

Developing the WRAP Point and Area Source Emissions Projections for 2018

Presentation to the
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Presentation Overview

- **Background**
- **WRAP 2018 Inventory Characteristics**
- **Methodology**
 - Stakeholder Involvement
 - Growth, Control
 - BART and Presumptive BART Limits
- **Results Summary**
- **Next Steps**

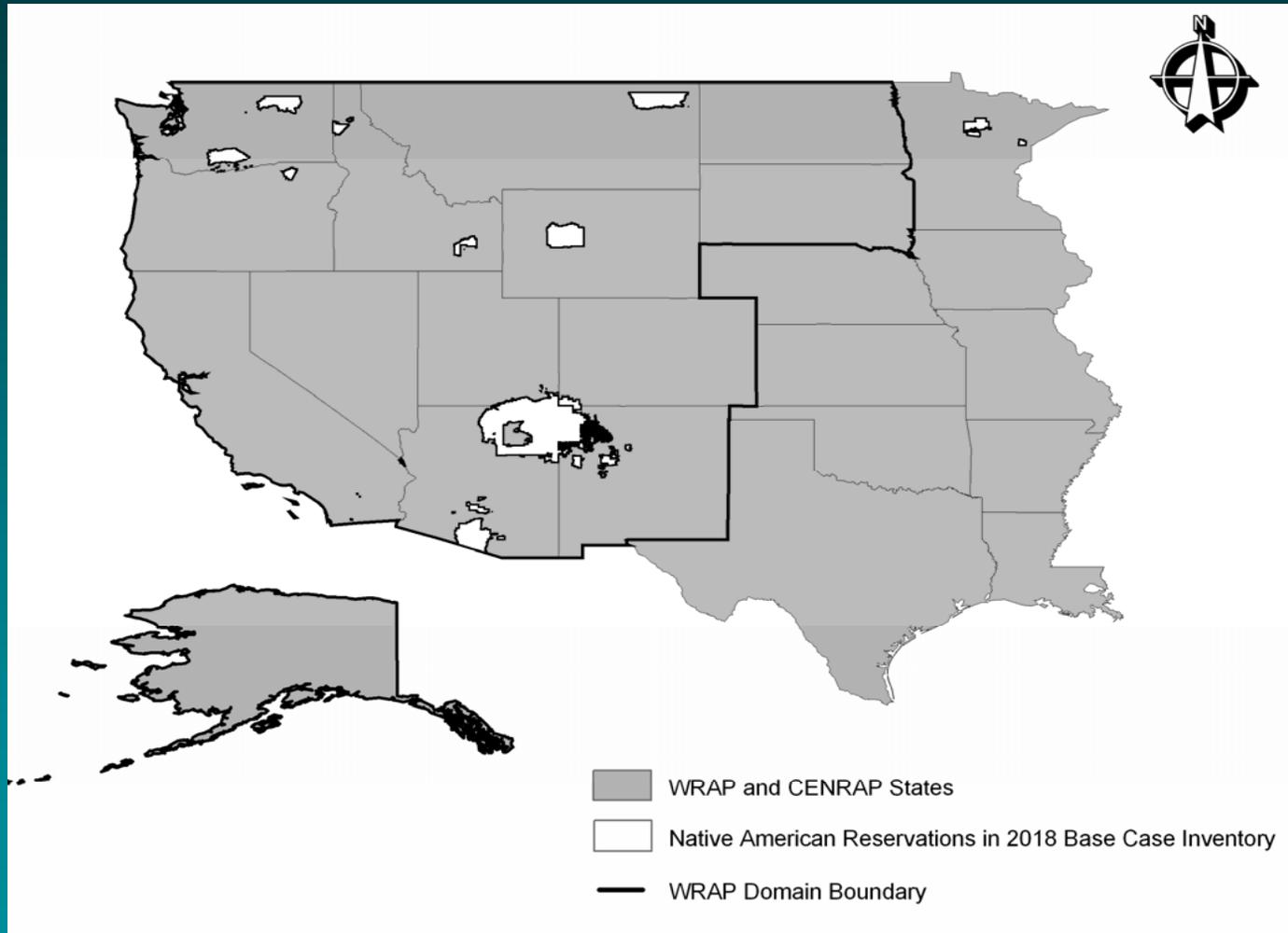
Why Develop a 2018 Inventory?

- **WRAP assesses impacts and evaluates regional control strategies for Class I areas in the West**
- **Led by: Stationary Sources Joint Forum (SSJF)**
- **Contractor Team: ERG, ENVIRON, Alpine Geophysics**
- **Phase 1 (2005-2006):**
 - 2002 point and area sources emissions inventory QA
 - 2002 and 2018 oil and gas (area sources) emissions inventory
 - 2018 base case point and area sources emissions inventory
 - Tribal inventories for 2002 and 2018
 - Temporal profiles for WRAP electric generating units (EGUs)
- **Phase 2 (2007 to date):**
 - Preliminary Reasonable Progress 2018 (PRP18) analysis (in progress)
 - Review and update the most significant sources (top 80% for each pollutant)

WRAP 2018 Inventory Characteristics

- **Base Year – 2002 (based on U.S. NEI)**
- **Source Types:**
 - Point sources and area (nonpoint) stationary sources by ERG
 - Oil and gas (area sources) by ENVIRON
 - Excluding these categories dealt with in other WRAP projects:
 - ☒ Fugitive dust from paved and unpaved roads
 - ☒ Windblown dust
 - ☒ Wildfires, waste burning, agricultural burning
 - ☒ Agricultural production-livestock
 - ☒ Nonroad mobile sources
- **Pollutants: NO_x, SO₂, VOC, CO, PM₁₀, PM_{2.5}, and NH₃**

