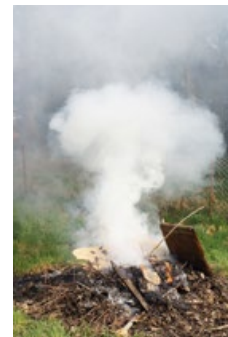
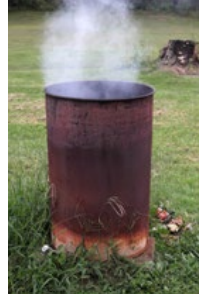


For assistance in accessing this document,
please send an email to NEI_Help@epa.gov.



2023 Nonpoint Emissions Inventory Training

EPA's Emissions
Inventory Conference
September 2023



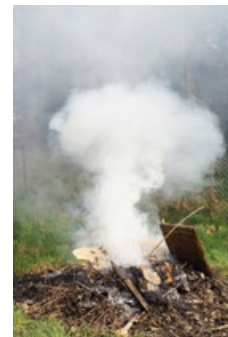
Course Schedule



- 2:45 – 3:15 Wagon Wheel and Input Template Training
- 3:15 – 3:30 Break
- 3:30 – 4:30 Nonpoint ICI
- 4:30 – 5:00 Open Discussion/Q&A



SLT Data Input Templates



SLT Data Input Templates



- Templates allow SLTs the ability to provide more accurate activity data and assumptions
 - Individual templates for each module, the county business patterns data, and the central database
- SLT inputs become part of the Wagon Wheel data set
- EPA runs the Wagon Wheel with new inputs and generates county-level emissions data
 - Reports are provided to SLTs based on the categories for which they submit data

SLT Templates: ReadMe File



Template Name	Column Name	Column Description	Source of Default Data
Agricultural Silage - Control Factor	New Control Factor	Use this column to update the county-level control factor used in the Agricultural Silage Tool, where the control factor by default is 0 (no reduction). A value of 1 would represent 100% reduction. Any fraction between 0 and 1 is valid. In the tool, the county-level emissions will be multiplied by (1-control factor).	N/A; this is an assumption submitted by users.
Agricultural Tilling - Control Factor	New Control Factor	Use this column to update the county-level control factor used in the Agricultural Tilling Tool, where the control factor by default is 0 (no reduction). A value of 1 would represent 100% reduction. Any fraction between 0 and 1 is valid. In the tool, the county-level emissions will be multiplied by (1-control factor).	N/A; this is an assumption submitted by users.
Agricultural Tilling - Cover Fallow Pasture-County	New Acres	Use this column to update the county-level number of acres of cover crop, fallow land, and pasture land in the Agricultural Tilling Tool.	USDA, National Agricultural Statistics Service based on Census of Agriculture and subsequent survey data. https://quickstats.nass.usda.gov/
Agricultural Tilling - Cover Fallow Pasture-State	New Acres	Use this column to update state-level number of acres of cover crop, fallow land, and pasture land in the Agricultural Tilling Tool. State-level data are used to gap-fill missing county-level data.	USDA, National Agricultural Statistics Service based on Census of Agriculture and subsequent survey data. https://quickstats.nass.usda.gov/

SLT Templates: Inputting Data



	A	B	C	D	E	F	G	H
1	FIPS State	State	FHWA Road type	Paved_Default	Paved_New	Total_Default	Total_New	Notes
2	0	NA	NA	9999999999	9999999999	9999999999	9999999999	DO NOT DELETE
3	2	Alaska	Rural Interstate	982		982		
4	2	Alaska	Rural Local	688		9,486		
5	2	Alaska	Rural Major Collector	976		1,370		
6	2	Alaska	Rural Minor Collector	536		1,427		
7	2	Alaska	Rural Other Freeways and Expressways	0		0		
8	2	Alaska	Rural Other Minor Arterial	333		333		
9	2	Alaska	Rural Other Principal Arterial	459		459		
10	2	Alaska	Urban Interstate	79		79		
11	2	Alaska	Urban Local	1,508		2,257		
12	2	Alaska	Urban Major Collector	251		252		
13	2	Alaska	Urban Minor Collector	226		236		
14	2	Alaska	Urban Other Freeways and Expressways	0		0		
15	2	Alaska	Urban Other Minor Arterial	198		201		
16	2	Alaska	Urban Other Principal Arterial	140		140		
17	1	Alabama	Rural Interstate	551		551		
18	1	Alabama	Rural Local	29,810		45,389		
19	1	Alabama	Rural Major Collector	11,685		11,685		
20	1	Alabama	Rural Minor Collector	5,920		5,924		

Asphalt Paving - Paved Road Mil

Ready Accessibility: Unavailable

SLT Templates: Control Factors



	A	B	C	D	E	F	G	H
1	FIPS State and County Code	County	State	SCC Code	Default Control Factor	New Control Factor	TemplateID	TemplateNotes
2	1001	Autauga	Alabama	2801540001	0			
3	1001	Autauga	Alabama	2801540002	0			
4	1001	Autauga	Alabama	2801540003	0			
5	1003	Baldwin	Alabama	2801540001	0			
6	1003	Baldwin	Alabama	2801540002	0			
7	1003	Baldwin	Alabama	2801540003	0			
8	1005	Barbour	Alabama	2801540001	0			
9	1005	Barbour	Alabama	2801540002	0			
10	1005	Barbour	Alabama	2801540003	0			
11	1007	Bibb	Alabama	2801540001	0			
12	1007	Bibb	Alabama	2801540002	0			
13	1007	Bibb	Alabama	2801540003	0			
14	1009	Blount	Alabama	2801540001	0			
15	1009	Blount	Alabama	2801540002	0			
16	1009	Blount	Alabama	2801540003	0			
17	1011	Bullock	Alabama	2801540001	0			
18	1011	Bullock	Alabama	2801540002	0			
19	1011	Bullock	Alabama	2801540003	0			
20	1013	Butler	Alabama	2801540001	0			
21	1013	Butler	Alabama	2801540002	0			
22	1013	Butler	Alabama	2801540003	0			
23	1015	Calhoun	Alabama	2801540001	0			
24	1015	Calhoun	Alabama	2801540002	0			
25	1015	Calhoun	Alabama	2801540003	0			
26	1017	Chambers	Alabama	2801540001	0			
27	1017	Chambers	Alabama	2801540002	0			
28	1017	Chambers	Alabama	2801540003	0			
29	1019	Cherokee	Alabama	2801540001	0			
30	1019	Cherokee	Alabama	2801540002	0			
31	1019	Cherokee	Alabama	2801540003	0			
32	1021	Chilton	Alabama	2801540001	0			
33	1021	Chilton	Alabama	2801540002	0			

