



UTAH OZONE SIP

Overview and Schedule



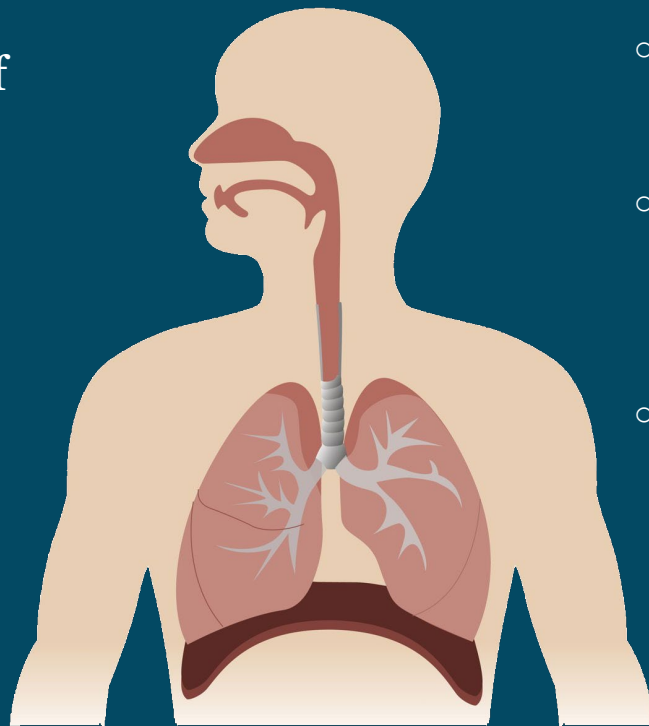
UTAH DEPARTMENT of
ENVIRONMENTAL QUALITY
**AIR
QUALITY**

Agenda

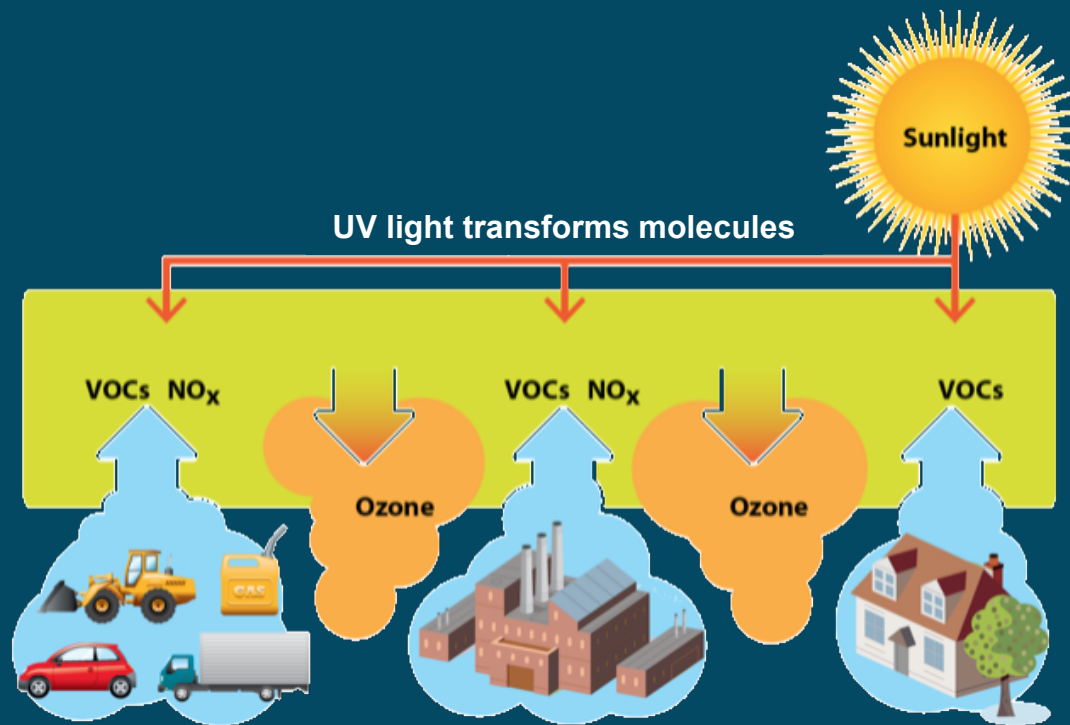
1. SIP Overview and Strategy
2. Detailed Timelines
3. RACT Requirements
4. Modeling Inventory
5. Reasonable Further Progress
6. International Transport

