



Freight Days

June 10, 2021

Listening to Language Interpretation

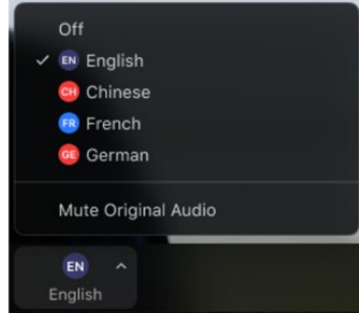
1. In your meeting/webinar controls, click **Interpretation**. It can be located at the bottom of the screen.
2. Click the language that you would like to hear. For this meeting, you will have English and Spanish as your options.
3. To only hear the interpreted language, click **Mute Original Audio**.

Windows | macOS

1. In your meeting/webinar controls, click **Interpretation**.



2. Click the language that you would like to hear.



3. (Optional) To hear the interpreted language only, click **Mute Original Audio**.

Listening to Language Interpretation

- Please call our Spanish Conference Line if you are unable to access the simultaneous translation.

Spanish Conference Call
Number:

(866) 803-2146

Passcode:

1083550

Before We Get Started

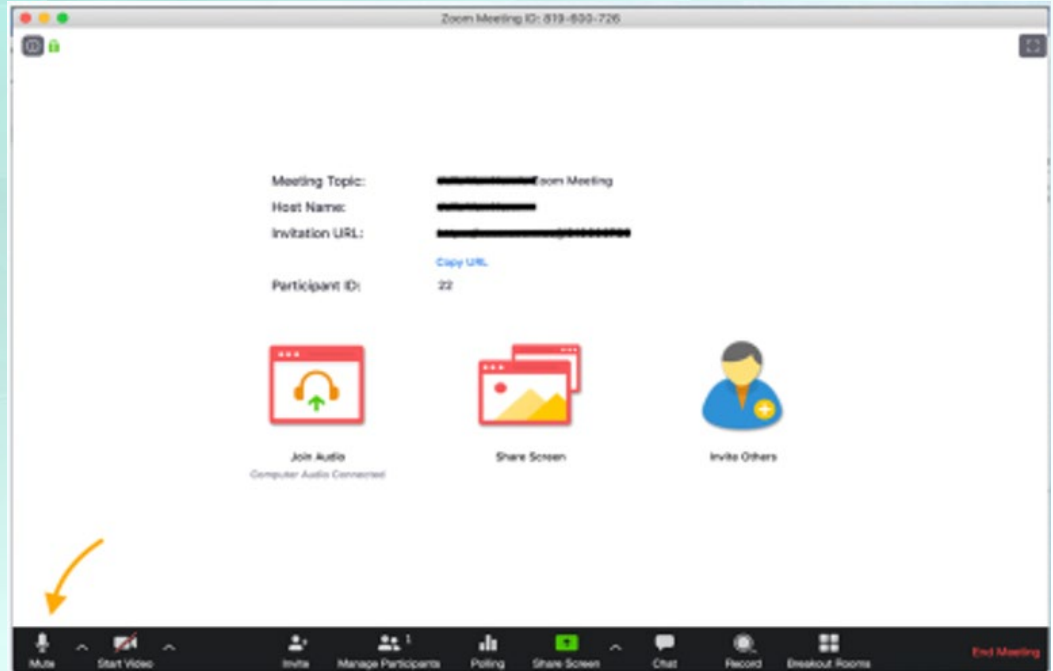
- Please **mute yourself** and make sure your name is showing as your screen name
- To **rename**, click on the top right side of your picture/video
- Use this naming convention, **First Last- Affiliation** (e.g. Jane Doe- CARB)
 - **Community Organization / Agency / Air District / Company / etc**
- **Need help?** Use the Chat function to request assistance