EIS Gateway Mockup



Agency Organization Detail

New tab in "Agency Organization Detail" page

Current Agency

Agency Description Alabama Department of Environmental Management
Agency Type State
ETL Process Group 2

Agency Responsibilities

Agency Members

Program System Codes

Allow Access

Feedback Reports

Nonpoint Survey

Nonpoint Input Templates

Select a Nonpoint Input Template tool to review information

- [Agricultural Silage](#)
- [Agricultural Tilling](#)
- [Asphalt Paving](#)
- [Aviation Gasoline](#)
- [Central Database](#)
- [Commercial Cooking](#)
- [Compost](#)
- [Construction Dust and Open Burning](#)
- [County Business Patterns](#)
- [Cremation](#)
- [Dust from Hooves](#)

- [ICI](#)
- [Landfills](#)
- [Mining and Quarrying](#)
- [Other Mercury](#)
- [POTW](#)
- [Residential Grilling](#)
- [Residential Heating](#)
- [Road Dust](#)
- [RWC](#)
- [Solvents](#)
- [Stage 1 Gasoline Distribution](#)

[Import Templates](#)

[Export All Templates](#)

[Export Selected Templates](#)

EIS Gateway Mockup



Current Agency

Agency Description Alabama Department of Environmental Management
 Agency Type State
 ETL Process Group 2

- Agency Responsibilities
- Agency Members
- Program System Codes
- Allow Access
- Feedback Reports
- Nonpoint Survey
- Nonpoint Input Templates

Agricultural Tilling

[Export Template](#)

Agency-Level Factors

Group Level	Group Value	Value Set Type	Default Value	New Value	Notes	Default Source	Default Source Year	New Source	New Source Year
	AG Land	Acres	999	1500	Example notes, text here		2020		2021
	AG Land, Pastureland	Acres	2134	2381	Added new value		2020		2021
	Barley	Acres	31.33333	27.6	Lower value		2020		
	Canola	Acres	111231	100000			2020		

Showing 1 of 4 of 4 entries

Download Results: [CSV](#)

- First
- Previous
- 1
- 2
- 3
- Next
- Last

County-Level Factors

County Name	Group Value	Value Set Type	Default Value	New Value	Notes	Default Source	Default Source Year	New Source	New Source Year
Bibb	Barley	Acres	2				2020		2021
Bibb	Canola	Acres	31				2020		2021
Bibb	Corn	Acres	5121				2020		2022
Bibb	Example	Acres	0				2020		

Showing 1 of 4 of 4 entries

Download Results: [CSV](#)

- First
- Previous
- 1
- 2
- 3
- Next
- Last

▼ **Template Audit Log**

User	Group Value	Updated Date	Old Value	New Value	Action
SLT	Barley	1/1/2023 11:18:18 AM	2	6	Edit
Inv Dev	Canola	1/1/2023 10:16:18 AM	31	15	Edit
SLT	Corn	1/1/2023 09:23:21 AM	5121	22	Edit
SLT	Example	1/1/2023 08:16:18 AM	0	11	Edit

Showing 1 of 4 of 4 entries

Download Results: [CSV](#)

- First
- Previous
- 1
- 2
- 3
- Next
- Last

- Submit
- Undo
- Cancel

Template QA



- Each template will have individual QA thresholds set in EIS that may trigger a warning
 - For example, asphalt paving data on paved road miles that is greater than 50 miles and more than 20% different than EPA defaults would be flagged
- This is only a warning meant to ensure users are not submitting data with the wrong units, typos, etc.
- EPA will review data submitted that is outside of the thresholds, but will accept submissions that are reasonable



