

# COMPARE EPA 2016V2 TO WRAP OGWG EMISSION INVENTORY

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# TOPICS

- Overview of Results for Task A: EPA's Integration of WRAP OGWG Inventory into 2016v2
- Overview of Task B: Review of 2020 O&G Tool Input Factor Updates Based on WRAP OGWG Survey Results

# TASK A: EPA'S INTEGRATION OF WRAP OGWG INVENTORY INTO 2016V2

- 7 States: CO, MT, NM, ND, SD, UT, WY

Inventory Component	2016v2 Basis <sup>a</sup>
<b>Historical Year</b>	
Point Sources	WRAP OGWG circa 2014 baseline
Nonpoint Exploration Sources	2017 NEI O&G Tool
Nonpoint Production Sources	WRAP OGWG circa 2014 baseline
<b>Future Year (2023 from 2016v2)</b>	
Point Sources	WRAP OGWG future year
Nonpoint Exploration Sources	WRAP OGWG future year
Nonpoint Production Sources	WRAP OGWG future year

<sup>a</sup> Source: Nov. 8 presentation by Jeff Vukovich to WRAP OGWG

# POINT SOURCES – HISTORICAL AND FUTURE YEARS

## Historical Year

State	Circa 2014- WRAP OGWG	2016 V2 Modeling Platform	Percentage Difference
<b>VOC</b>			
Colorado	12,141	12,031	-1%
Montana	897	897	0%
North Dakota	1,825	1,825	0%
New Mexico	18,033	18,033	0%
South Dakota	13	13	0%
Utah	85,127	84,733	0%
Wyoming	18,097	17,911	-1%
<b>NOx</b>			
Colorado	17,378	17,270	-1%
Montana	1,602	1,602	0%
North Dakota	5,179	5,179	0%
New Mexico	31,031	31,031	0%
South Dakota	435	435	0%
Utah	14,534	14,534	0%
Wyoming	13,294	12,938	-3%

## Future Year

State	WRAP OGWG Future Year	2016 V2 Modeling Platform	Percentage Difference
<b>VOC</b>			
Colorado	12,111	12,013	-1%
Montana	864	864	0%
North Dakota	5,587	5,587	0%
New Mexico	32,934	32,934	0%
South Dakota	13	13	0%
Utah	51,338	51,180	0%
Wyoming	16,370	16,246	-1%
<b>NOx</b>			
Colorado	14,738	14,673	0%
Montana	1,440	1,440	0%
North Dakota	15,859	15,859	0%
New Mexico	44,062	44,062	0%
South Dakota	435	435	0%
Utah	9,089	9,089	0%
Wyoming	10,824	10,600	-2%

- As expected, points sources are consistent for historical and future years

Percentage difference = (EPA-WRAP)/WRAP

# NONPOINT SOURCES – HISTORICAL YEAR

## Exploration Phase

State	Circa 2014- WRAP OGWG	2016 V2 Modeling Platform	Percentage Difference
<b>VOC</b>			
Colorado	1,871	15,321	719%
Montana	1,321	40	-97%
North Dakota	23,338	5,830	-75%
New Mexico	5,255	2,900	-45%
South Dakota	104	2	-98%
Utah	3,141	617	-80%
Wyoming	158,624	1,255	-99%
<b>NOx</b>			
Colorado	5,936	5,602	-6%
Montana	1,642	130	-92%
North Dakota	31,630	8,350	-74%
New Mexico	7,999	2,103	-74%
South Dakota	129	0	-100%
Utah	130	200	54%
Wyoming	24,401	515	-98%

## Production Phase

State	Circa 2014- WRAP OGWG	2016 V2 Modeling Platform	Percentage Difference
<b>VOC</b>			
Colorado	123,443	123,454	0%
Montana	34,694	34,665	0%
North Dakota	278,920	278,920	0%
New Mexico	161,980	161,403	0%
South Dakota	9,333	9,333	0%
Utah	24,216	24,536	1%
Wyoming	88,101	88,287	0%
<b>NOx</b>			
Colorado	20,774	20,776	0%
Montana	3,987	3,987	0%
North Dakota	30,717	30,717	0%
New Mexico	42,158	42,075	0%
South Dakota	357	357	0%
Utah	1,715	1,715	0%
Wyoming	8,476	8,832	4%

- Exploration phase: As expected, emissions are inconsistent. WRAP used 2014 and EPA used 2016 exploration activity data.
- Production phase: As expected, emissions are consistent.

Percentage difference = (EPA-WRAP)/WRAP

# NONPOINT SOURCES – FUTURE YEAR

## Exploration & Production Phases

State	WRAP OGWG Future Year	2016 V2 Modeling Platform	Percentage Difference
<b>VOC</b>			
Colorado	65,225	64,636	-1%
Montana	28,401	28,417	0%
North Dakota	314,080	306,268	-2%
New Mexico	195,399	195,520	0%
South Dakota	4,774	4,692	-2%
Utah	16,540	17,159	4%
Wyoming	93,220	52,542	-44%
<b>NOx</b>			
Colorado	28,812	27,741	-4%
Montana	3,693	4,218	14%
North Dakota	57,500	55,862	-3%
New Mexico	50,188	51,064	2%
South Dakota	328	234	-28%
Utah	1,462	2,065	41%
Wyoming	13,509	7,807	-42%

- Unexpectedly, nonpoint source emissions are inconsistent.
- It appears that differences are mostly due to exploration phase source categories.

**Deliverable spreadsheet to be provided today**

Percentage difference = (EPA-WRAP)/WRAP

# TASK B: REVIEW OF 2020 O&G TOOL INPUT FACTOR UPDATES BASED ON WRAP OGWG SURVEY RESULTS

- EPA presented and provided relevant data and materials at the Nov. 8 WRAP OGWG meeting
- Ramboll has screened this data and is developing the review analysis
- Review analysis focused on integration of WRAP OGWG survey inputs (e.g., equipment characteristics, annual operation, emission rates).

**Deliverable: Memorandum due Dec. 9**

**END**