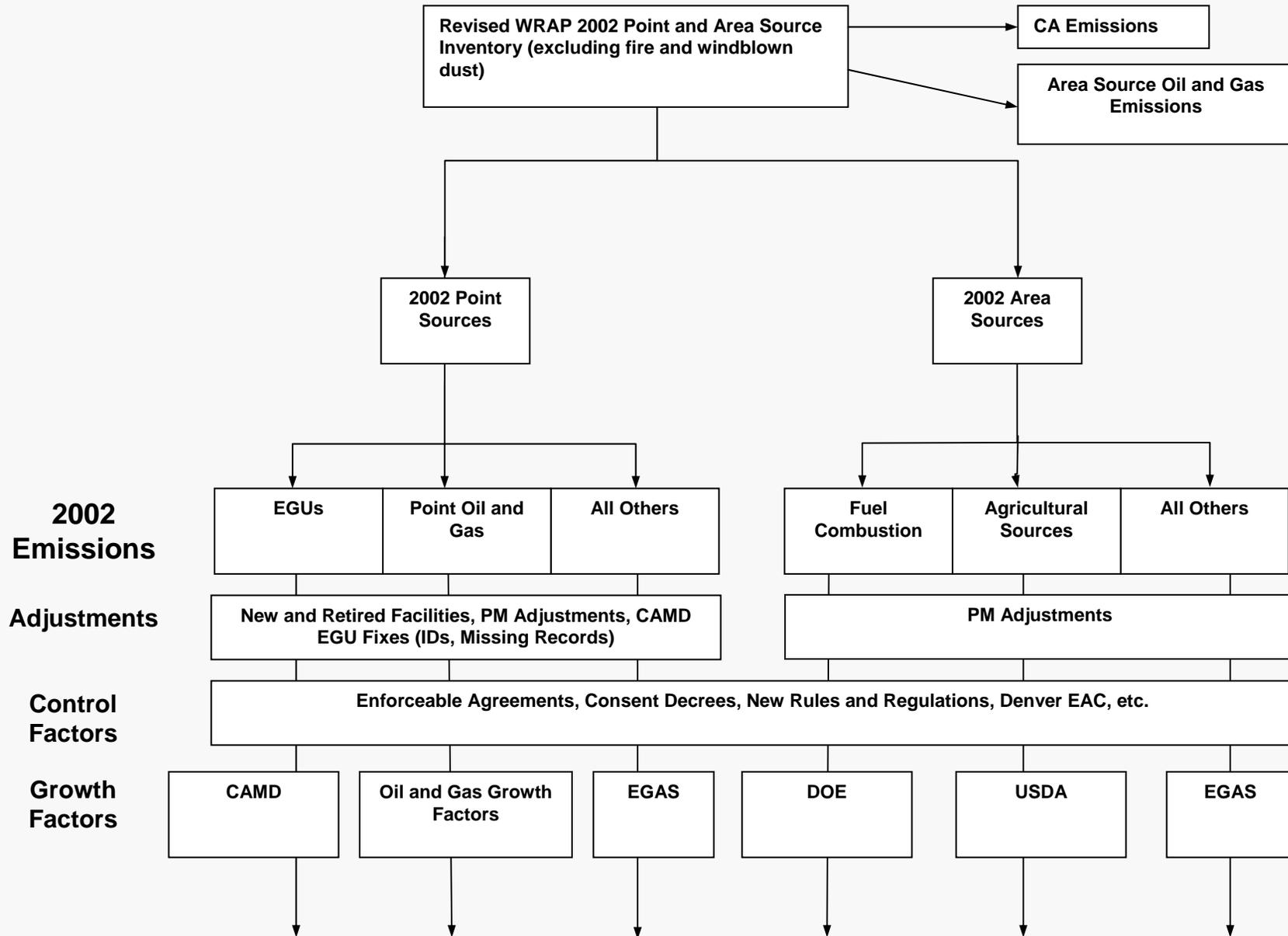
Map of WRAP Region



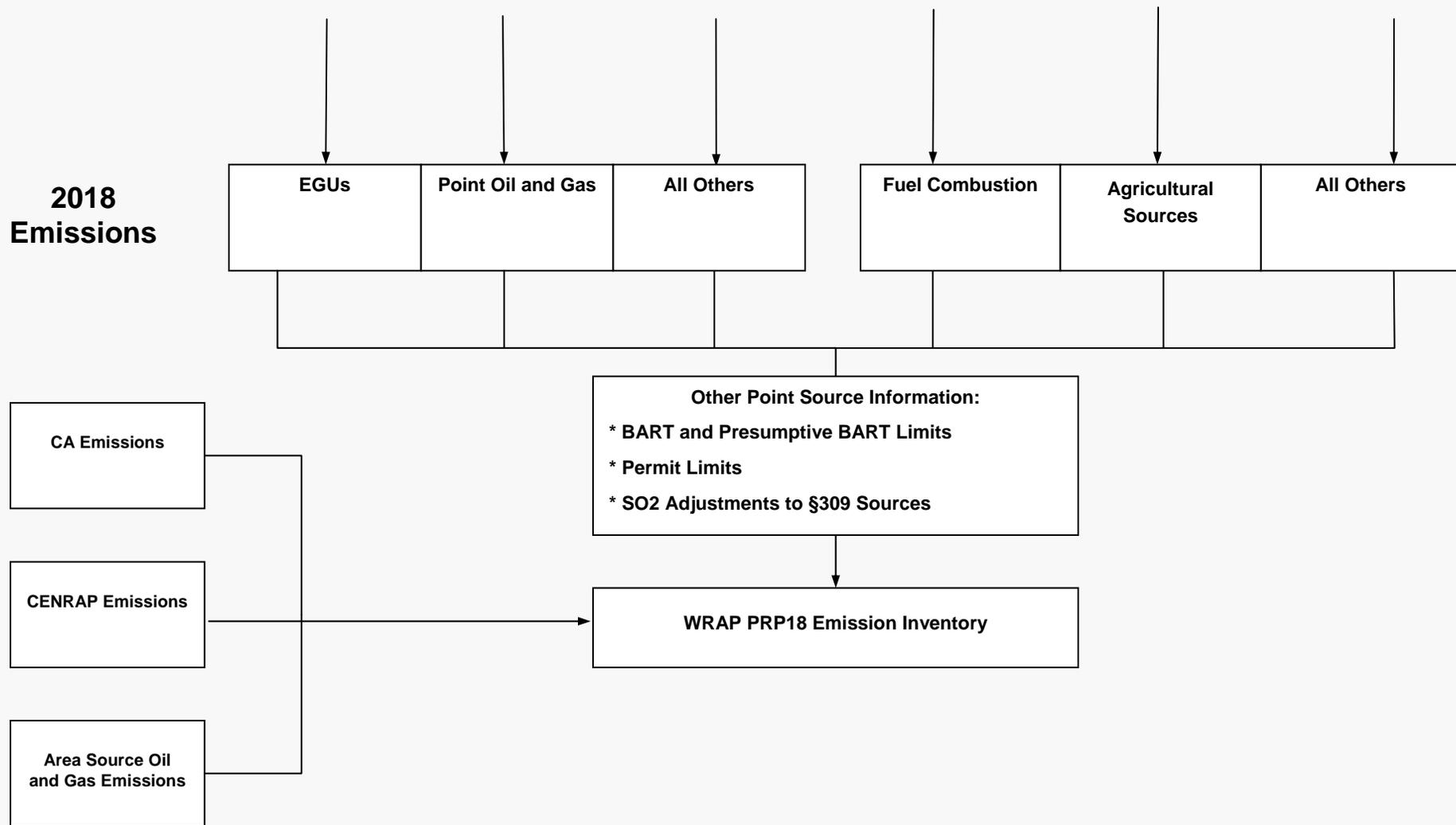
Stakeholder Involvement

- **Phase 1 (WRAP 2018 base case Version 1):**
 - E-mail requests to identify the information needed for the adjustments, control factors, retirement and replacement rates, permit limits, etc.
 - Telephone conferences with the WRAP SSJF Projections Workgroup
 - Draft 2018 base case inventory to all affected S/L/T agencies for comment
- **Phase 2 (PRP18):**
 - 2018b inventory to S/L/T agencies (top 80% of sources for each pollutants)
 - Telephone conferences with each S/L/T agency
 - Written comments, compiled and responded to
 - Some necessary changes to 2002 base case inventory were identified

WRAP 2018 Methodology



WRAP 2018 Methodology – cont.



Post-2002 Adjustments

- **New, Retired, or Omitted Facilities**
 - On-line or retired since 2002
 - Emissions reported to the U.S. EPA CAMD database but not included in the 2002 WRAP inventory
 - Uncharacteristically high or low emissions in 2002
 - Duplicate facility record or SCC
- **PM Combustion Emission Corrections for Natural Gas and Combustion**
 - Applied at the SCC level to adjust the WRAP 2002 emissions prior to applying other factors in subsequent steps
 - Impacts are significant (92.3-95.4 percent decrease in PM₁₀-Primary and 94.2-97.2 percent decrease in PM_{2.5}-Primary)
- **Corrected CAMD EGU Facility IDs and Added Missing Records**

Post-2002 Control Factors

- **Compliance with consent decrees (CDs) resulting from enforcement of various federal regulations, such as New Source Review (NSR), Prevention of Significant Deterioration (PSD), and Title V permits, by U.S. EPA**
- **Air quality plan impacts from SIP implementation and other state programs to control air pollution:**
 - Denver Early Action Compact (EAC) Ozone Plan
 - Agricultural Best Management Practices in Maricopa County
 - Salt River SIP in Arizona
- **Public/private stakeholder agreements for improving air quality, such as the Denver Metro Emissions Reduction Project**
- **National Wood Products Initiative (VOC reductions in ID, WA, OR)**
- **National Petroleum Refinery Initiative**

Refineries in WRAP Region Subject to National Petroleum Refinery Initiative