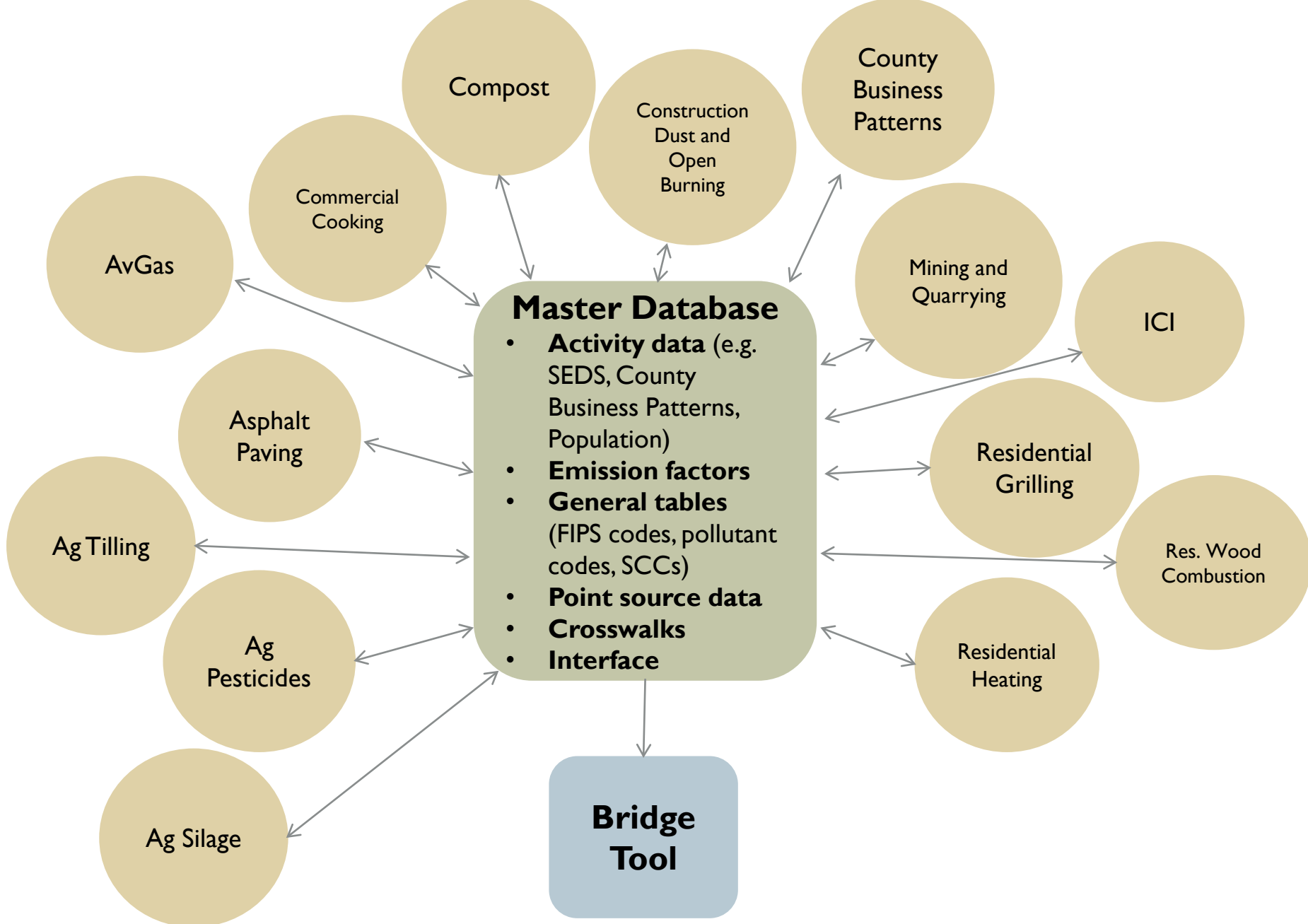
Wagon Wheel Nonpoint Emissions Estimation Tool



The Wagon Wheel Tool



- Developed in Microsoft Access
- Tools are created so updated data can easily be input and used without needing to modify the tool
- Macros can be created that allow us to quickly run tools
- Ability to link tables between databases, so data only needs to be input once
- WW has increased efficiency and decreased human error



* Figure is illustrative and does not include all modules currently included in the Wagon Wheel

2023 NEI Key Dates: Activity Data Tracker



- Available on in the NEI Resource Library on the NEI SharePoint site: “NEI 2023 Activity Data Tracker”
- Provides list of data sources by Wagon Wheel source category, with most-lagging data source reflected as “Estimated Final Date”
- Associated WW releases for each source category provided in timeline
- List of data sources, links, and year of activity data availability
- Use to help prioritize WW source category development
- Much of this information also provided in 2023 NEI Plan

Activity Data Tracker: Tool Release Timeline



Tool	Estimated Final Data Availability	2024												2025												
		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	
Other Mercury	12/31/2023	█																								
POTWs	12/31/2023	█																								
Landfills	4/1/2024				█																					
Commercial Cooking	6/1/2024						█																			
Agricultural Tilling	8/1/2024							█																		
Agricultural Silage	9/1/2024								█																	
Dust from Hooves	9/1/2024									█																
Cremation	12/1/2024												█													
Compost	4/1/2025																									
Mining & Quarrying	4/1/2025																									
Construction Dust and Open Burning	5/1/2025																									
Aviation Gasoline	6/1/2025																									
ICI	6/1/2025																									
Residential Grilling	6/1/2025																									
Residential Heating	6/1/2025																									
Residential Wood Combustion	6/1/2025																									
Asphalt Paving	11/1/2025																									
Road Dust	11/1/2025																									
Volatile Chemical Products (Solvents)	11/1/2025																									
Stage 1 Gasoline Distribution	11/1/2025																									

Demonstration



Please take out your computers and feel free to follow along with this demonstration

Scenario







- You are from Delaware and are interested in seeing the nonpoint dust emissions from the state.
- Which Bin 1 NEI categories include PM emissions?
 - Ag Tilling
 - Construction Dust
 - Mining & Quarrying
 - Open Burning
 - Res. Heating

Step 1: Download the Tool



Documents > Wagon Wheel > Wagon Wheel 2020 v7.1 Final

 Name <input type="checkbox"/>	Modified <input type="checkbox"/>
 Wagon Wheel 2020 v7.1 Final - SLT Inputs.zip	February 27
 Wagon Wheel 2020 v7.1 Final - EPA Defaults.zip	February 27
 Wagon Wheel 2020 v7.1 Final README.txt	February 27

Step 1: Download the Tool



Name	Date modified	Type	Size
Modules	8/3/2023 2:20 PM	File folder	
Templates	8/7/2023 7:45 AM	File folder	
Output	8/1/2023 11:14 AM	Microsoft Access Dat...	644,356 KB
WAGON WHEEL Nonpoint Emissions Tool	8/1/2023 11:42 AM	Microsoft Access Dat...	79,872 KB

