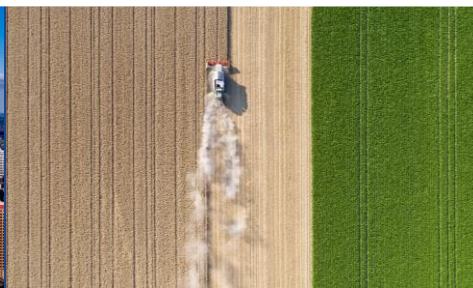


# Kickoff for the 2022 Regulatory Emissions Modeling Platform

National Emissions Collaborative

August 2, 2023



# Why Do We Need a New National Emissions Modeling Platform

- State Implementation Plans (SIPs) and regulatory air quality modeling
- Need for a new, contemporary base year for modeling
- There are issues with using the triennial 2020 and 2023 National Emission Inventories
- 2022 was generally a good base year for modeling

## Emissions Modeling Platform (EMP)

The full set of emissions inventories, other data files, software tools, and scripts that process the emissions into the form needed for air quality modeling.

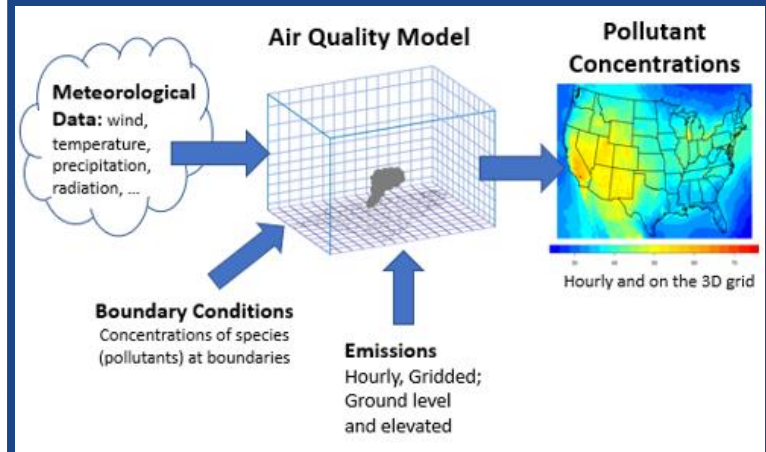
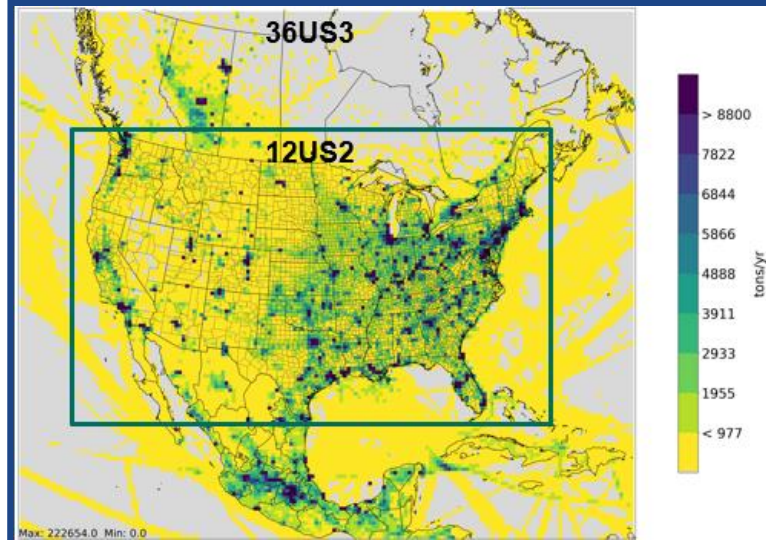
# 2022 EMP Expected Uses

- 2015 Ozone NAAQS SIP modeling
  - Serious nonattainment area SIPs are due in early January 2026 and the analytic year needed is 2026
  - Areas that do not attain by August 2027 will be reclassified to severe and will require an analytic year of 2032
- Regional Haze 3rd Implementation Period
  - SIPs are due summer of 2028 and require an analytic year of 2038
- EPA regulatory and non-regulatory analyses