Ozone Health Effects

- Wheezing and shortness of breath
- Coughing and sore or scratchy throat
- Inflames and damage the airways
- Causes (COPD)



- Aggravates lung diseases
- Makes the lungs more susceptible to infection
- Continues damaging lungs even when symptoms have disappeared

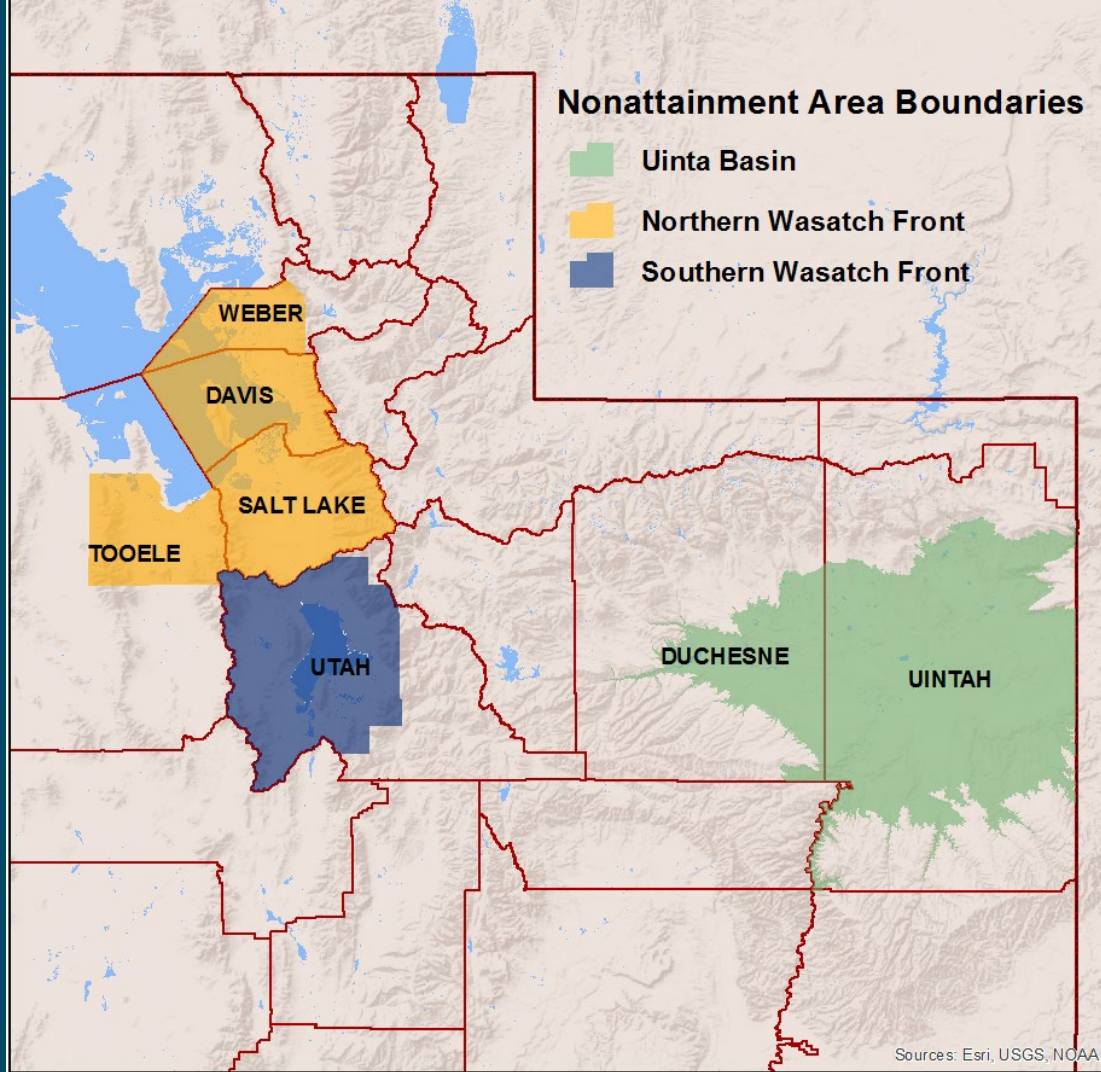


Volatile Organic Compounds + Nitrogen Oxides

Background for Ozone

- EPA standard set at 70 parts per billion in 2015
- Air quality data led to EPA designation of three areas in Utah as nonattainment
- Effective August 3, 2018