Step 2: Trusted Locations



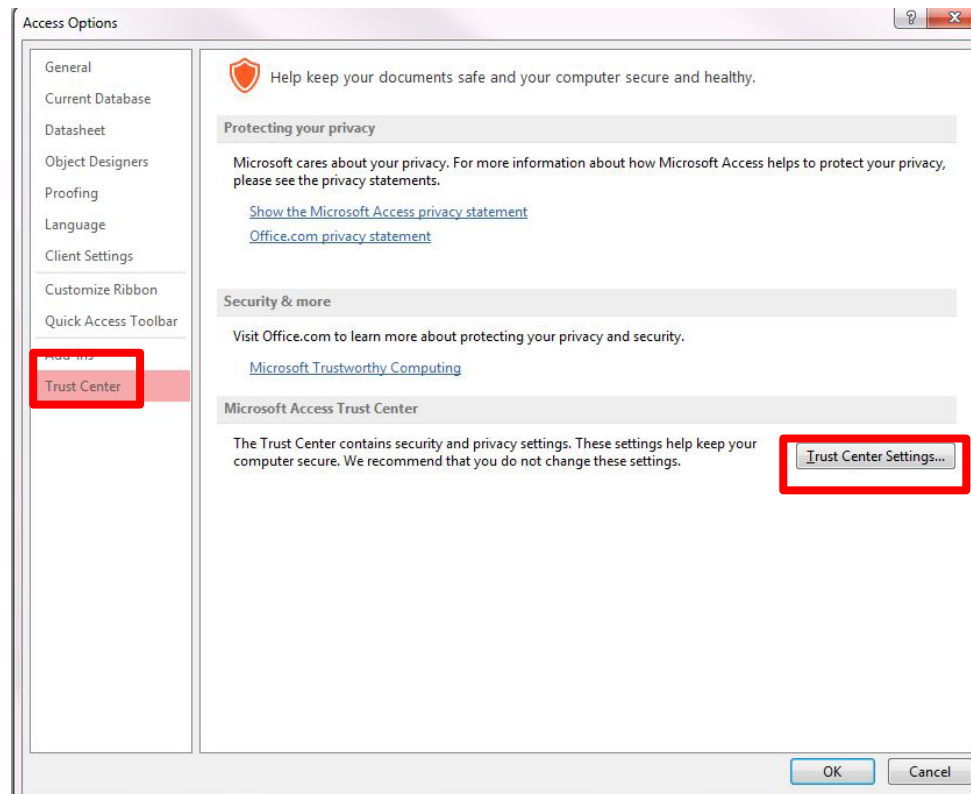
- Create a trusted location where you can save the W.W. in order to enable all macros
- Open the W.W. and click file > options



Step 2: Trusted Locations



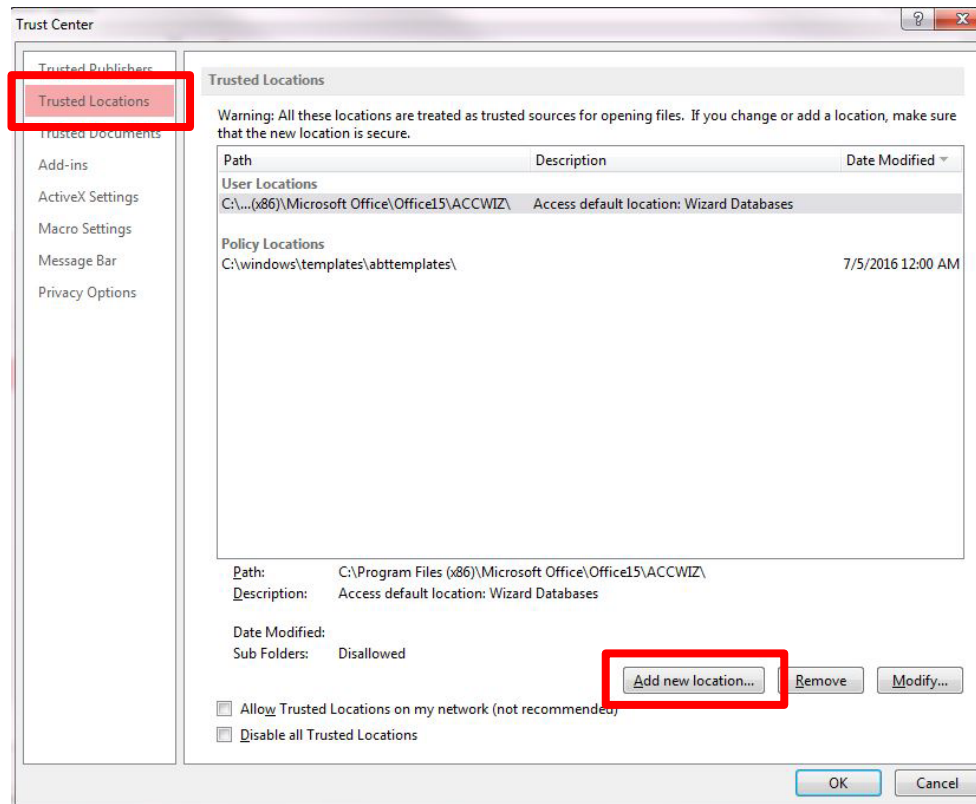
- On the options menu click Trust Center and Trust Center Settings