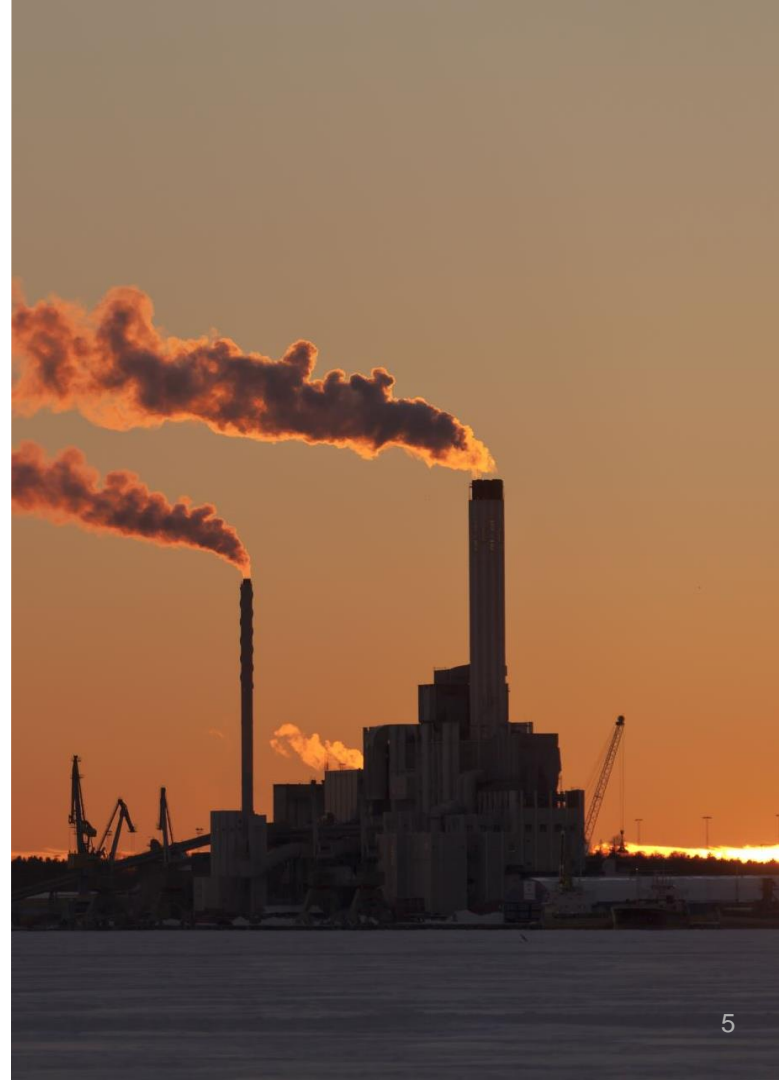
# 2022 EMP Contents

- Year 2022 meteorological data for modeling on 36-km and 12-km national grids
- Boundary conditions (concentrations)
- Emissions inventories for base year 2022 and projections 2026, 2032, and 2038
  - Data/scripts/software to process emissions inventories into air quality model inputs
- Air quality model-ready emissions for each modeling grid
- Eventually, air quality model outputs for selected cases



# 2022 EMP Collaborative

- Co-leads
  - Zac Adelman (LADCO), Mary Uhl (WESTAR), and Alison Eyth (EPA OAQPS)
- Communication support
  - Tom Richardson (OK DEQ) and Tom Moore (Denver/NFR RAQC)
- Coordination Committee
  - 28 members from MJOs, state agencies, and US EPA staff from OAQPS, OTAQ, and CAMD
  - Monthly calls
  - Quarterly outreach webinars
- Workgroups
  - Some 2022-specific workgroups will be needed, e.g., fire and projections
  - Leverage existing national emissions workgroups