State	EPA Region	Refinery
CO	8	Conoco (Suncor Energy) Refinery (Denver)
CO	8	Valero (Colorado Refining) Refinery (Denver)
MT	8	Exxon Mobile (Billings)
MT	8	Montana Refining (Great Falls)
MT	8	Conoco Refinery (Billings)
MT	8	Centex Harvest States (Laurel)
ND	8	BP Amoco Mandan Refinery
NM	6	Navajo Refining Artesia Refinery
NM	6	Lea Refinery
UT	8	Chevron Salt Lake Refinery
UT	8	BP Amoco Salt Lake City Refinery
WA	10	Equilon-Puget Sound Refining (Anacortes)
WA	10	ConocoPhillips (Ferndale)
WA	10	BP Cherry Point Refinery (Blaine)

EGU Growth Factor and Rate Analysis

- **Examined EIA fuel-specific electricity generation projections (Phase 1 and Phase 2)**
- **Identified needed generation**
- **How will needed generation be addressed?**
 - Unused capacity at existing 2002 facilities
 - New capacity at 2003-2004 facilities
 - Capacity under construction
 - Capacity currently being permitted
 - Future EGUs to be allocated

EGU Growth Factor and Rate Analysis – cont.

- **Electric Generating Units (EGUs)**
 - Coal-fired EGUs
 - ▣ Growth factor based on generation growth up to capacity threshold of 0.85
 - ▣ 2004 CAMD NO_x and SO₂ emission rates represented 2018 emission rates
 - Other EGUs
 - ▣ Growth factor based on generation growth up to capacity threshold:
 - 0.50 for oil/diesel-fired
 - 0.25 for simple cycle natural gas-fired turbines
 - 0.60 for combined cycle natural gas-fired

Future EGUs

Coal-fired EGUs

401.32 billion kWh (Projected 2018)

- 258.70 billion kWh (Actual 2002)

= 142.62 billion kWh (Needed)

- 16.60 billion kWh (Unused 2002)

- 0.66 billion kWh (New 2003-2004)

- 9.83 billion kWh (Under construction)

- 74.33 billion kWh (Being permitted)

= 41.20 billion kWh (Remaining to be allocated)

Requires 11, 500 MW future plants (0.85 capacity)

Future EGUs – Cont.

Natural gas-fired EGUs

- 297.89 billion kWh (Projected 2018)
- 149.12 billion kWh (Actual 2002)
- = 148.77 billion kWh (Needed)
- 29.00 billion kWh (Unused 2002)
- 60.00 billion kWh (New 2003-2004)
- 43.83 billion kWh (Under construction)
- 54.18 billion kWh (Being permitted)
- = -38.24 billion kWh (Remaining to be allocated)

Does not require any future plants

Future EGUs – Cont.