Step 2: Trusted Locations



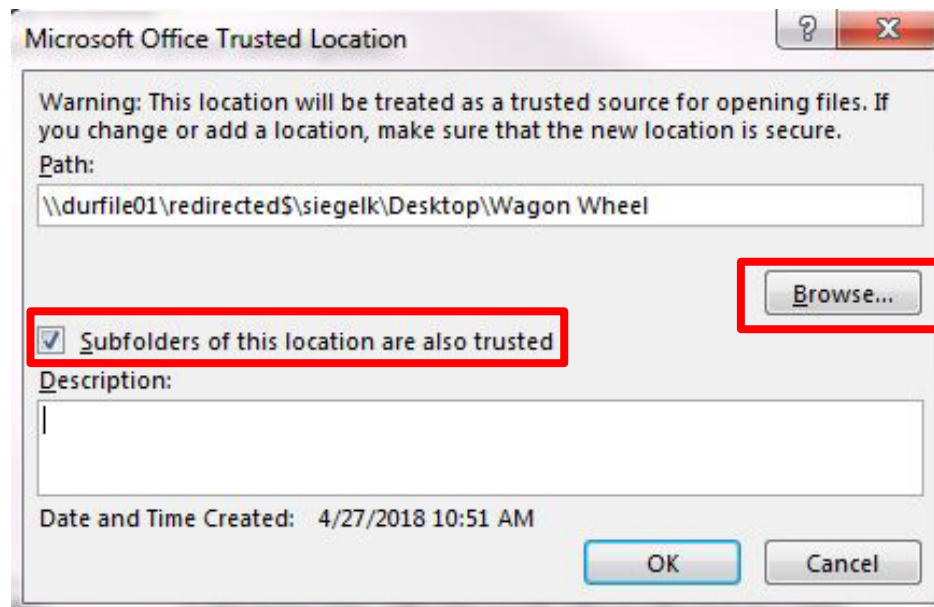
- In the Trust Center Settings click Trusted Locations and Add new location



Step 2: Trusted Locations



- Click Browse, select the folder you created and check subfolders of this location are also trusted




Step 3: Getting Started



Home Screen



WAGON WHEEL



Version 2020 v7.1 Final
Last updated February 27, 2023

Web-like Algorithm for the Generation Of Nonpoint inventories
With Helpful Emissions Estimation Logic

[Get Started](#) [Tool Change Log](#)



Step 4: Select Scenario



Control Panel

WAGON WHEEL

Select the states, tools, and pollutant types to include in the emissions estimation output table.

