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Updates to the 2017 Industrial, Commercial, and Institutional Fuel Combustion Tool

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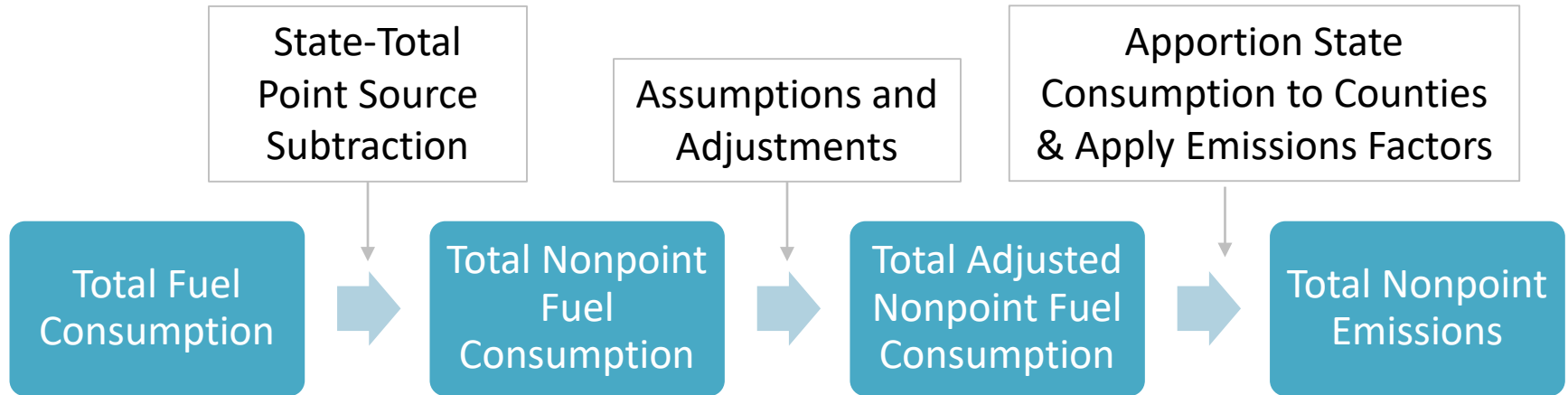


Industrial, Commercial, and Institutional Emissions in the NEI



- Industrial, Commercial, and Institutional (ICI) emissions in the NEI are from fuel combustion sources that **do not report as point sources**
- Based on **total** state-level fuel consumption from U.S. Energy Information Administration (EIA) State Energy Data System (SEDS)
- Point source fuel consumption **must be subtracted** to estimate nonpoint fuel consumption

Industrial, Commercial, and Institutional Emissions in the NEI



Point Source Subtraction



2014 Approach:

- County-level
- Subtract emissions or activity
- Crosswalk based on SCCs

2017 Approach:

- State-level
- Subtract only activity
- Crosswalk based on both NAICS codes and SCCs

Point Source Subtraction



- Point activity data must be mapped to the correct nonpoint SCCs
- Since the fuel consumption data is from EIA, **it matters what sector EIA has listed** for facilities
- If EIA classifies the facility as an electric utility, then it should **not** be included in point source subtraction, even if EIS considers it industrial/commercial
 - And vice versa: if EIA considers it industrial/commercial, then it **should be included** in point source subtraction
- So how do we know what sector to map facilities to?

Point Source Subtraction



Step 1. EIA 923 (<https://www.eia.gov/electricity/data/eia923/>)

- Contains facilities that generate electricity; it is **not** an exhaustive list of point sources
- Look at the “Sector Name” column
 - If it says Electric Utility or NAICS-22, it is **not** included in point source subtraction; if it says Industrial or Commercial, it **should** be included

Plant Name	Operator Name	Plant State	EIA Sector Number	Sector Name
Bankhead Dam	Alabama Power Co	AL	1	Electric Utility
Barry	Alabama Power Co	AL	1	Electric Utility
Barry	Alabama Power Co	AL	1	Electric Utility
Madelia	City of Madelia - (MN)	MN	1	Electric Utility
Rollins	Nevada Irrigation District	CA	2	NAICS-22 Non-Cogen
Skagway	Alaska Power and Telephone Co	AK	1	Electric Utility
Skagway	Alaska Power and Telephone Co	AK	1	Electric Utility
Haines	Alaska Power and Telephone Co	AK	1	Electric Utility
Swan Lake	Southeast Alaska Power Agency	AK	4	Commercial NAICS Non-Cogen
Terror Lake Microgrid	Kodiak Electric Assn Inc	AK	1	Electric Utility
Venice Hydro	Metropolitan Water District of S CA	CA	1	Electric Utility
Louisiana 1	Entergy Louisiana LLC	LA	7	Industrial NAICS Cogen
Louisiana 1	Entergy Louisiana LLC	LA	7	Industrial NAICS Cogen
Louisiana 1	Entergy Louisiana LLC	LA	7	Industrial NAICS Cogen
Louisiana 1	Entergy Louisiana LLC	LA	7	Industrial NAICS Cogen
Louisiana 1	Entergy Louisiana LLC	LA	7	Industrial NAICS Cogen

Point Source Subtraction



Step 2. NAICS are used to identify ICI Sector

- For facilities that cannot be mapped using the EIA-923, the NAICS code is used to identify the sector
- The first two digits (or in some cases four digits) of the facility's NAICS code is used to determine the ICI sector to map to