Zoom Orientation

Mute/Unmute

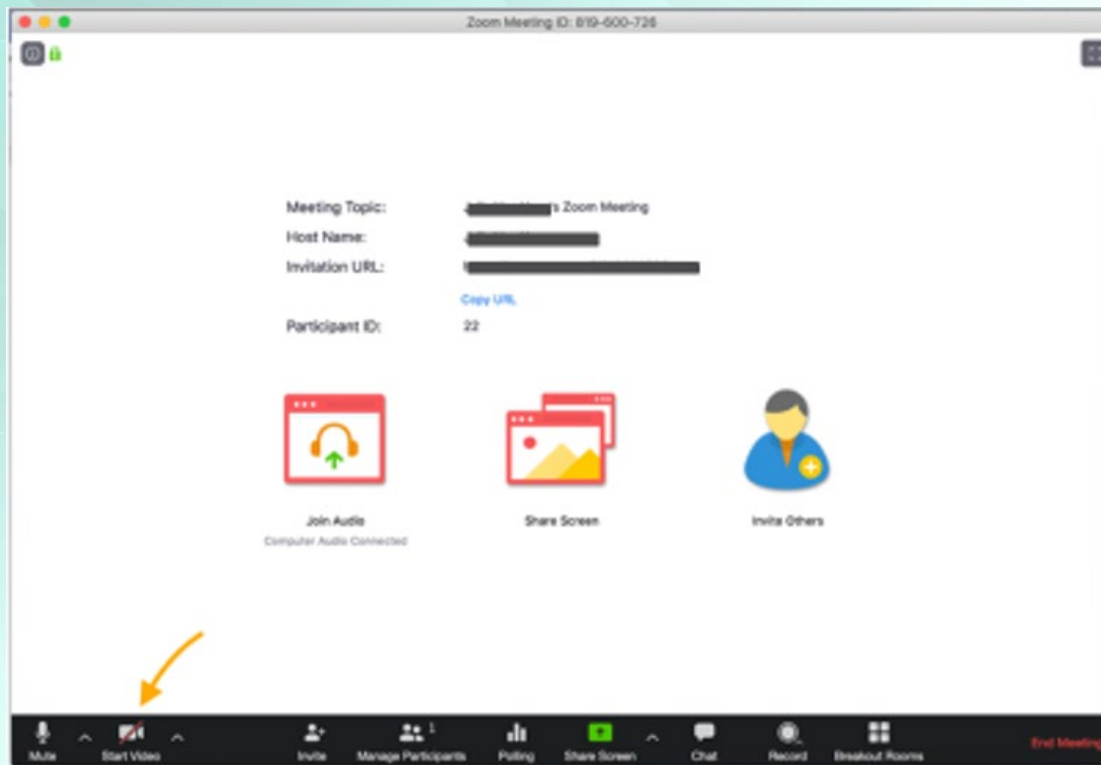
Please remain on mute unless your name has come up in the speaking queue

- Zoom: **Mute/Unmute** button at the bottom left
- Phone: Dial *6 to mute/unmute



Video

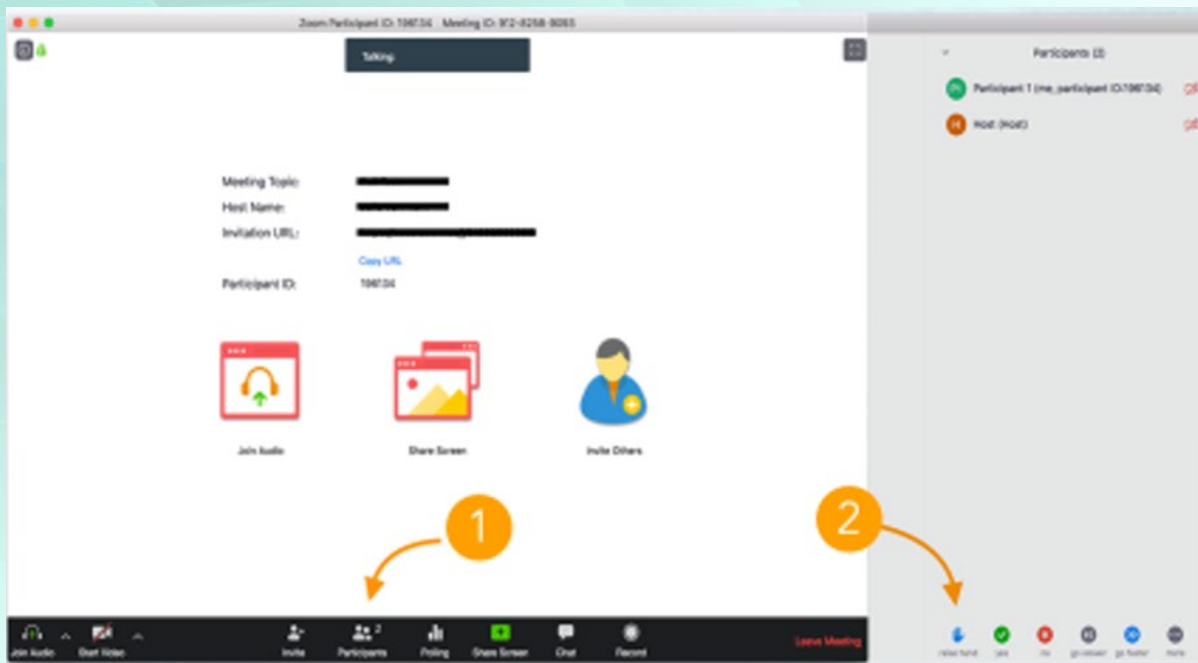
Click the camera icon at the bottom left of your screen to toggle your video on and off.