Home Screen

Import Input Templates

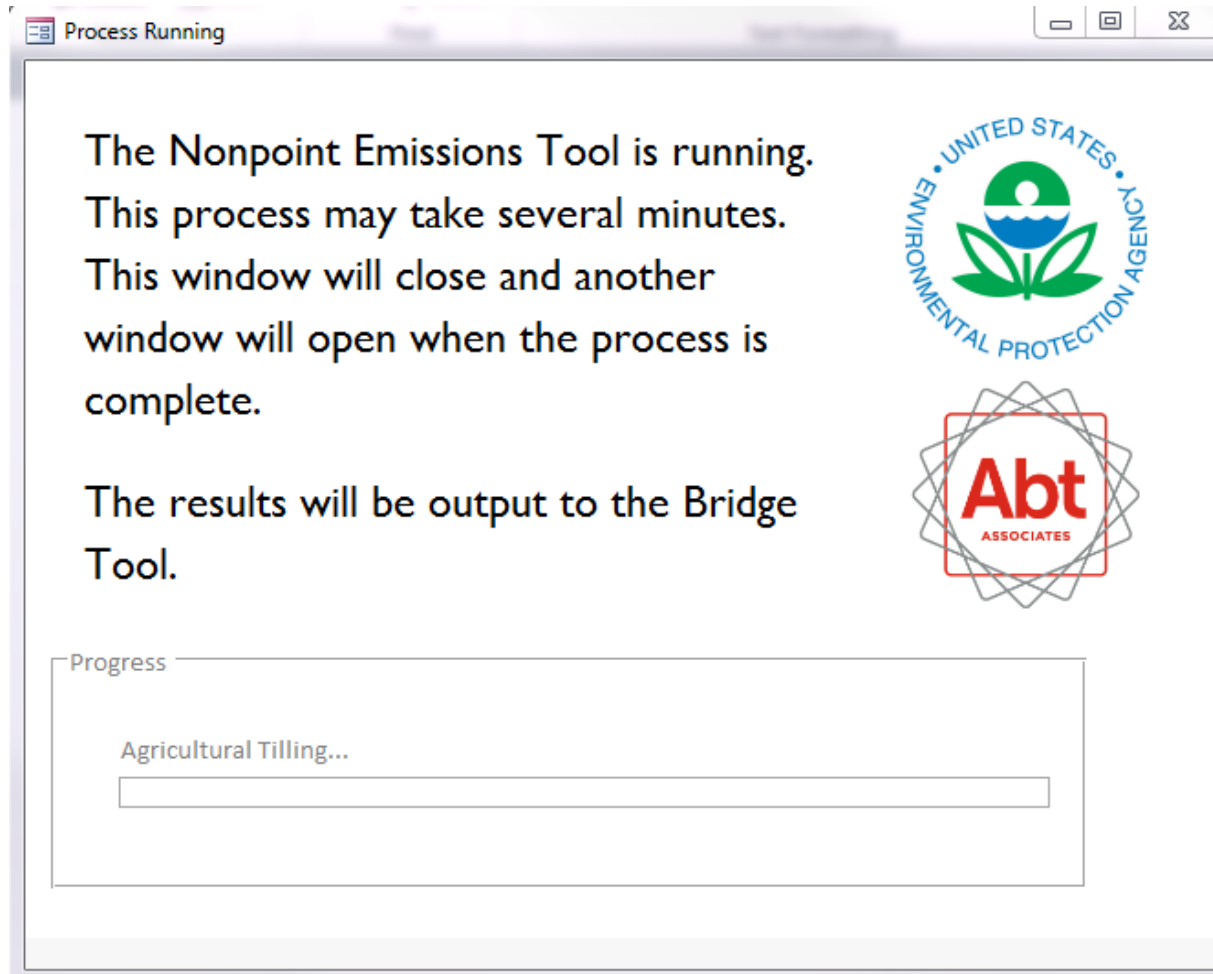
Run Tool

Select All States	Clear All States	Select All Tools	Clear All Tools
Alaska	<input type="checkbox"/>	Agricultural Silage	<input type="checkbox"/>
Alabama	<input type="checkbox"/>	Agricultural Tilling	<input type="checkbox"/>
Arkansas	<input type="checkbox"/>	Asphalt Paving	<input type="checkbox"/>
Arizona	<input type="checkbox"/>	Aviation Gasoline	<input type="checkbox"/>
California	<input type="checkbox"/>	Commercial Cooking	<input type="checkbox"/>
Colorado	<input type="checkbox"/>	Composting	<input type="checkbox"/>
Connecticut	<input type="checkbox"/>	Construction Dust	<input type="checkbox"/>
District of Columbia	<input type="checkbox"/>	Cremation (Human and Animal)	<input type="checkbox"/>
Delaware	<input type="checkbox"/>	Dust from Hooves	<input type="checkbox"/>
Florida	<input type="checkbox"/>	Gasoline Distribution (Stage 1)	<input type="checkbox"/>
Georgia	<input type="checkbox"/>	ICI	<input type="checkbox"/>
Hawaii	<input type="checkbox"/>	Landfills	<input type="checkbox"/>
Iowa	<input type="checkbox"/>		
Idaho	<input type="checkbox"/>		

Step 5: Run Tool



Step 6: Wait for Results



State, Local, and Tribal Inputs



- The current NEI plan states that EPA will run the W.W.
- Unless SLT's use another method for estimating emissions they will only have to provide EPA with inputs
- SLT's will be able to use the W.W. to run different scenario calculations
- SLT's can then submit final inputs to EPA via Excel templates

Wagon Wheel QA



- There are several ways EPA QAs Wagon Wheel estimates.
 - QA for each tool version release
 - Includes QA against Nonpoint Survey (example, if an agency indicated they submitted a template, is it in the WW?)
 - Tool-level 2017 Default EPA estimates vs. tool-level 2020 Default EPA estimates
 - Tool-level 2017 estimates including SLT inputs vs. tool-level 2020 estimates including SLT inputs
 - Tool-level 2020 Default EPA estimates vs. tool-level 2020 estimates including SLT inputs



Point Source Subtraction



Content



- What is Point Source Subtraction (PSS)
- Categories that use PSS
- PSS with activity data
- PSS with emissions data

Total Activity – Point Activity = Nonpoint Activity

Point Source Subtraction



- What is point source subtraction (PSS)?
 - Process of subtracting point source activity/emissions data from total known activity/emissions data
 - Completed to avoid double counting between point and nonpoint sources
- PSS using activity data is preferable
 - Emissions data may contain emission controls and will distort calculations

Categories that use PSS



- ICI Fuel Combustion
- Solvents
- Stage 1 Gasoline Distribution
- POTWs

PSS with Activity Data



- SLT submits point source activity data
 - ICI fuel combustion → state-level
 - POTWs → county-level
- Point source activity data are subtracted from total activity data
 - If point source activity > total activity, then state or county activity is zeroed out
- State level estimated nonpoint activity data are distributed to the county level and checked for accuracy
- Nonpoint emissions factors applied to county-level activity data

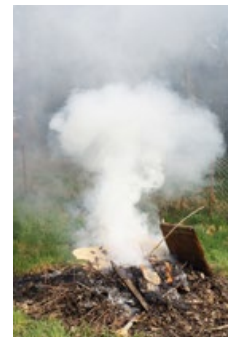
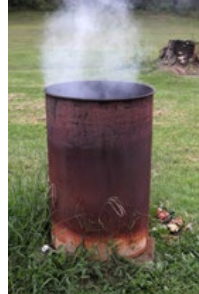
PSS with Emissions Data



- SLT submits county-level uncontrolled point source emissions data
 - Stage 1 gasoline distribution
 - Solvents
 - POTWs
- Point source emissions data are subtracted from total emissions data
 - If point source emissions $>$ total emissions, then emissions for the county are zeroed out



Industrial,
Commercial, and
Institutional Fuel
Combustion
Nonpoint
Emissions
Estimation Tool



Contents



- Source Categories
- Calculation Methodology Overview
 - Default Data Sources (activity and emissions factors)
 - Assumptions and Adjustments
 - County Distributions
 - Point Source Subtraction



Source Categories



SCC	Description
2102001000	Industrial /Anthracite Coal /Total: All Boiler Types
2102002000	Industrial /Bituminous/Subbituminous Coal /Total: All Boiler Types
2102004001	Industrial /Distillate Oil /Boilers
2102004002	Industrial /Distillate Oil /IC Engines
2102005000	Industrial /Residual Oil /Total: All Boiler Types
2102006000	Industrial /Natural Gas /Total: Boilers and IC Engines
2102007000	Industrial /Liquified Petroleum Gas /Total: All Boiler Types
2102008000	Industrial /Wood /Total: All Boiler Types
2102011000	Industrial /Kerosene /Total: All Boiler Types
2103001000	Commercial/Institutional /Anthracite Coal /Total: All Boiler Types
2103002000	Commercial/Institutional /Bituminous/Subbituminous Coal /Total: All Boiler Types
2103004001	Commercial/Institutional /Distillate Oil /Boilers
2103004002	Commercial/Institutional /Distillate Oil /IC Engines
2103005000	Commercial/Institutional /Residual Oil /Total: All Boiler Types
2103006000	Commercial/Institutional /Natural Gas /Total: Boilers and IC Engines
2103007000	Commercial/Institutional /Liquified Petroleum Gas /Total: All Combustor Types
2103008000	Commercial/Institutional /Wood /Total: All Boiler Types
2103011000	Commercial/Institutional /Kerosene /Total: All Combustor Types