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

Point Source Subtraction



Step 3. Point SCCs are used to identify fuel type

- The NEMO and ICI Input Templates include a full crosswalk between Point SCCs and fuel types

Fuel	SCC	Description
Coal	10200302	External Combustion Boilers; Industrial; Lignite; Pulverized Coal: Dry Bottom, Tangential Fired
Coal	10200302	External Combustion Boilers; Industrial; Lignite; Pulverized Coal: Dry Bottom, Tangential Fired
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Point Source Subtraction

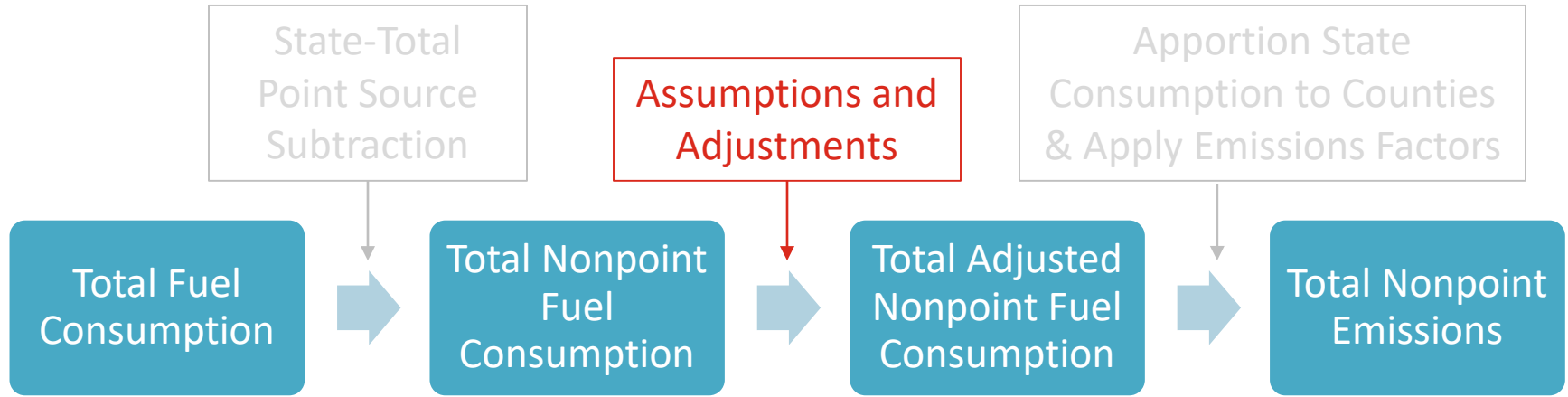


Options for submitting Point source activity data to EPA:

- 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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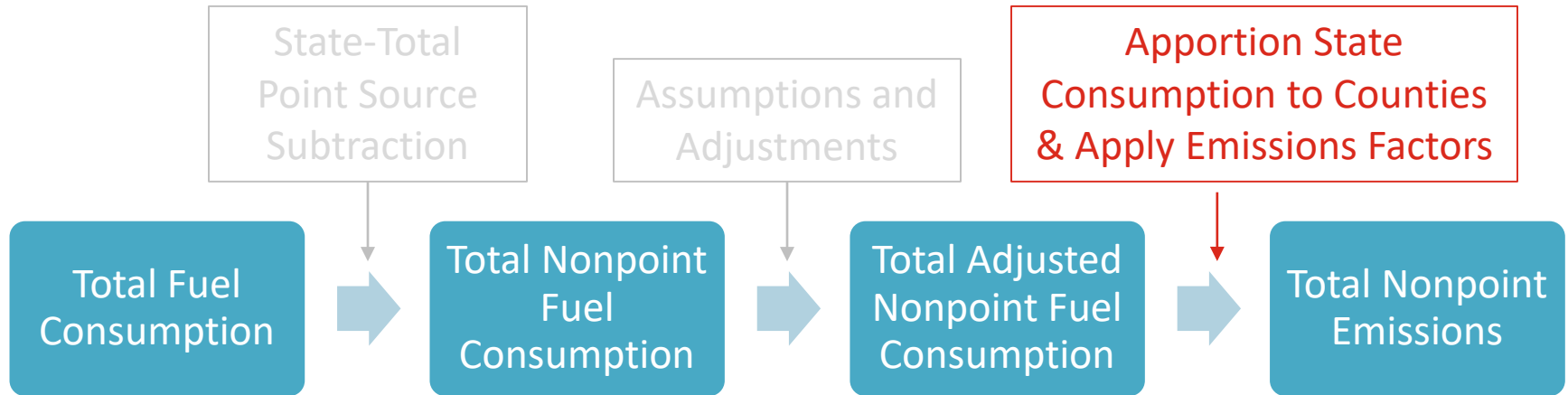
Additional Adjustments



Following Point source subtraction, we make additional adjustments to the estimated fuel consumption

Adjustment	Why we do it
Coal ratio	EIA reports total coal consumption, but we need it split it into anthracite and bituminous/subbituminous
Non-combustion use of fuel	Some fuels are used as an input to industrial processes where they are not combusted
Distillate boiler/engine split	EIA reports total distillate consumption, but we need to split it into separate SCCs for boiler and engines
Stationary vs. mobile assumptions	Some fuel consumption reported as “industrial” or “commercial” by EIA is actually consumed by mobile sources that are included in the non-road or on-road inventory

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