# Comparison of the 2016 and 2022 Collaboratives

Feature	2016	2022
Application	Ozone attainment plans, visibility progress plans, EPA rulemaking	
Coverage	US, Canada and Mexico	
Participants	US EPA, MJOs, state/local/tribal air agencies, FLMs for fires	US EPA, MJOs, state/local/tribal air agencies, FLMs for fires, other stakeholders
Starting Inputs	2014 & 2017 NEI + 2016 data	2020 NEI + available 2022 data
# of Iterations	3 (alpha, beta, v1)	2 (v1, v2)
Workgroups	12	5-6
Scope	Data collection, review, development	Mostly data reviews, limited data collection
Milestones	Data packages with detailed documentation	State/local/tribal agency review by jurisdiction
Final Documentation	<a href="#">Manuscript</a> <a href="#">TSD</a> <a href="#">Specification Sheets</a>	Available in 2025

# 2022 EMP Development

- Two major versions planned:
  - 2022v1 base year by Summer 2024
  - 2022v1 analytic years by Fall 2024
  - 2022v2 base year by Summer 2025
  - 2022v2 analytic years by Fall 2025



# 2022v1 Data Elements

- 2022 point source data from S/L/T submittals plus augmented toxics
  - Type A (larger) point sources due December 31, 2023
  - S/L/Ts may submit additional sources smaller than type A
  - Submitting any closures is important, non-closed sources submitted in 2020 or 2021 are presumed to be operating
- US EPA will develop 2022-specific emissions for onroad, nonroad, commercial marine vessels, major airports, biogenic, oil and gas, and fires
  - S/L/T data will be requested for fire and onroad mobile activity data (optional)
  - Data for other sources (e.g., most nonpoint) will be derived from 2020 NEI data (adjusted for some sectors)

## NEI 2020 Documentation and Data

View the [2020 NEI now on the U.S. EPA webpage](#). Including a new interactive 2020 NEI Data Retrieval Tool.

A similar tool may be used by the 2022 Collaborative for data reviews



# Projecting Analytic Year Emissions

- The Collaborative will develop analytic year inventories for 2026, 2032, and 2038 for ozone and haze planning, etc.
- A Projections Workgroup will review, develop, or recommend methods for developing analytic year emissions for all sectors