- **Allocation of future coal-fired EGUs**
 - State-level allocation based on current state-level capacity (i.e., sum of existing, under construction, and permitted)
 - County-level location based on announcements and locations of existing EGUs and associated infrastructure
- **Future EGU emission rates**
 - Based on averages of permitted emission rates collected by WRAP staff

Other Point Source Growth Analysis

- **Growth factors primarily from EGAS**
- **Oil and gas growth factors mapped to similar area oil and gas growth factors developed by ENVIRON**
- **California provided 2018 emissions through California Emission Forecasting System (CEFS)**

Other Point Source Growth Analysis – Cont.

- **Point Source Retirement/Replacement**
 - Some point sources retired after lifetime (30-60 years)
 - Primarily utility/industrial boilers and turbines, oil and gas production, cement kilns, petroleum refining
 - Coal-fired EGUs excluded
 - Retired source replaced by source of similar size
 - New replacement source will have lower controlled emissions than retired source
 - Retirement/replacement separate from growth

Area Source Growth Analysis

- **Growth factors primarily from EGAS**
- **Fuel combustion (industrial, commercial/institutional, and residential) factors from EIA projections**
- **Agricultural tilling projection factors from USDA acreage estimates**
- **California provided 2018 emissions through CEFS**

BART & Presumptive BART Limits

- Key element of Phase 2
- “Hard” BART limits for all subject sources in CO, ND, and UT and some subject sources in OR and ID
- “Presumptive” BART limit for SO₂ of 0.15 lb/MMBtu for all subject/eligible coal-fired EGUs:
 - Annual SO₂ emissions = 0.15 × 2018 heat input (MMBtu)
 - 12 EGUs (at 3 plants) either have permit limits below the presumptive BART limit, or they operated below the presumptive BART level in 2006

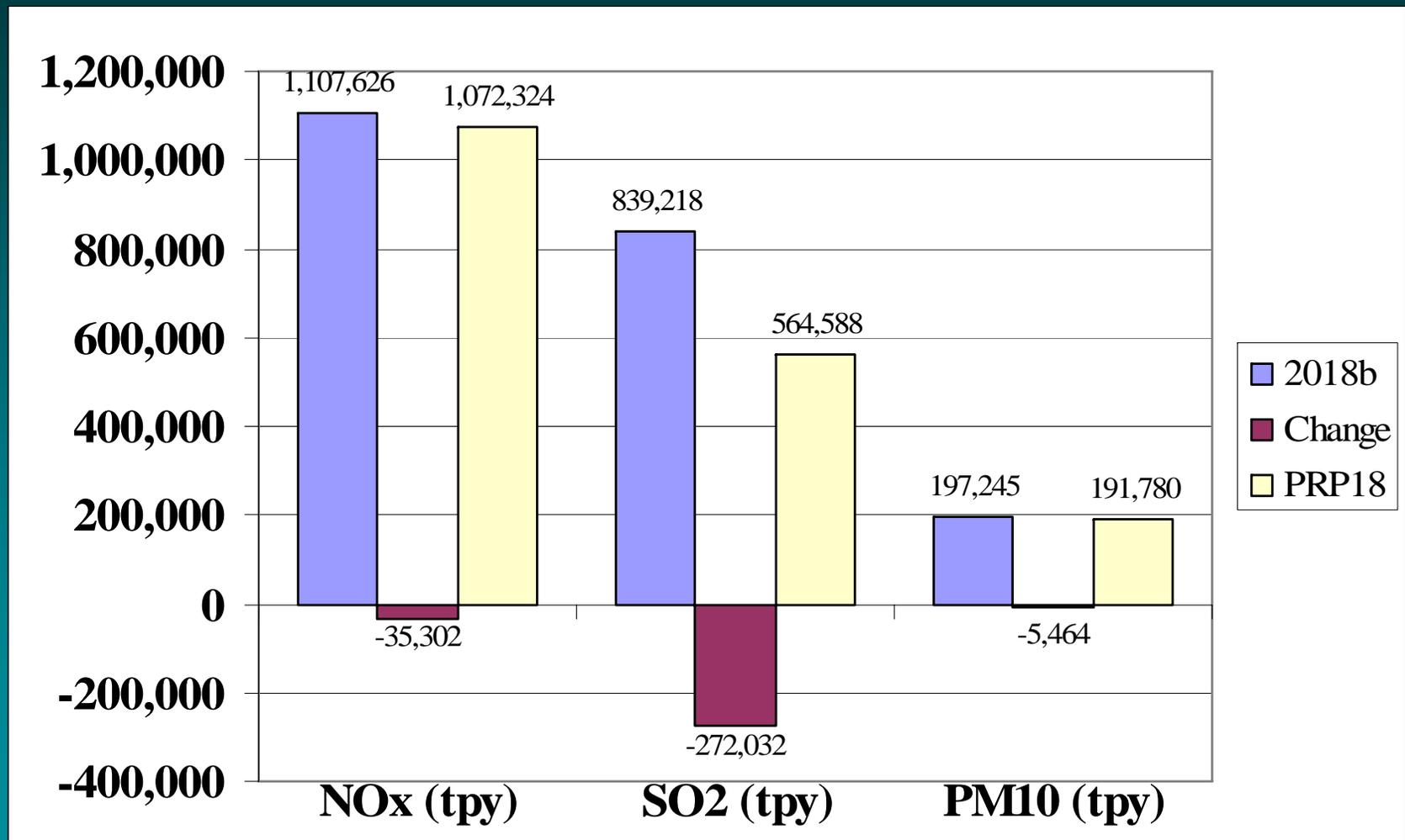
Change Due to BART in North Dakota

Facility Name and Unit	BART Limits		Changes Due to BART	
	NO _x (tpy)	SO ₂ (tpy)	NO _x (tpy)	SO ₂ (tpy)
Coal Creek – Unit 143	4,285	3,781	-901	-10,925
Coal Creek – Unit 144	4,104	3,621	-1,837	-9,017
Leland Olds – Unit 121	2,661	3,578	-150	-13,744
Leland Olds – Unit 122	5,904	3,205	-4,646	-30,326
M.R. Young – Unit 152	3,857	2,571	-5,214	-17,426
M.R. Young – Unit 152	6,392	5,661	-7,940	-4,499
R.M. Heskett – Unit 154	858	1,660	-87	-1,094
Stanton – Unit 141	1,720	1,179	-381	-5,117
Change in ND Due to BART			-21,156	-92,148
Overall Total Change in WRAP Region Due to BART			-34,267	-130,366