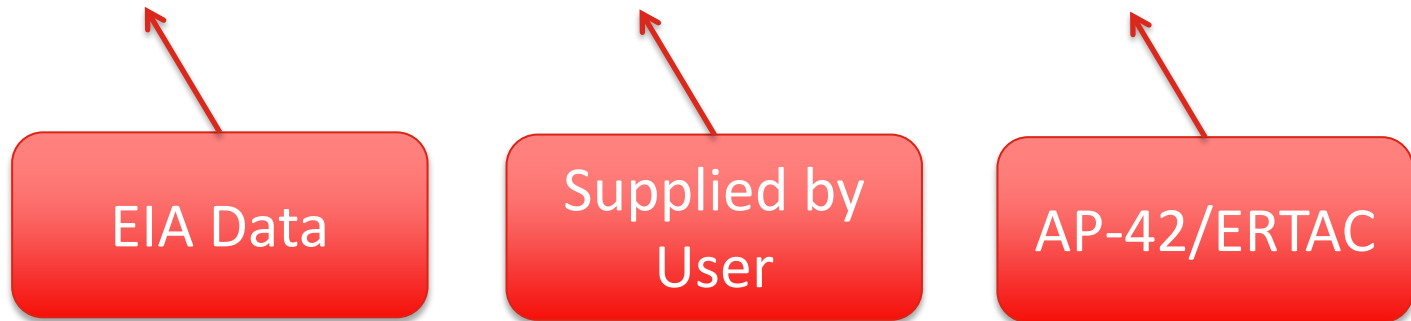
ICI Emissions Calculations



ICI Calculation Methodology:

- Nonpoint Emissions =

(Total State Activity – Point Source Activity) * Emission Factor



Activity Data and County Distributions



- Total State Energy Data comes from EIA
 - State Energy Data System (SEDS)
 - Fuel Oil and Kerosene Sales
- State-level data are distributed to the county level based on employment
 - Industrial sector: NAICS 31 – 33
 - Commercial/Institutional: NAICS 42 – 92, Census of Governments

Assumptions and Adjustments



- Coal
 - % Anthracite and % Bituminous/Subbituminous (*EIA Annual Coal Distribution Report*)
- Distillate Fuel and LPG
 - % of fuel used by Stationary Sources (i.e. not mobile sources; *EIA Fuel Oil and Kerosene Sales and EPA's National Mobile Inventory Model*)
- Distillate Fuel
 - Split Between Boilers and Engines
 - EIA data is total distillate use, and must be split into boilers and engines
- Coal and Residual Oil
 - % Sulfur and % Ash (*EIA Quarterly Coal Report*)
- All fuels
 - % of Energy Resources used for Nonfuel (Feedstock) Purposes (*EIA Manufacturing Energy Consumption Survey*)

Emissions Factors



- Majority of emissions factors are from AP-42 and the EPA/ERTAC2 database
- Ammonia emissions factors for wood combustion are from an EPA Emission Inventory Improvement Program (EIIP) guidance document
- For coal combustion, the SO₂ emissions factors are based on the sulfur content of the coal burned
- Some PM emissions factors for anthracite coal require information on the ash content of the coal

Point Source Subtraction



- Point source subtraction is needed to estimate nonpoint fuel consumption for the ICI sector
- The Wagon Wheel uses total fuel consumption by sector and fuel type from [EIA's State Energy Data System \(SEDS\)](#)
- The Wagon Wheel subtracts point source fuel consumption from the total fuel consumption to estimate nonpoint fuel consumption:

Nonpoint fuel consumption = Total fuel consumption – Point fuel consumption

Point Source Subtraction



Options for submitting Point Source Activity Data to EPA:

- Option A: point source fuel consumption by NAICS and SCC
- Option B: point source fuel consumption by NAICS and fuel type
- Option C: point source fuel consumption by sector and fuel type
- Option D: **nonpoint** source fuel consumption by sector and fuel type

For all options, the activity data should be summed to the state level

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Point Source Subtraction



	Step 1: Choose ICI Input Template	Step 2: Identify ICI facilities	Step 3: Obtain Point Throughput Data	Step 4: Map Point SCCs to ICI Fuel Types	Step 5: QA Point ICI Through- puts	Step 6: Submit Template to SharePoint	Step 7: Complete Nonpoint Survey
Option A	✓	✓	✓		✓	✓	✓
Option B	✓	✓	✓	✓	✓	✓	✓
Option C	✓	✓	✓	✓	✓	✓	✓
Option D	✓				✓	✓	✓

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Point Source Subtraction



How do I choose an input template?

If you have data on....	... then choose this template:
Point source throughputs by NAICS and SCC	Option A
Point source throughputs by NAICS and fuel type	Option B
Point source throughputs by sector and fuel type	Option C
Nonpoint source throughputs by sector and fuel type	Option D

Point Source Subtraction



- Options A and B are ultimately aggregated into Option C prior to ICI tool computations
- You can submit Option A, B, and/or C, but hierarchy in tool for each sector/fuel is:
 - Option D > Option C > Option B > Option A
 - Hypothetical: Option A for 1 NAICS/SCC will not be used if that sector/fuel is provided in Option C, or that NAICS/fuel is provided in Option B
- Use Option D only if you know what the nonpoint throughputs should be
 - Values from Option D templates will be used directly in the tool, without adjustment, to estimate nonpoint emissions
 - Presumes that all adjustments (nonfuel use, mobile/nonroad adjustments) have already been made
 - Throughputs should be less than SEDS, significantly less for some sectors/fuels, particularly if your Point inventory includes lower emissions reporting thresholds than the “Type B” minimums
- Note: Do not remove or edit any records that contain “Do Not Delete”

Point Source Subtraction



- Need to identify which facilities are ICI and which are electric utilities
- Form EIA-923
 - 2020 data released September 2021 from EIA:
 - <https://www.eia.gov/electricity/data/eia923/>
 - “Page 1” Generation and Fuel Data sheets, EIA Sector Numbers:
 - 1, 2, and 3 are non-ICI (Electric Utility, NAICS-22 Cogen/Non-Cogen)
 - 4 and 5 are Commercial /Institutional
 - 6 and 7 are Industrial
 - EIA Plant ID associated with EIS Facility IDs via NEEDS crosswalk (available from EPA)