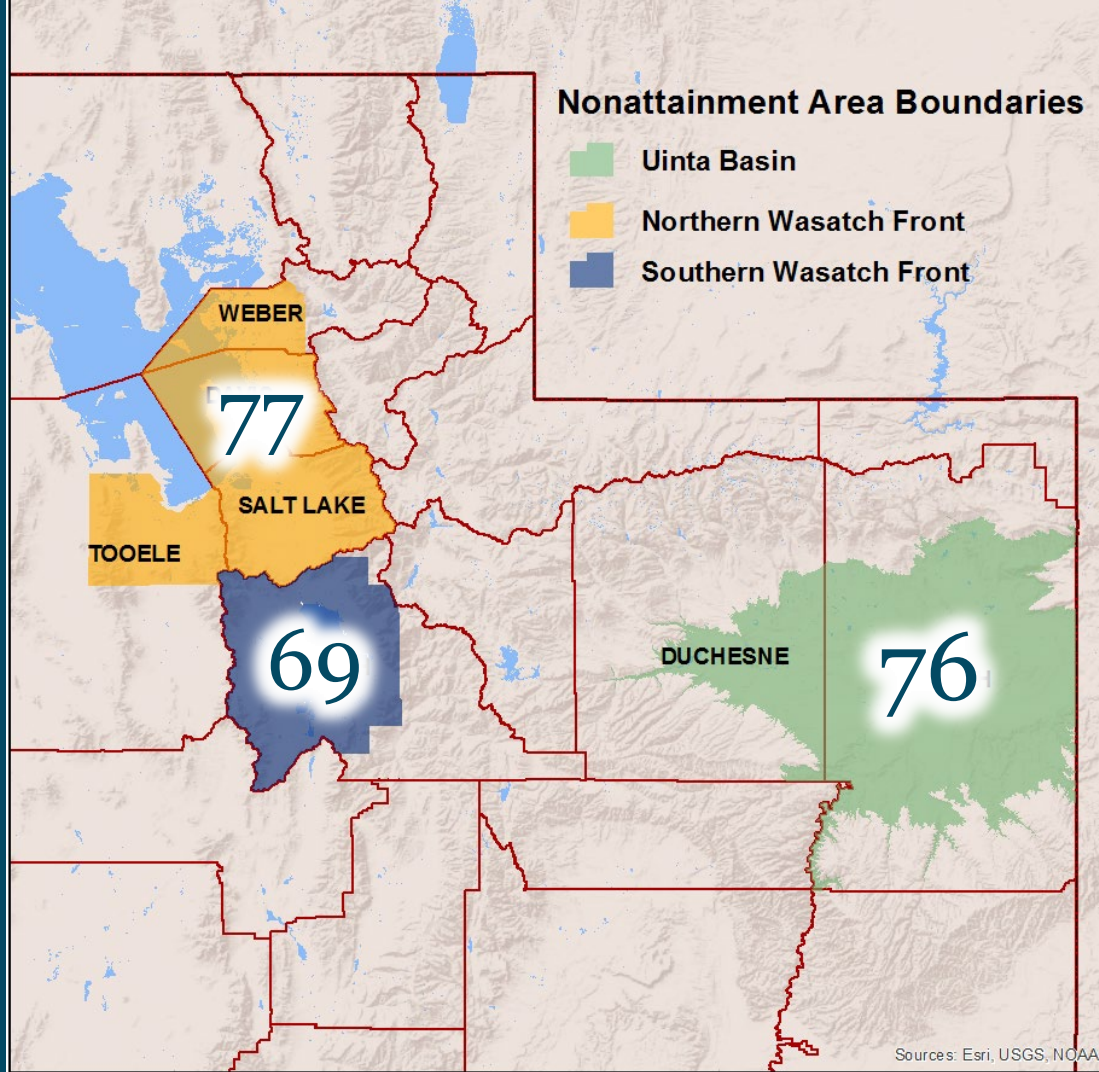
Ozone Nonattainment Areas



Design Value

- Current Standard: 70 ppb
- Design Value: Three-year average of the 4th highest 8-hour average monitored value
- Current attainment deadline: August 2021 (to be based on data from 2018, 2019, & 2020)

Design Values 2018-2020*



*2020 data is not quality assured

CURRENT MARGINAL NONATTAINMENT REQUIREMENTS

Marginal Nonattainment Requirements

New Source Review

- Applicable within one year of designation
- Applies to:
 - ✓ New major sources with emissions of 100 tons per year (tpy) of NO_x or VOCs
 - ✓ Existing sources with an increase of 40 tpy of NO_x or VOCs
- Must meet Lowest Achievable Emissions Rate (LAER) and obtain emission reduction offsets from elsewhere within the nonattainment area at a ratio of 1 to 1.1