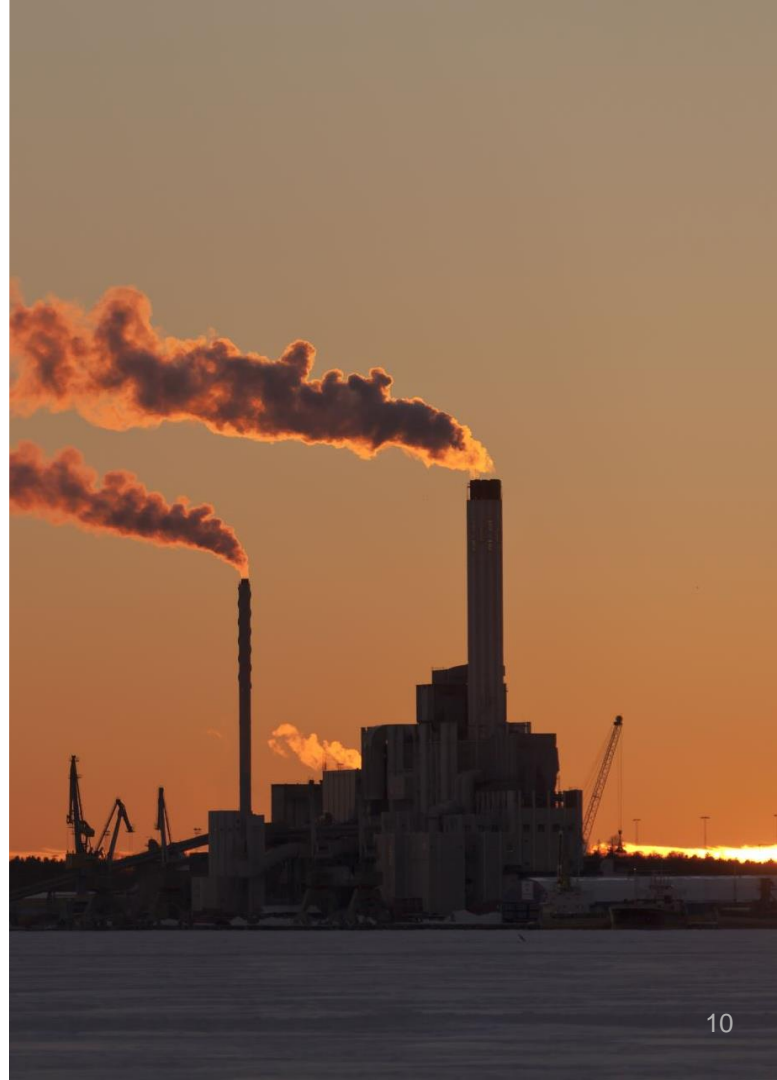
## **Important**

S/L/Ts should determine if the impacts on emissions of on-the-books federal, state and local regulations and any other planned modifications between base and analytic years (e.g., new control devices) are accurate for their jurisdictions