Plant Name	Plant State	NAICS Code	EIA Sector Number	Sector Name
Robert A Reid	KY	22	1	Electric Utility
Robert A Reid	KY	22	1	Electric Utility
Robert A Reid	KY	22	1	Electric Utility
Robert A Reid	KY	22	1	Electric Utility
Robert A Reid	KY	22	1	Electric Utility
Cooper	KY	22	1	Electric Utility
Cooper	KY	22	1	Electric Utility
Louisiana 1	LA	32411	7	Industrial NAICS Cogen
Louisiana 1	LA	32411	7	Industrial NAICS Cogen
Louisiana 1	LA	32411	7	Industrial NAICS Cogen

Point Source Subtraction



- Non-matches with EIA-923
 - All remaining facilities assigned to I, or C/I (or not) via NAICS cross-reference
 - See Input Template Options A or B, or Table 4-110 in NEI TSD
- Compile list of all ICI facilities via EIA-923 and NAICS assignments, remove remaining facilities from analysis

NAICS	Sector
11	Industrial
21	Industrial
2212	Commercial
2213	Commercial
23	Industrial
31	Industrial
32	Industrial
33	Industrial
42	Commercial
44	Commercial
45	Commercial
48 (except 4862)	Commercial
49	Commercial
51	Commercial
52	Commercial
53	Commercial
54	Commercial
55	Commercial
56	Commercial
61	Commercial
62	Commercial
71	Commercial
72	Commercial
81	Commercial
92	Commercial

Point Source Subtraction



- Simplest option: filter for Point inventory SCCs provided in the “ICI - Option A” Input Template on the NOMAD SharePoint site -“[Blank Input Templates](#)” folder
 - Unique list of Point SCCs available in [2017 ICI NEMO](#), Table 7
- More rigorous option: grab all Point inventory throughputs from processes with relevant Calculation Material Codes
 - e.g., search your dataset for keywords like Coal, Distillate, Kerosene, Lignite, LPG, Oil, Petroleum, Residual
 - Convert to appropriate throughput unit of measure (UOM) in Input Template

Point Source Subtraction



Make sure to convert fuel consumption into the units needed for the template

Fuel Type	Conversion factor (multiply by)	To convert from:	To convert to:	Description
Coal (anthracite)	3.953E-05	MMBTU	E3TON	Thousand tons
Coal (bituminous)	3.846E-05	MMBTU	E3TON	Thousand tons
Distillate fuel oil	1.695E-04	MMBTU	E3BBL	Thousand barrels
Distillate fuel oil	4.362E-07	Horsepower-hour	E3BBL	Thousand barrels
LPG	2.445E-04	MMBTU	E3BBL	Thousand barrels
LPG	2.493E-05	Therm	E3BBL	Thousand barrels
Natural gas	9.524E-04	MMBTU	E6FT3	Million cubic feet
Natural gas	9.653E-05	Therm	E6FT3	Million cubic feet
Natural gas	2.469E-06	Horsepower-hour	E6FT3	Million cubic feet
Residual fuel oil	1.587E-04	MMBTU	E3BBL	Thousand barrels
Wood	1.040E-02	TON	E9BTU	Billion BTU
Any liquid fuel	2.381E-05	Gallon	E3BBL	Thousand barrels

52

Point Source Subtraction



- Not necessary if using Option A Input Template (NAICS/SCC)
- Simple aggregation from SCC to broad ICI fuel type from 2020 NEI Supplement Data FTP Site
- For processes with unknown or “odd” Calculation Parameter Unit of Measure Code (e.g., EACH, HR), suggest following:
 - Rank processes to focus on largest sources first (NOX or CO emissions)
 - Make sensible estimate of throughput based on EPA analysis from 2020 default CO emissions vs 2020 State-submitted throughputs (sector and fuel-specific factors)
 - Tease out your own default sector/fuel CO emissions vs throughput ratios based on processes where that information was available

Point Source Subtraction



- In this step, check to make sure your point source throughputs are reasonable for each fuel type and sector.
- Sum throughputs, grouped by fuel type and sector (similar to the Option C template)
- Compare to “Default Fuel Use” in “Central Database – SEDS” Input Template available on the NOMAD SharePoint site - [“Blank Input Templates”](#) folder
- Where your Point throughput values significantly exceed total fuel consumption in SEDS estimates (which covers both Point and Nonpoint), go back and review processes that contributed to largest throughputs
- Most common problem is Point inventory UOM error, or conversion error to Input Template fuel UOM (e.g., natural gas reported in thousand cubic feet instead of million cubic feet)

Point Source Subtraction



- Upload completed Input Template to NOMAD SharePoint site, [Input Templates folder](#)
 - *Or EIS if it has been implemented*
- Click on “Step 3: Upload Your Input Template To This Folder”
- Make sure to use the Upload button, rather than dragging and dropping the template into the folder.

Point Source Subtraction



- Other optional templates for ICI include:
 - **Boiler – Engine Split** – used to split distillate oil consumption into boiler and engine SCCs
 - **Distillate and LPG Stationary Assumptions** – used to determine the amount of distillate and LPG used in stationary sources rather than mobile/nonroad sources
 - **Nonfuel Use** – used to determine the amount of fuel used in non-combustion uses
 - **SEDS** (central database template) – source of data for total fuel consumption for all fuel types except distillate
 - **Distillate Sales Data** – source of data for distillate consumption
 - **Control Factor** – used to adjust county-level emissions by SCC and pollutant



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IMPACT**

David Cooley, Abt Associates
David_Cooley@abtassoc.com
919-294-7793

Hannah Derrick, Abt Associates
Hannah_Derrick@abtassoc.com
919-294-7712