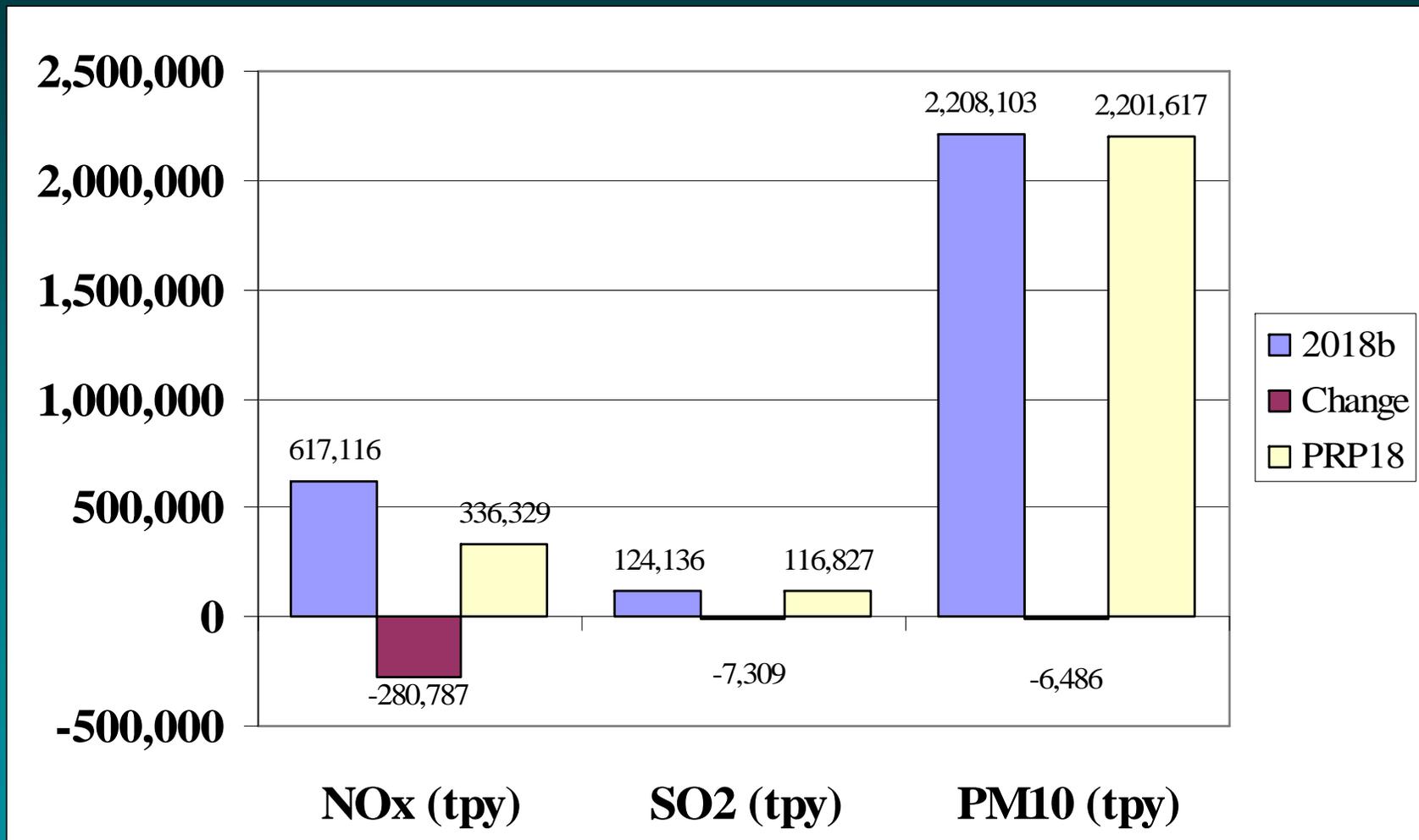
Change Due to Presumptive BART in Wyoming

Facility Name and Unit	Presumptive BART - Rate (lb/MMBtu)	2018 Heat Input (MMBtu)	Presumptive BART- Annual (tons SO ₂)
Basin Electric – Laramie River Station – Unit 1	0.15	48,061,878	3,605
Basin Electric – Laramie River Station – Unit 2	0.15	48,607,657	3,646
Basin Electric – Laramie River Station – Unit 3	0.15	44,354,715	3,327
Pacificorp – Dave Johnston – Unit 3	0.22	19,819,756	2,180
Pacificorp – Dave Johnston – Unit 4	0.15	30,030,412	2,252
Pacificorp – Jim Bridger – Unit 1	0.15	45,621,694	3,422
Pacificorp – Jim Bridger – Unit 2	0.15	43,634,528	3,273
Pacificorp – Jim Bridger – Unit 3	0.15	46,238,491	3,468
Pacificorp – Jim Bridger – Unit 4	0.15	45,075,468	3,381
Pacificorp – Naughton Power Plant – Unit 1	0.41	12,813,313	2,627
Pacificorp – Naughton Power Plant – Unit 2	0.41	16,715,747	3,427
Pacificorp – Naughton Power Plant – Unit 3	0.21	28,425,577	2,985
Pacificorp – Wyodak – Unit 1	0.32	35,685,720	5,710
Change in WY Due to Presumptive BART			-35,524 tons SO₂
Overall Total Change in WRAP Region Due to Presumptive BART			-82,229 tons SO₂