Marginal Nonattainment Requirements

General Conformity

- Applies within one year of designation
- Federal projects cannot cause or contribute to a NAAQS violation, increase the frequency or severity of any existing NAAQS violation or delay timely attainment of NAAQS or emission reduction goal

Marginal Nonattainment Requirements

Transportation Conformity

- Applies in areas with populations greater than 200,000 so not applicable to the Uinta Basin

Emissions Inventory

- Required within two years of designation date that includes all emission sources within the nonattainment area for a specific base year

Must achieve attainment within three years

- August 3, 2021

Current Planning Timeline



What Happens if an Area Does Not Attain the Standard by 2021

Bumped up to Moderate

- Major Sources (threshold still 100 tpy)
 - ✓ offsets increase to 1:1.15
- RACT for NO_x and VOC major sources
- Reasonable Further Progress
 - ✓ 15% reduction in VOC emissions
- Control Techniques Guidelines for VOC sources

What Happens if an Area Does Not Attain the Standard by 2021

Bumped up to Moderate

- State Implementation Plan / Attainment Demonstration
 - ✓ State develops plan
 - ✓ Require modeling to show that reductions from controls will result in attainment
 - ✓ Show attainment by August 2024

REASONABLY AVAILABLE CONTROL TECHNOLOGY REQUIREMENTS

RACT Requirements

Ozone Implementation Rule

- Rule §51.1312 “*Requirements for reasonable available control technology (RACT) and reasonably available control measures (RACM)*”
- Requires states to adopt RACT for all major sources of VOCs and NO_x
- Major sources defined as any source with PTE ≥ 100 tpy of NO_x or VOCs

RACT Timeline



- Inventory
- Modeling
- Control Strategy Development
- **RACT Analyses Due March 31, 2021**

Bumped up to Moderate

Draft SIP for Public Comment

- SIP Due
- **RACM/RACT Implemented**

Attainment Deadline

Source Specific RACT Requirements

Wasatch Front Major Sources

- Major sources have evaluated Best Available Control Technology (BACT) for NO_x and VOCs emissions sources as part of $\text{PM}_{2.5}$ Serious SIP
- $\text{PM}_{2.5}$ Serious SIP BACT analyses satisfy the requirements for RACT under the Ozone SIP
- RACT analysis not required for most sources
 - Refineries exception

Source Specific RACT Requirements

Wasatch Front Refineries

- Refineries were evaluated as part of the PM_{2.5} Serious SIP
- Loading racks were not included in the analyses since these were considered separate sources
- Recent permitting actions have since established the refinery and loading racks are considered one stationary source
- RACT analyses required for loading racks

Source Specific RACT Requirements

Uinta Basin Major Sources

- Compressor stations
- RACT analysis will be required
- These sources have not been evaluated as part of a SIP, so DAQ expects RACT will have an impact

Source Specific RACT Requirements

Major Sources Impacting the Nonattainment Area

- DAQ is soliciting RACT analyses from sources impacting Wasatch Front and Uinta Basin NAAs
- These sources were not included in the PM_{2.5} Serious SIP
- §51.1312(c)

“... other control measures on sources of emissions of ozone precursors located outside the nonattainment area, or portion thereof, located within the state if doing so is necessary or appropriate to provide for attainment of the applicable ozone NAAQS in such area by the applicable attainment date”

Source Specific RACT Requirements

Major Sources Impacting the Nonattainment Area

- RACT at these sources will only be considered if attainment cannot be demonstrated with controls within the nonattainment area
- RACT requirements will only be determined after attainment modeling is completed in late 2021 or early 2022
- Why now? Timing
 - By the time DAQ completes the model, it may be too late to request RACT analysis from sources outside the NAA and meet EPA's SIP deadline

RACT versus BACT

RACT

- The lowest emissions limitation a source is capable of meeting by application of reasonably available control technology
- Considers technological and economic feasibility
- Less stringent than BACT

BACT

- Most sources have already undergone BACT analyses as part of permitting (required in R307-401-8)

RACT versus BACT

DAQ Anticipates RACT Analyses Will Only Impact:

- Equipment permitted under older AOs
- Grandfathered equipment
- Recently promulgated rules or standards may be more stringent than BACT for a previously authorized facility

RACT versus BACT

RACT analyses will have same components as BACT:

- Available control technologies
- Expected control efficiencies
- Technical feasibility of each control
- Economic evaluation of technically feasible options
- Energy and environmental impacts
- Proposed RACT

RACT Submittals

RACT Submittals Due March 2021

- List of submittal requirements included in letter
- Economic analysis based on 2017 actual emissions
- All emission units of NO_x or VOCs must be considered

RACT Evaluation

DAQ RACT Evaluations

- DAQ will evaluate RACT submitted by sources and determine appropriate limitations
- DAQ limits will either be a source-specific limit or a rule-based limit
- DAQ RACT evaluations will include a review of:
 - EPA's RACT/BACT/LAER Clearinghouse
 - EPA's Control Techniques Guidelines
 - Federal regulations
 - Other state regulations and permits

RACT and Emissions Inventory

- DAQ will work with sources to develop the emissions inventory for the SIP model
 - Baseline: 2017
 - Projection Year: 2023
- DAQ currently working on workbooks
 - Starting with PM_{2.5} SIP workbooks and/or 2017 emission inventory data
 - Projections will be based on Kem Gardner growth data
- Workbooks will account for RACT and future projects

Offsetting Requirements for Ozone NAA

- Applies to major NO_x and VOCs sources and significant increases to major sources

Offset Ratios Ozone NAAs

Moderate areas	1.15 : 1
Marginal areas	1.1 : 1

- Uinta Basin ERC Rule
 - EPA published Advance Notice of Proposed Rulemaking in July 2019
 - Proposed rule in progress, publish date unknown

REASONABLE FURTHER PROGRESS & INTERNATIONAL TRANSPORT

Reasonable Further Progress (RFP)

- RFP requires a 15% reduction in VOCs
- Reductions can come from multiple sources
 - RACT
 - RACM for area sources
 - Mobile sources
 - Reductions from other clean air programs

International Transport

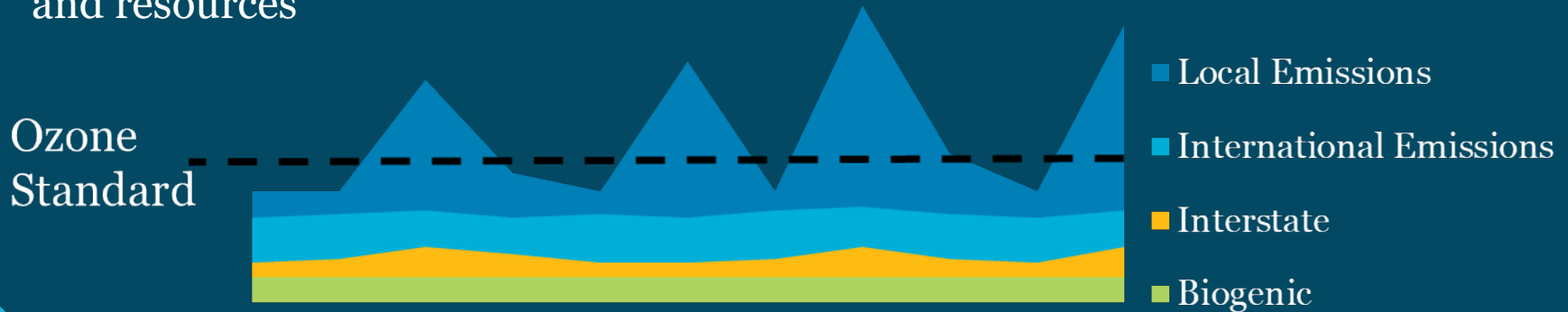
Section 179B of the Clean Air Act allows states with ozone nonattainment areas to demonstrate that the area would comply with the air quality standard “but for emissions emanating from outside of the United States.”

International Transport Draft Guidance

A successful demonstration would show a greater influence from international emissions on exceedance days than on non-exceedance days

Demonstrations should show a “proportionally large” effect from international emissions compared to local emissions

Demonstrations for non-border states would require additional technical rigor and resources



*This graph is made up for illustrative purposes only. None of the data are real.

International Transport Options

Prior to 2021 Attainment Deadline

- Marginal requirements still apply
- Avoid bump-up to Moderate

Part of a Moderate SIP Attainment Demonstration

- SIP elements still required
- Not required to model attainment
- If approved, avoid bump-up to Serious

Questions/Discussion

Ozone SIP Coordinators

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New Source Review

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<https://deq.utah.gov/air-quality/reasonably-available-control-technology-ract-process-moderate-area-ozone-sip>