Raise Hand

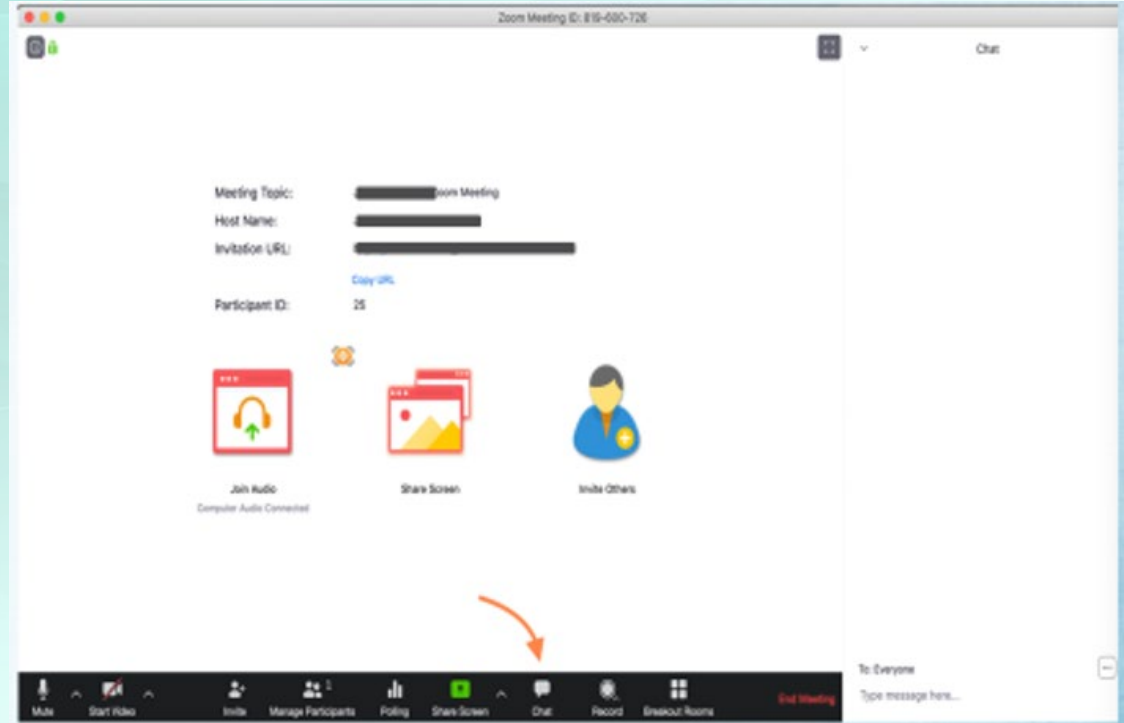
To be added to the speaking queue, please use **Raise Hand**

- Zoom: Click **Participants**, then **Raise Hand**.
- Phone: dial *9
We'll check in with the phone line periodically.