Changes Between 2018b Inventory and PRP18 Inventory - Point Sources



Changes Between 2018b Inventory and PRP18 Inventory - Area Sources



Arizona – Point Sources

State County FIPS	Facility ID	Facility Name	Emission Unit ID	Process ID	SCC	Emission Release Point ID	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY)													
All							77,738.22	94,407.68	9,466.23	33,242.90	9,893.22	1,644.24	729.29
Net Changes to 2018b Base Case Emissions Inventory (TPY)													
04001	0400100059	SALT RIVER PROJECT						15.62					
04001	040013222	TUCSON ELECTRIC POWER CO-SPRINGERVILLE					-2,322.08	-2,405.57	3.24	14.89	1,128.81	294.51	
04001	040014477	CORONADO GENERATING STATION						-9,010.46					
04001	PRJEGU03	Future Coal EGU (A)					-335.07	-223.38	-0.04	-130.31	-74.46	-19.43	
04003	0400300037	AZ ELECTRIC POWER COOPERATIVE INC					145.47	0.35					
04003	040032148	DOUGLAS LIME PLANT						784.75					
04003	040033532	AZ ELECTRIC POWER COOPERATIVE INC						-433.00					
04003	PRJEGU04	Future Coal EGU (B)					-335.07	-223.38	-0.04	-130.31	-74.46	-19.43	
04007	0400701391	PHELPS DODGE - MIAMI SMELTER						2,356.78					
04013	3316	SRP AGUA FRIA GENERATING STATION					138.66	0.40					
04013	3317	KYRENE GENERATING STATION					2.03	0.32					
04017	040171807	SNOWFLAKE PULP MILL						-62.46					
04017	0401734839	Snowflake White Mountain Power					240.00	225.00	22.00	225.00	49.00		
04017	04017447	CHOLLA POWER PLANT					-2,570.81	-11,492.51					
04019	040192869	ARIZONA PORTLAND CEMENT COMPANY						127.96					
04019	04019P1052	IRVINGTON GENERATING STATION						-4,369.42					
04021	V20621 000	Cactus Waste Systems (landfill)							12.83		-145.00		
04025	040252393	PHOENIX CEMENT						-83.57					
04025	040255992	NELSON LIME PLANT						289.21					
04027		Arizona Clean Fuels Refinery					395.54	250.66	175.16	816.96	175.71		23.80
Deleted Records							-25.58	-15.01	-1.31		-75.28	-75.28	
WRAP PRP18 Emissions Inventory (TPY)													
All							73,071.31	70,139.99	9,678.07	34,039.14	10,877.54	1,824.61	753.09

Idaho – Point Sources

State County FIPS	Facility ID	Facility Name	Emission Unit ID	Process ID	SCC	Emission Release Point ID	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY)													
All							14,048.16	25,467.31	3,060.02	38,019.05	1,741.19	643.01	1,649.87
Net Changes to 2018b Base Case Emissions Inventory (TPY)													
	16029	02900001	P4 Production LLC	10	1	30111299	10	-14,169.90					
	16051	05100017	Idaho Fresh Pak, Lewisville	10	2	10200501	10	119.91					
	16011	01100013	Idaho Supreme Potatoes	10	2	10200401	10	203.28					
Deleted Records							-1,675.35	-1,675.35	-41.37	-2,792.25	-335.07	-87.42	-31.02
WRAP PRP18 Emissions Inventory (TPY)													
All							12,372.81	9,945.25	3,018.65	35,226.80	1,406.12	555.59	1,618.78

North Dakota – Point Sources

State County FIPS	Facility ID	Facility Name	Emission Unit ID	Process ID	SCC	Emission Release Point ID	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY)													
All							92,097.99	162,704.76	2,493.21	22,589.46	4,369.38	3,051.53	522.95
Net Changes to 2018b Base Case Emissions Inventory (TPY)													
38057	12	Leland Olds Station	2	303	10100303	303	-3,634.38	-26,196.29					
38065	165	M R Young Station	B1	303	10100303	303		-17,426.15					
38057	12	Leland Olds Station	1	301	10100301	301	-114.34	-11,807.56					
38055	126	Coal Creek Station	1	302	10100302	302	-901.20	-10,924.74					
38055	126	Coal Creek Station	2	302	10100302	302	-1,837.00	-9,016.80					
38065	165	M R Young Station	B2	303	10100303	303	-7,939.86	-4,499.15					
38065	165	M R Young Station	B1	303	10100303	303	-5,213.50						
38057	125	Stanton Station	1	301	10100301	301	-380.99	-5,117.30					
38057	12	Leland Olds Station	2	223	10100223	223	-1,011.81	-4,129.84					
38057	12	Leland Olds Station	1	222	10100222	222	-36.05	-1,936.69					
38059	172	RM Heskett Station - Mandan	B2	318	10100318	318	-86.69	-1,094.05					
38057	125	Stanton Station	142	133	39000389	101		0.10					
38093		Future Coal EGU (Great River Energy)	#1	01	10100301	01	221.15	147.43	5.45	351.38	31.94	8.33	
38011		Future Coal EGU (Gascoyne/Montana Dakota Utility)	#1	01	10100301	01	586.37	247.58	32.58	977.29	84.70	22.10	
38011		Future Coal EGU (Gascoyne/Montana Dakota Utility)	#2	01	10100301	01	1,675.35	1,116.90	41.33	2,661.95	223.38	58.28	
38089		Future Coal EGU (South Heart/Great Northern Power)	#1	01	10100301	01	1,675.35	725.99	46.54	2,792.25	186.15	48.57	
Deleted Records							-5,026.05	-5,034.00	-124.10	-8,376.75	-1,005.21	-262.26	-61.07
WRAP PRP18 Emissions Inventory (TPY)													
All							70,074.33	67,760.22	2,495.01	20,995.57	3,890.34	2,926.55	461.88