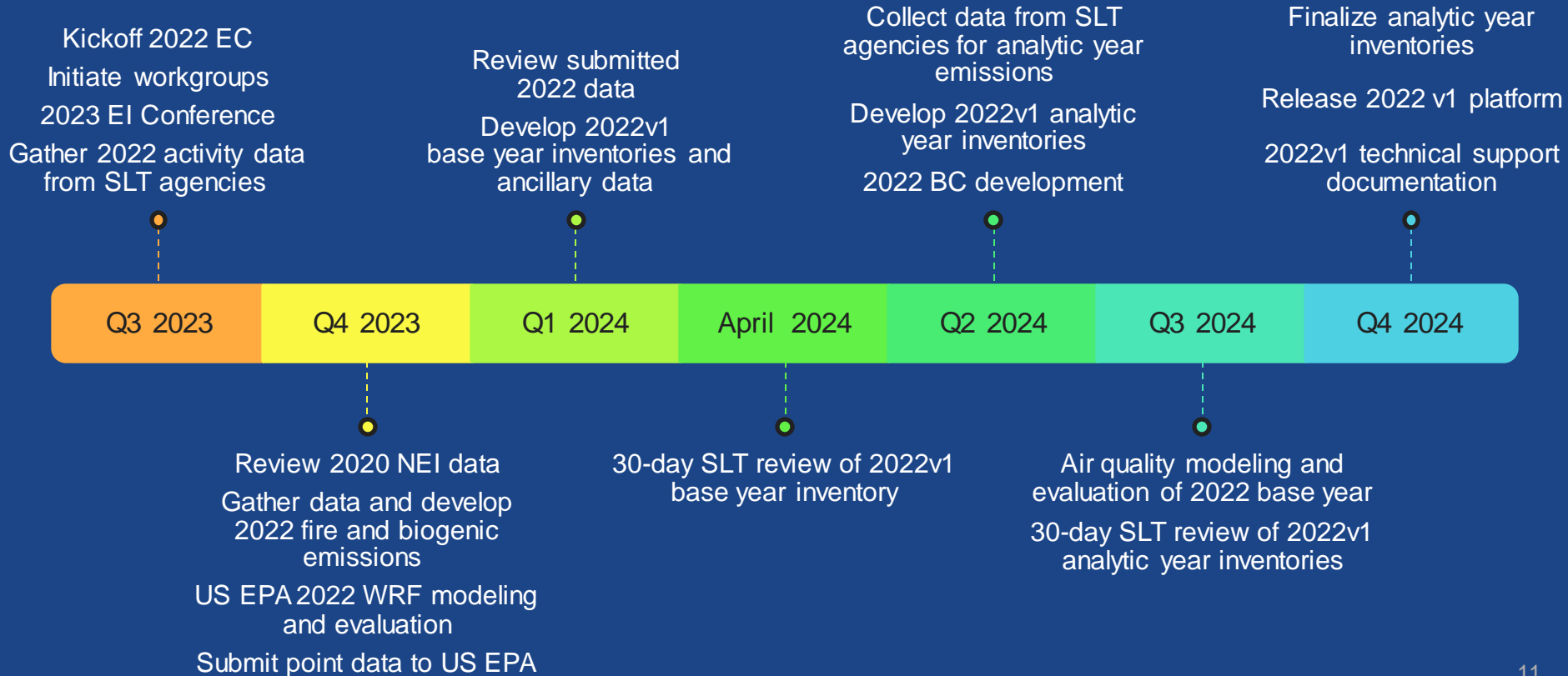


# Expected Differences Between 2022v1 and 2022v2

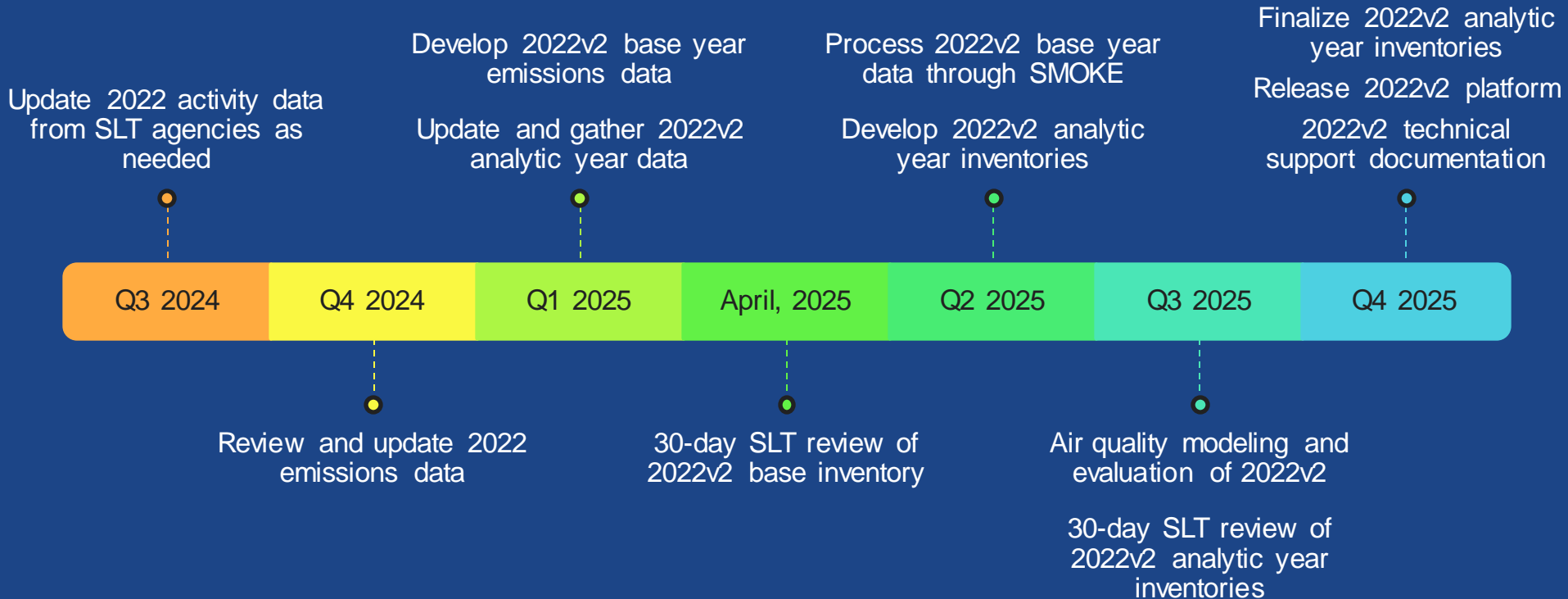
- 2022v2 will address issues identified during the use of 2022v1
- MOVES4 will be used in 2022v1 and MOVES5 will be used in 2022v2
- 2022v2 point source data will have been updated through the AirToxScreen S/L/T review process
- Some data may be incorporated into 2022v2 from the 2023NEI process and related efforts
  - Review 2022v2 to determine if 2023 NEI data are representative of 2022 emissions
  - Projections could/would change as a result