Chat

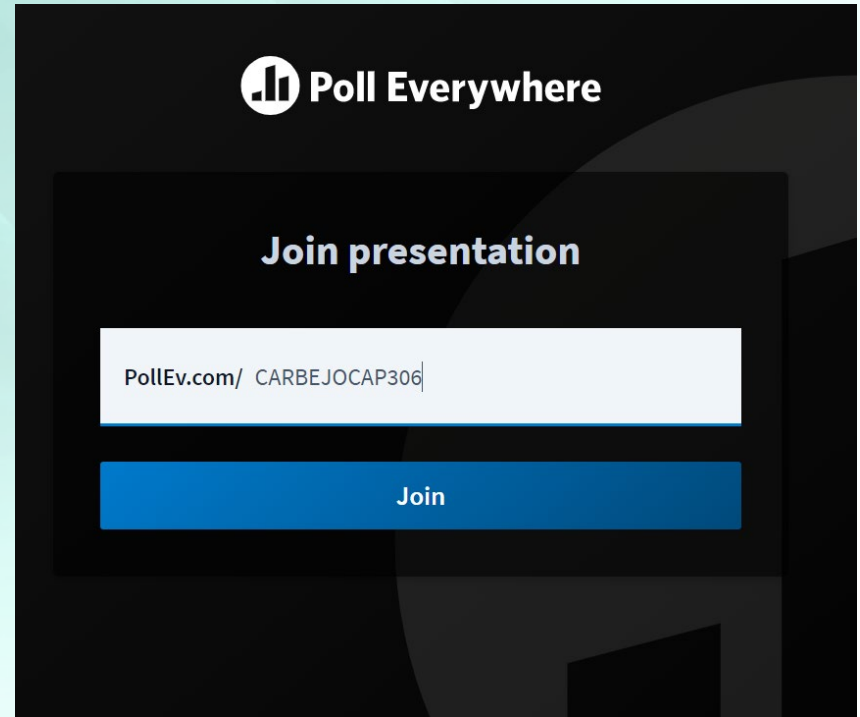
Click on the **chat** icon near the center bottom of your screen. You can choose to chat with the Host or Co-host in a “private” chat. Private chats are archived.



Poll Everywhere

Go to PollEv.com/home and enter the username: "CARBEJOCAP306" and select Join.

Or text "CARBEJOCAP306" to 22333.



The screenshot shows the Poll Everywhere website interface. At the top, there is a logo consisting of three vertical bars of increasing height inside a circle, followed by the text "Poll Everywhere". Below the logo, the text "Join presentation" is displayed. Underneath, there is a white input field containing the text "PollEv.com/ CARBEJOCAP306". Below the input field is a blue button with the text "Join".



Freight Day: Warehouses

June 10, 2021

What are Warehouses?

- Warehouses are buildings where raw materials or manufactured goods are stored before their export or distribution for sale



Warehouse Freight Emissions Sources



Transport Refrigeration Units



Drayage Trucks



Forklifts

Freight Impacts are Significant



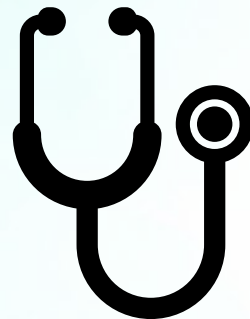
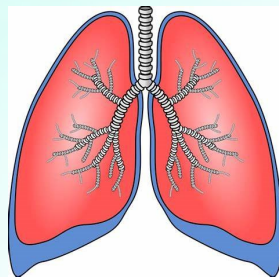
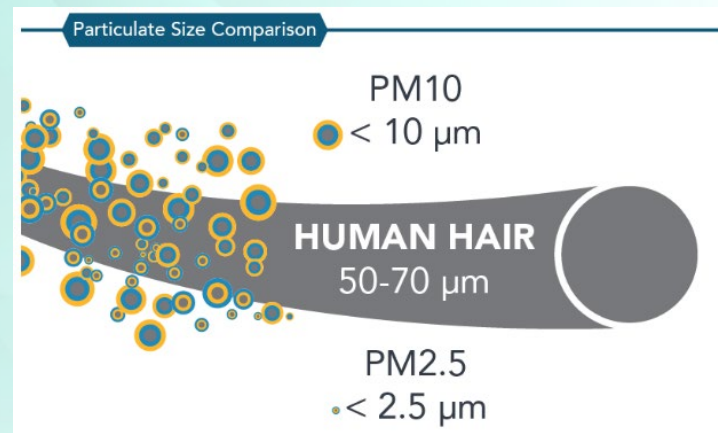
~1/2 of air pollution, ~1/3 of economy/jobs