Utah – Point Sources

State County FIPS	Facility ID	Facility Name	Emission Unit ID	Process ID	SCC	Emission Release Point ID	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY)													
All							96,974.44	52,952.88	13,599.53	98,373.32	18,381.76	5,812.25	2,081.94
Net Changes to 2018b Base Case Emissions Inventory (TPY)													
49007	10081	Carbon Power Plant					1.52	0.52					
49011	10119	Salt Lake Refinery						35.45					
49011	10122	Flying J Refinery (Big West Oil Co.)						-82.49					
49011	10123	Phillips Refinery						17.60					
49015	10237	Hunter Power Plant					-3,936.41	71.02			-177.00		
49015	10238	Huntington Power Plant					-2,815.16	-12,403.51			-413.00		
49015	PRJEGU22	Future Coal EGU (A)					-335.07	-223.38	-0.04	-130.31	-74.46	-19.43	
49027	10313	Cricket Mountain Plant						0.00					
49027	10327	Intermountain Generation Station					-705.10		16.90		-212.21	-55.37	
49029	10007	Devil's Slide Plant						-13.94					
49035	10335	Salt Lake City Refinery						-128.17					
49035	10355	Gadsby Power Plant					0.49	0.03					
49041	PRJEGU24	Future Coal EGU (NEVCO Energy Co.)					100.52	-683.54	-0.02	-351.82	-26.14	-6.82	
49047	PRJEGU25	Future Coal EGU (B)					-335.07	-223.38	-0.04	-130.31	-74.46	-19.43	
Deleted Records*							-9,188.88	-1,380.56	-422.97	-1,307.90	-1,926.62	-1,033.96	-31.44
WRAP PRP18 Emissions Inventory (TPY)													
All							79,761.28	37,938.52	13,193.35	96,452.98	15,477.88	4,677.26	2,050.49

Wyoming – Point Sources

State County FIPS	Facility ID	Facility Name	Emission Unit ID	Process ID	SCC	Emission Release Point ID	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY)													
All							132,115.76	145,099.58	27,541.60	60,503.77	42,819.39	19,495.90	810.87
Net Changes to 2018b Base Case Emissions Inventory (TPY)													
56001	5600100002	MOUNTAIN CEMENT CO						-2.10					
56005	5600500046	PACIFICORP_WYODAK						-2,571.03					
56005	5600500063	BLACK HILLS CORPORATION_SIMPSON 2						1.90					
56005		Future Coal EGU (Dry Fork/ Basin Electric)					785.55	1,256.88	61.27	2,356.66	188.53	49.19	
56005	PRJEGU28	Future Coal EGU (Wygen Station)					111.69	372.30	37.22	558.45	22.34	5.83	
56005	PRJEGU29	Future Coal EGU (Two Elk)					1,928.51	2,752.04	213.99	3,976.16	413.25	107.82	
56005	PRJEGU30	Future Coal EGU (A)					-335.07	-223.38	-0.04	-130.31	-74.46	-19.43	
56007	5600700001	SINCLAIR OIL CORP-SINCLAIR REFINERY						-993.84					
56009	5600900001	PACIFICORP_DAVE JOHNSTON					4.69	-8,373					
56013	00011	SANTA FE SNYDER_RIVERTON PLANT						11.40					
56013	5601300008	DEVON SFS OPERATING_BEAVER CREEK						-15.95					
56013	5601300028	BURLINGTON RESOURCES_LOST CABIN						-791.65					
56021	5602100001	FRONTIER REFINING, INC.						-672.49					
56023	5602300004	PACIFICORP_NAUGHTON POWER PLANT						-12,132.72					
56023	5602300013	EXXON SHUTE CREEK I						-2,669.73					
56025	5602500005	SINCLAIR REFINERY - CASPER						-223.32					
56029	5602900007	MARATHON OIL CO_ OREGON BASIN GAS PLANT						200.35					
56029	5602900012	HOWELL PET CORP_ELK BASIN GAS PLANT						-324.72					
56031	5603100001	BASIN ELECTRIC_LARAMIE RIVER STATION						-1,350.71					
56035	00001	EXXON -LABARGE DEHYDRATION FACILITY						-696.49					
56037	5603700002	GENERAL CHEMICAL						209.27					
56037	5603700008	UNION PAC_BRADY						-41.18					
56037	5603700022	Simplot Phosphates						-758.78					
56037	5603700048	FMC CORP_GREEN RIVER PLANT_SODIUM PROD						-57.05					
56037	5603701002	PACIFICORP_JIM BRIDGER					11.35	-11,069.69					
56037	PRJEGU32	Future Coal EGU (B)					-335.07	-223.38	-0.04	-130.31	-74.46	-19.43	
56041	5604100009	CHEVRON CARTER CREEK						-715.86					
56041	5604100012	BP AMERICA - WHITNEY CANYON						-9,171.55					
56043	5604300003	HILAND PARTNERS, LLC_HILAND GAS PLANT						-66.81					
56045	5604500001	WYOMING REFINING CO_NEWCASTLE REFINERY						313.14					
Deleted Records							-1,675.35	-1,675.35	-41.37	-2,792.25	-335.07	-87.42	0.00
WRAP PRP18 Emissions Inventory (TPY)													
All							132,612.06	95,396.08	27,812.64	64,342.19	42,959.53	19,532.47	810.86