# Timeline for 2022v1 Platform Development



# Timeline for 2022v2 Platform Development



# 2022 Platforms and Planning Timelines

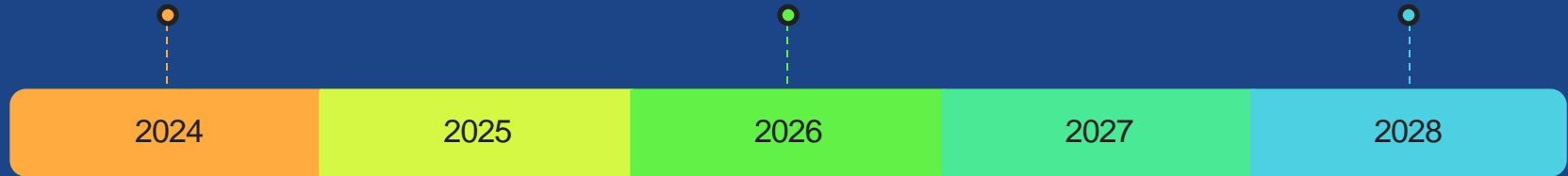
Summer: 2022v1 base year inventories

August: 2015 O3 NAAQS moderate area attainment date

Fall: 2022v1 analytic year inventories

January: 2015 O3 NAAQS Serious NAA SIPs

Summer/Fall: Haze 3rd implementation period SIPs



Summer: 2022v2 base year inventories

Fall: 2022v2 analytic year inventories

August: 2015 O3 NAAQS serious area attainment date

# 2022 EMP Workgroups

- Technical working groups are planned for fires and projections
- The Collaborative will interface with existing national emissions workgroups to encourage input to the 2022 platform and opportunities for review
- Plan to get review during the development process
- Want to leverage workgroup feedback and expertise to create data for the platform that are well-documented

## National Emissions Workgroups

- National Oil and Gas Emissions Committee (NOGEC)
- Electric Generating Unit MJO/state/EPA workgroup
- MJO MOVES workgroup for onroad and nonroad mobile sources (hosted by MARAMA)
- Commercial Marine Vessel workgroup (hosted by MARAMA)
- Residential Wood Heating Task Force (NESCAUM/NYSERDA)

# The 2022 Collaborative Fires Workgroup

- Includes wildland, prescribed, and agricultural burn emissions
- Similar to 2020NEI workgroup process
  - 3-4 total workgroup meetings
  - Python SMARTFIRE2 used for daily acres burned
  - Bluesky Pipeline (BSP) used for daily emissions
  - Draft 2022 inventory created by EPA and shared with SLTs/MJOs/others (Fall 2023)
  - Request fire activity from SLTs/others (now thru Fall 2023)
  - Feedback on draft inventory due late 2023
  - Updated 2022 inventory generated and shared (Early 2024)
  - 2022v1 fire inventory finalized (Spring 2024)
- Methodological updates to include updated emission factors and possibly pile burn emissions and SF2 Canadian fire emissions

Interested in Participating?

Reach out to Jeff Vukovich  
(vukovich.jeffrey@epa.gov)

# The 2022 Collaborative Projections Workgroup

- Review the current approach for preparing analytic year emissions for each sector
- Communicate with sector-specific workgroups about projection ideas
- Review and recommend projection methods for each sector
- Timing
  - Recruit participants and start up workgroup in August 2023
  - Make recommendations by Q1 2024 about projection approaches for each sector