Freight Impacts on Health:

- Elevated cancer risks in communities near hubs
- Largest contributor to unhealthy levels of regional fine particulate and ozone pollution
- Premature death, cardiac and respiratory disease

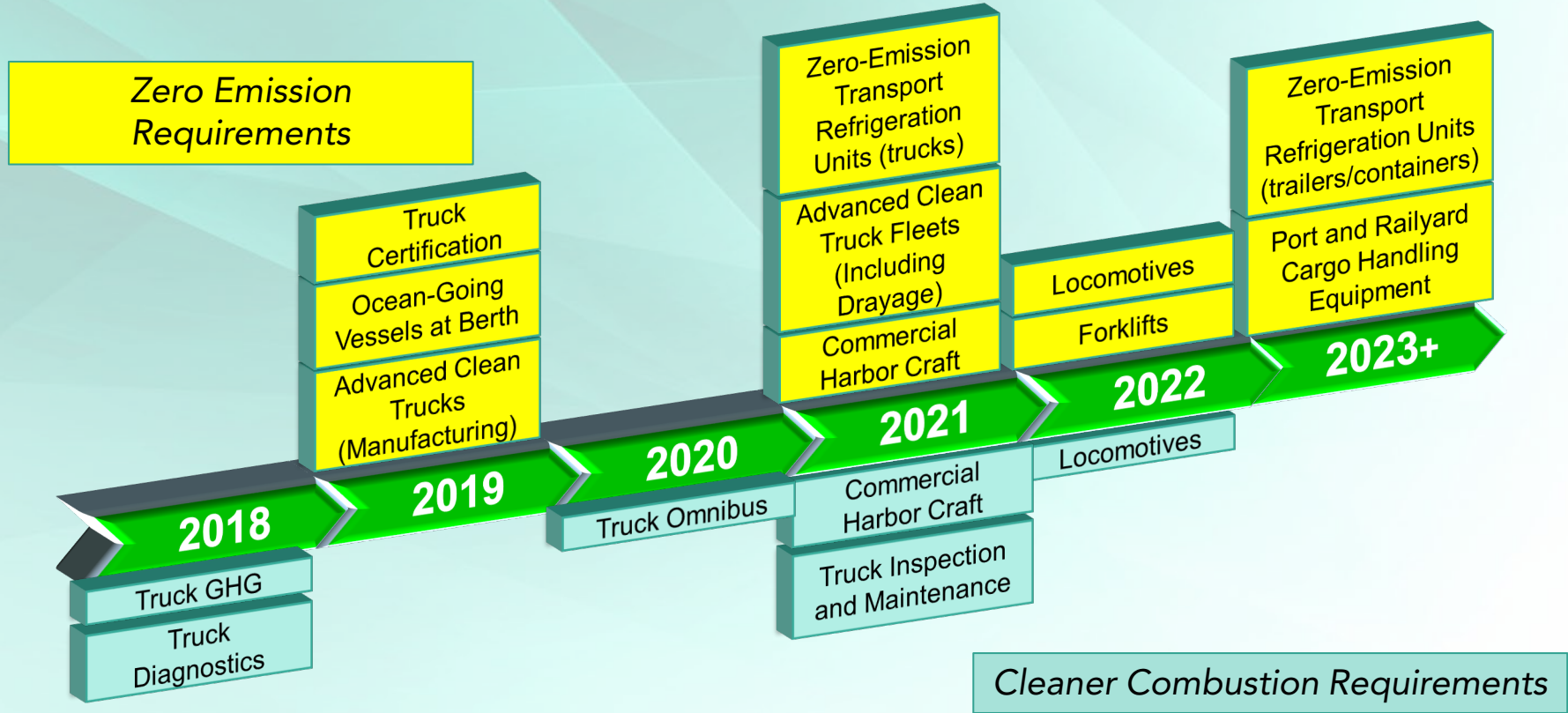
Health Impacts of PM_{2.5}

- PM_{2.5} health effects are widely studied. Exposures lead to:
 - Acute respiratory symptoms
 - Asthma exacerbations, ER visits for asthma
 - Bronchitis, chronic obstructive pulmonary disease (COPD)
 - Heart attacks
 - Nervous system effects (e.g., cognitive deficits)
 - Lost workdays
 - Premature death
- The Children's Health Study found reduced lung development from high PM_{2.5} levels.



New CARB Freight Regulatory Actions

(1st Board hearing dates shown)



How to Get More Information

- Email – Freight@arb.ca.gov
- CARB Sustainable Freight Transport Website: <https://ww2.arb.ca.gov/our-work/programs/sustainable-freight-transport>
- SCAQMD ISR Website: <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures>



Freight Day - Airports

June 10, 2021

Airport Emissions Sources

- Aircraft jet engines
- Auxiliary power units (APU)
- Airport ground transport
 - Ground support equipment (cargo loaders, ground power units, aircraft tugs, etc.)
 - Airport shuttles



What is the Future for Emission Reduction?

- Further evaluate federal, State, and local authority in setting requirements for aircraft/airports
- Work closely with the U.S. EPA and FAA on more stringent aircraft engine and fuel emission standards
- Work with airports, airlines, and stakeholders to evaluate and develop incentive programs
- Pursue stricter emission reduction strategies

Public Engagement

- Workshops
- Community meetings
- Meetings with CARB staff
- Comment letters
- Board hearings



