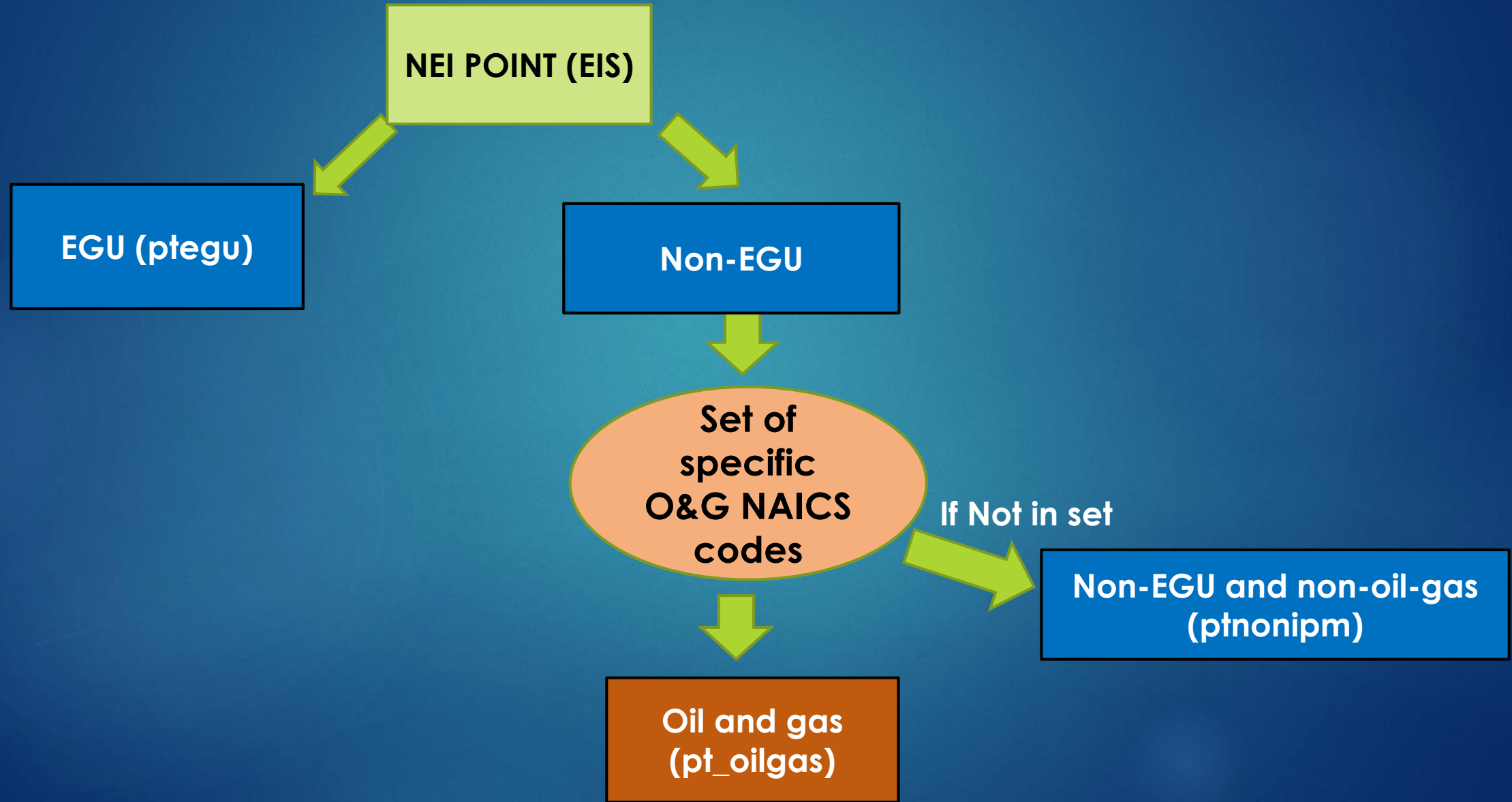


Oil and gas: Point Source Inventory; Further Review Upstream, Midstream, Downstream sources

OIL AND GAS WORKGROUP FOR 2016 EMP

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Parsing up the NEI Point Source Inventory for Modeling Platform



Specific NAICS codes used to find pt_oilgas sources

NAICS	Description	
2111	Oil and Gas Extraction	
21111	Oil and Gas Extraction	
211111	Crude Petroleum and Natural Gas Extraction	← UPSTREAM
211112	Natural Gas Liquid Extraction	
213111	Drilling Oil and Gas Wells	
213112	Support Activities for Oil and Gas Operations	← UPSTREAM Or MIDSTREAM?
2212	Natural Gas Distribution	
22121	Natural Gas Distribution	
221210	Natural Gas Distribution	
4862	Pipeline Transportation of Natural Gas	
48621	Pipeline Transportation of Natural Gas	
486210	Pipeline Transportation of Natural Gas	← MIDSTREAM
48611	Pipeline Transportation of Crude Oil	
486110	Pipeline Transportation of Crude Oil	

Why is it important to distinguish between upstream, midstream or downstream sources?