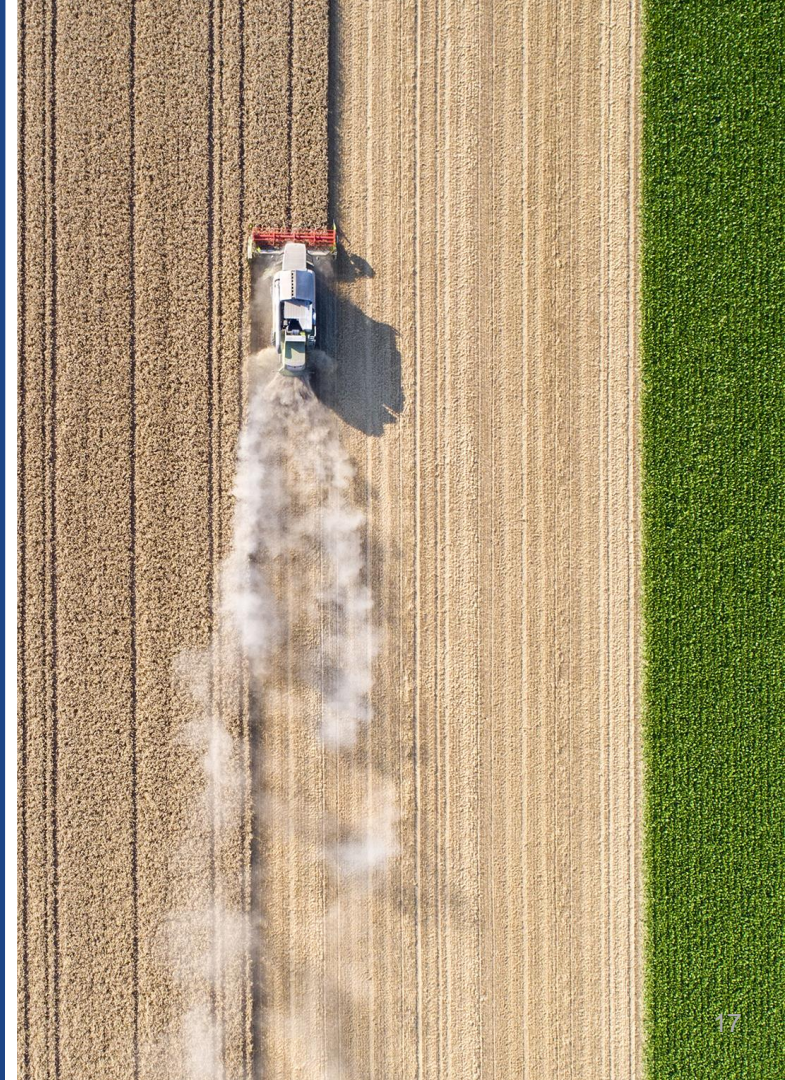
Interested in Participating?

Reach out to Zac Adelman  
([adelman@ladco.org](mailto:adelman@ladco.org))



# How Can S/L/Ts Get Involved?

- Submit high quality point source data to EIS for 2022 including closures and more than just Type A sources
- Provide data including fire and mobile source activity data and information on the impacts of recent regulations in their areas
  - Data for the 2022v1 base year emissions are needed no later than January 2024
- Participate in sector-specific workgroups
- Review the emissions data that will be used in the platform
  - April 2024: data review for 2022v1 base year
  - Summer 2024: data review for 2022v1 analytic years



# Stay Informed

- 2022EMP Wiki at Intermountain West Data Warehouse (IWDW)
- Quarterly outreach calls
  - 1st Wednesday in August, November, February, and May at 2PM Eastern
- Attend workgroup meetings
- Participate in data reviews



[2022 EMP Wiki](#)

# Rail Webinar: August 10 @ 2 EDT

EPA will host a Teams webinar to discuss the development of Rail emissions for the 2020 NEI

An inventory with some adjustments to reflect 2022 will be developed for 2022v1

Methodology for the 2023 NEI will be similar to 2020 NEI

## Teams Meeting Info

[Meeting Link](#)

Meeting ID: 245 700 918 022

Passcode: owbUZ9

[Join on the web](#)

## Call in (audio only)

+1 984-444-7480,,936316007#

Phone Conference ID: 936 316 007#

# Next Steps

- Finalize 2022 EMP Development Plan
  - Provides background and information on planned processes and procedures
  - Will become public after review by the Coordination Committee
- Projection workgroup will begin in August and fires workgroup in early fall
- Presentations and conversations will occur at the International Emissions Inventory Conference in Seattle September 26-29, 2023
  - NEW: there is an option for remote attendance for those who cannot travel