New Mexico – Area Sources

State	SCC	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY):								
New Mexico	All	172,318.92	15,753.24	399,205.01	47,997.02	144,289.23	34,664.44	909.55
Net Changes to 2018b Base Case Emissions Inventory (TPY):								
New Mexico	2310000220- Oil and Gas Production: Drill rigs	-7,812.47	-16.46	0.19	1.19			
New Mexico	2310000330- Oil and Gas Production: Artificial lift	2.09	0.00	0.02	0.44			
New Mexico	2310000440- Oil and Gas Production: Saltwater disposal engines	0.47		0.03	0.07			
New Mexico	2310010100- Oil and Gas Production: Crude Petroleum Oil well heaters	-105.01	0.00		-20.95			
New Mexico	2310010200- Oil and Gas Production: Crude Petroleum Oil well tanks - flashing & standing/working/breathing			-9,303.20				
New Mexico	2310010300- Oil and Gas Production: Crude Petroleum Oil well pneumatic devices			-1,337.73				
New Mexico	2310010700- Oil and Gas Production: Crude Petroleum Oil well fugitives			1.70				
New Mexico	2310010800- Oil and Gas Production: Crude Petroleum Oil well truck loading			0.42				
New Mexico	2310020600- Oil and Gas Production: Natural Gas Compressor engines	-102,074.22	0.00	13.37	105.79			
New Mexico	2310020700- Oil and Gas Production: Natural Gas well fugitives			142.70				
New Mexico	2310020800- Oil and Gas Production: Natural Gas well truck loading			1.37				
New Mexico	2310021100- Oil and Gas Production: Natural Gas well heaters	-26,120.21	0.02		-5,484.14			
New Mexico	2310021300- Oil and Gas Production: Natural Gas well pneumatic devices			-5,969.70				
New Mexico	2310021400- Oil and Gas Production: Natural Gas well dehydrators			-27,405.66				
New Mexico	2310021500- Oil and Gas Production: Natural Gas well completion - flaring and venting	-2,113.26	0.00	-103,801.36	-531.34			
New Mexico	2310021600- Oil and Gas Production: Natural Gas well venting			173.19				
New Mexico	2310023000- Oil and Gas Production: Natural Gas CBM gas well - Dewatering pump engines	0.18						
New Mexico	2310030210- Oil and Gas Production: Natural Gas Liquids Gas well tanks - Flashing & Standing/Working/Breathing, Uncontrolled			-109,675.38				
New Mexico	2311000100- Construction: All Processes Wind Erosion					-586.86	-312.45	
New Mexico	2311010000- Construction: Residential Total					-90.31	-26.40	
New Mexico	2311020000- Construction: Industrial/Commercial/Institutional Total					-307.09	-89.76	
New Mexico	2311030000- Construction: Road Construction Total					-1,704.81	-498.35	
Deleted Records	All	-21.05		-70,446.56				
WRAP PRP18 Emissions Inventory (TPY):								
New Mexico	All	34,075.44	15,736.81	71,598.42	42,068.09	141,600.16	33,737.48	909.55

South Dakota – Area Sources

State	SCC	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY):								
South Dakota	All	7,206.93	11,667.18	50,072.09	25,112.44	226,750.11	48,648.35	502.02
Net Changes to 2018b Base Case Emissions Inventory (TPY):								
South Dakota	2103002000- Commercial/Institutional Bituminous/Subbituminous Coal Combustion	20.57	36.13	0.16	11.74	17.07	15.10	
South Dakota	2199003000- Total Area Source Lignite Coal Combustion	10.01	34.73	1.77	3.53	16.48	0.42	
South Dakota	2310000220- Oil and Gas Production: Drill rigs	-24.50	-0.05	0.00	0.00			
South Dakota	2310010100- Oil and Gas Production: Crude Petroleum Oil well heaters	-3.73			-0.75			
South Dakota	2310010200- Oil and Gas Production: Crude Petroleum Oil well tanks - flashing & standing/working/breathing			-327.23				
South Dakota	2310010300- Oil and Gas Production: Crude Petroleum Oil well pneumatic devices			-15.86				
South Dakota	2310020600- Oil and Gas Production: Natural Gas Compressor engines	-413.42						
South Dakota	2310021100- Oil and Gas Production: Natural Gas well heaters	-64.13			-13.47			
South Dakota	2310021300- Oil and Gas Production: Natural Gas well pneumatic devices			-14.64				
South Dakota	2310021400- Oil and Gas Production: Natural Gas well dehydrators			-28.19				
Deleted Records		-2,283.97	-7,653.62	-10.54	-1,042.48	-2,707.52	-506.67	-6.23
WRAP PRP18 Emissions Inventory (TPY):								
South Dakota	All	4,447.75	4,084.37	49,677.55	24,071.02	224,076.14	48,157.20	495.80

Wyoming – Area Sources

State	SCC	NO _x	SO ₂	VOC	CO	PM ₁₀	PM _{2.5}	NH ₃
WRAP 2018b Base Case Emissions Inventory (TPY):								
Wyoming	All	79,196.38	23,109.16	436,884.86	34,463.27	45,027.21	12,435.80	514.06
Net Changes to 2018b Base Case Emissions Inventory (TPY):								
Wyoming	231000220- Oil and Gas Production: Drill rigs	-7,409.92	-15.61	1.11	10.11			
Wyoming	2310010100- Oil and Gas Production: Crude Petroleum Oil well heaters	-129.28			-25.86			
Wyoming	2310010200- Oil and Gas Production: Crude Petroleum Oil well tanks - flashing & standing/working/breathing			-11,333.92				
Wyoming	2310010300- Oil and Gas Production: Crude Petroleum Oil well pneumatic devices			-1,194.27				
Wyoming	2310020600- Oil and Gas Production: Natural Gas Compressor engines	-32,726.73		1.27				
Wyoming	2310021100- Oil and Gas Production: Natural Gas well heaters	-15,651.28			-3,286.77			
Wyoming	2310021300- Oil and Gas Production: Natural Gas well pneumatic devices			-3,573.35				
Wyoming	2310021400- Oil and Gas Production: Natural Gas well dehydrators			-194,892.25				
Wyoming	2310021500- Oil and Gas Production: Natural Gas well completion - flaring and venting	-2,623.83		-128,942.59	-659.71			
Wyoming	2310023000- Oil and Gas Production: Natural Gas CBM gas well - Dewatering pump engines	-898.56						
Wyoming	2310030210- Oil and Gas Production: Natural Gas Liquids Gas well tanks - Flashing & Standing/Working/Breathing			-62,397.73				
Wyoming	2310030220- Oil and Gas Production: Natural Gas Liquids Gas well tanks - Flashing & Standing/Working/Breathing			-1,466.57				
WRAP PRP18 Emissions Inventory (TPY):								
Wyoming	All	19,756.77	23,093.55	33,086.56	30,501.05	45,027.21	12,435.80	514.06

Next Steps

- **Address comments received from the S/L/T agencies on the draft PRP18**
- **Develop SMOKE/IDA and submit WRAP RMC**
- **Develop new ‘pivot tables’ for access by the S/L/T agency; use in visibility SIPs**
- **Develop NIF files and post to WRAP EDMS for easy access via the Internet**
- **Late 2007 or early 2008**
 - Update 2000-2004 baseline EI and modeling analysis
 - Final Reasonable Progress (2018) EI and modeling analysis

For More Information

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