energy in stationary combustion equipment**
 - Use consumption data from natural gas utility providers
 - Use Virginia liquid and solid fuel consumption data from EIA – allocated by locality using American Community Survey data and area of commercial space
 - Account for upstream emissions

Northern Virginia GHG Inventory Scope

- **On-road transportation**
 - MWCOG to calculate using EPA MOVES model
 - Need to review possible VMT anomalies in Arlington
 - Use methodology consistent with that used for air quality emission modeling
 - ICLEI alternate methodology based on VMT by 13 vehicle classes – not trips generated in locality
 - Small city VMT part of surrounding county data – allocate emissions by population

Northern Virginia GHG Inventory Scope

- **Non-road transportation**
 - Rail; off-road vehicles; recreational marine
 - MWCOG to calculate using EPA NONROAD model
 - ICLEI alternate methodology – not trips generated in locality
 - Upstream emissions calculated as per ICLEI protocol
 - Air travel
 - NVRC to calculate – Address Reagan National, Dulles and BWI Thurgood Marshall airports
 - Use air travel emissions from US GHG inventory allocated to airport by the percent of national flight miles for each airport and to localities using MWCOG 2011 air passenger survey

Northern Virginia GHG Inventory Scope

- **Generation of solid waste**
 - Calculate based on tonnage of solid waste generated in each locality
 - Data from NVRC/Northern Virginia Waste Managers Board regional waste management report
 - Excluding emissions from composting – not in ICLEI protocol
 - Excluding emissions from recycling – picked up in electricity & fuel consumption; savings considered part of purchased materials calculations

Northern Virginia GHG Inventory Scope

- **Water and wastewater treatment and conveyance**
 - Calculate based on volumes generated in each locality and treatment technologies – data from operators
 - Account for emissions released during treatment, from discharges, digester gas combustion
 - Calculate based on water consumption data from operators
 - Calculate energy used in conveyance if electric use data is separately available – otherwise in electric emissions

Northern Virginia GHG Inventory Scope

- **Agricultural operations**
 - Only in Loudoun and Prince William Counties
 - ICLEI protocol only addresses emissions from livestock operations
 - NVRC to calculate based on USDA Census of Agriculture data

Northern Virginia GHG Inventory Scope

- **Exclusions**

- De minimis – up to 5% of total emissions
- HFC and PFC emissions from refrigerant leakage
 - 0.0015% of Arlington GHG emissions
- Upstream impacts of materials used by the community (concrete, food, carpets, etc.) – counted as activity in other localities – avoid double counting
- Independent consumption-based accounting

Northern Virginia GHG Inventory Report

- **Report**

- Describe assumptions, methodology, data sources, community context
- Region-wide emissions
- Emissions by county and city
- Describe differences with previous inventories
- Appendices of data sources
- Web based and printable report

Northern Virginia GHG Inventory

- **Schedule**

- July: Establish scope
- July-August: Gather data; calculations; draft report
- September: Local review
- October: Final Report

- **Resources**

- NVRC staff: Funds from localities' NVRC energy program allocations
- MWCOG staff: Funds from COG environmental program budget
- Local government & other: In-kind time



Northern Virginia GHG Inventory

- Comments and questions?
- Contact & request full Program Plan

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