- ▶ Oil and Gas Tool focused mainly on upstream sources in base year
- ▶ Some states submit upstream sources as point sources
- ▶ For projecting emissions to future-year purposes
 - ▶ Growth for upstream sources traditionally comes from PRODUCTION forecast for oil and gas
 - ▶ Growth for midstream and downstream sources may be more tied to CONSUMPTION forecasts for oil and gas
 - ▶ Available control technologies can vary between these different type of oil and sources
- ▶ **There is a non-EGU point workgroup for 2016 focused on refineries and other downstream sources**

Update on Year 2016 Point Source inventory

- ▶ Consists of some sources with year 2016 emissions information
- ▶ Sources where year 2016 information doesn't exist; use 2014 emissions
- ▶ Year 2016 point source inventory has been parsed up into the ptegu, pt_oilgas and ptnonipm sectors
 - ▶ Same parsing process as NEI years
 - ▶ Internal QA being performed
 - ▶ <ftp://newftp.epa.gov/Air/emismod/2016/alpha/2016fd/emissions/>
 - ▶ Workgroup will have time QA this data before 2016 beta version is due

Quick Glance at National Emissions totals for pt_oilgas

Pollutant	NEI2014v2 "upstream"	2014NEIv2 NAICS 213112	2014NEIv2 "midstream"	2014NEIv2 pt_oilgas Total	2014NEIv2 "upstream" % of total pt_oilgas emissions
NOX	212938	4188	237857	454983	46.8%
VOC	98122	2376	36589	137088	71.6%
PM2.5	10891	200	9711	20802	52.4%
CO	132401	3283	72638	208322	63.6%
SO2	43701	23	5467	49192	88.8%
NH3	195	0	1130	1325	14.7%

Pollutant	2016alpha "upstream"	2016alpha NAICS 213112	2016 alpha "midstream"	2016 alpha pt_oilgas Total	2016 "upstream" % of total pt_oilgas emissions
NOX	194939	3846	202000	400785	48.6%
VOC	96734	2173	35529	134437	72.0%
PM2.5	10269	210	7868	18347	56.0%
CO	117898	3035	66940	187874	62.8%
SO2	38443	227	4618	43288	88.8%
NH3	189	0	4169	4358	4.3%

Quick Glance at National Emissions totals for pt_oilgas

Some of the top emitting states in pt_oilgas for NOx from upstream NAICS codes

	A	B	C	D
1	stid	naics	poll	ann_value
3	2	211111	NOX	38209
9	40	211111	NOX	31347
34	48	211112	NOX	29104
40	48	211111	NOX	21215
46	8	211111	NOX	18273
91	40	211112	NOX	12466
97	22	211111	NOX	9062
03	35	211112	NOX	7221
29	20	211111	NOX	5192
36	26	211111	NOX	5189
42	56	211112	NOX	4299
76	35	211111	NOX	4147
82	22	211112	NOX	4089
31	8	211112	NOX	2659
74	6	211111	NOX	2630

Steps to consider for the pt_oilgas sector for 2016 EMP Oil and Gas Workgroup: Base Year

- ▶ Quality assure 2016 alpha point source inventory
 - ▶ Do current NAICS and SCC assignments make sense?
 - ▶ Upstream ,midstream, or downstream?
 - ▶ If downstream source found, do we pass this source to the non-EGU workgroup?
- ▶ How do we ensure no double counting between Oil and Gas Tool results (non-point) and pt_oilgas?
 - ▶ States are submitting oil and gas data as point sources
 - ▶ If a 2016 Oil and Gas Tool inventory becomes available, how best to ensure no double counting/accuracy?

Steps to consider for the pt_oilgas sector for 2016 EMP Oil and Gas Workgroup: Projections

▶ Growth

▶ Upstream sources => AEO Production forecasts?

- ▶ Previous application usually at SCC level and limited

- ▶ By SCC or NAICS or combinations or ??

▶ Midstream sources => AEO Consumption forecasts?

- ▶ Previous application usually at various ID levels (SCC, NAICS, etc)

- ▶ By SCC or NAICS or combinations or ??

▶ Controls

- ▶ Challenge to apply appropriate controls to Upstream and Mid-stream sources (e.g. RICE NSPS, NESHAP NSPS, ICI Boilers, Fuel Sulphur rules)

Action Items for Workgroup?

- ▶ Review pt_oilgas inventory
 - ▶ 2014NElv2 and 2016 alpha
 - ▶ Compare vs. non-point oil and gas (np_oilgas) 2014NElv2
 - ▶ Ensure no double counting (how best to do this??)
 - ▶ Are sources in my state/region accurately classified? (SCC, NAICS)
 - ▶ Examine QA summaries provided by USEPA
 - ▶ What other report/summaries may be helpful?
- ▶ Other steps??
- ▶ Provide feedback by June 11 (is this doable?)