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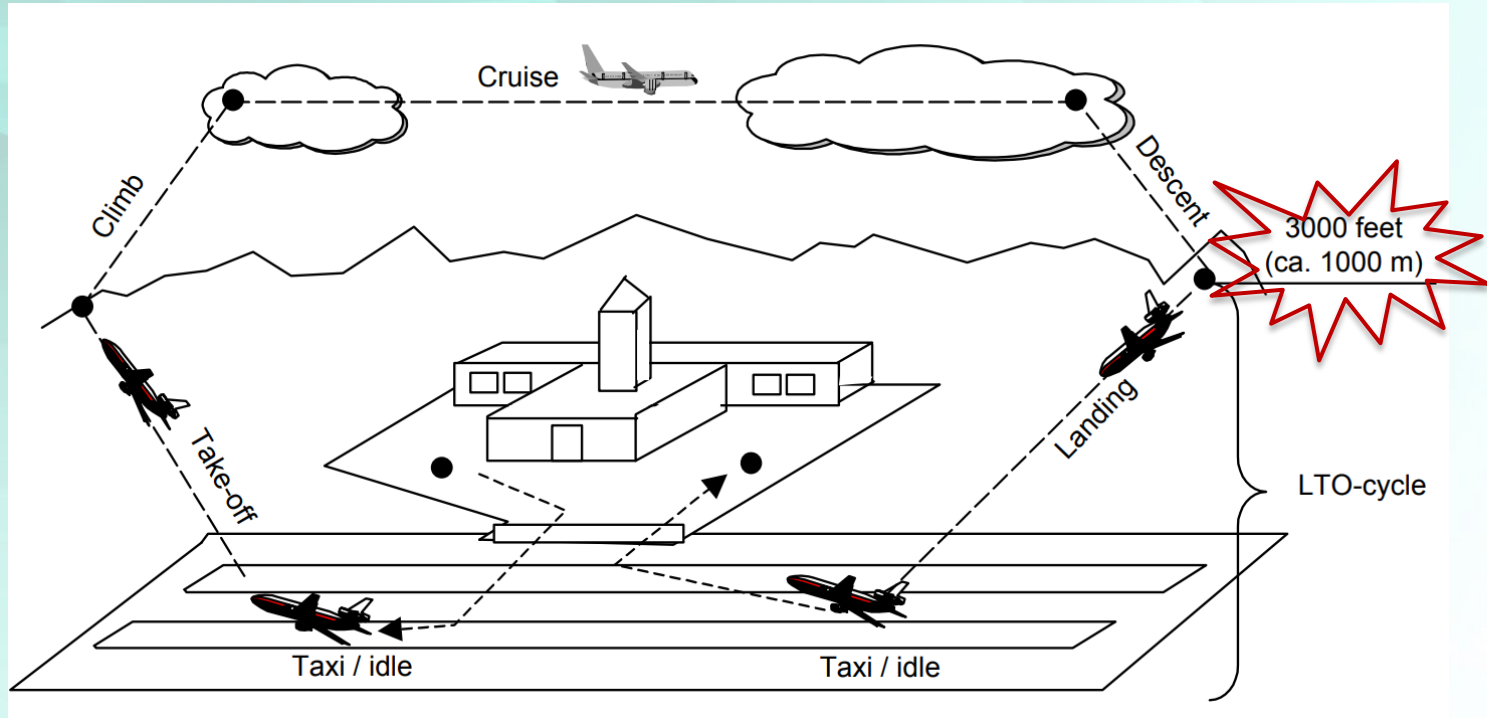
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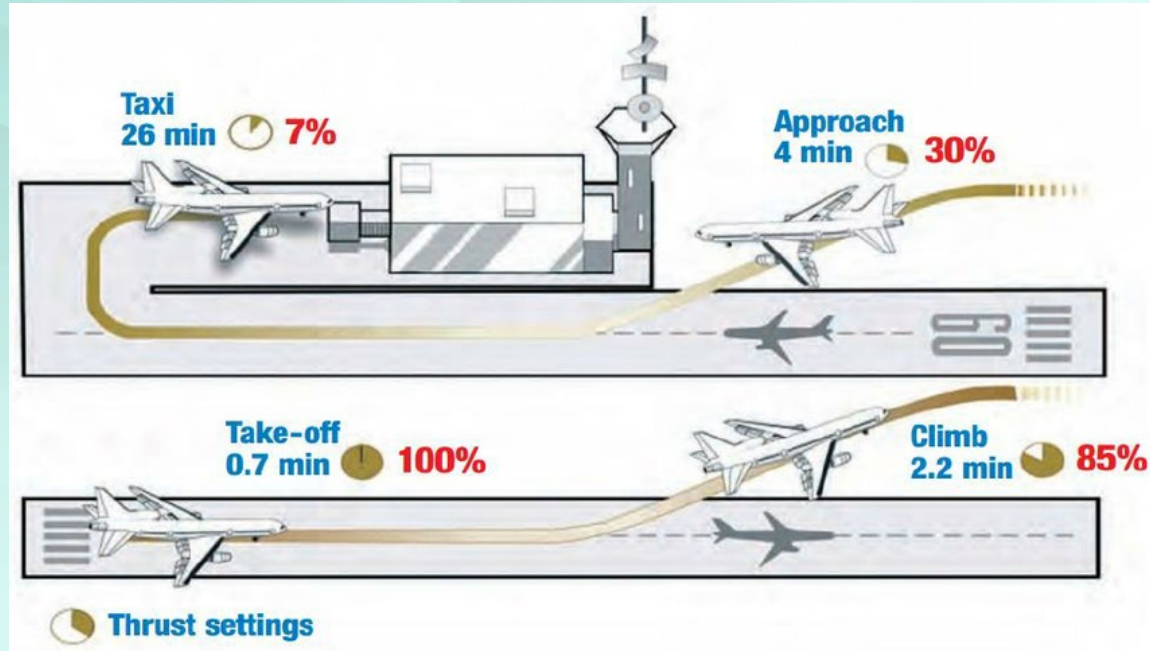
Additional Slides

Aircraft Standard Flying Cycles



Aircraft Landing & Take-Off (LTO) Cycle

- LTO cycle includes all airport activities that are below 3000 ft



Who Regulates Aircraft?

- The International Civil Aviation Organization (ICAO) sets international emission standards for jet engines
- U.S. EPA - historically adopts ICAO standards
- Federal Aviation Administration (FAA)

Stricter standards and regulations are necessary to protect public health, achieve our climate and emission reduction goals.

What are the State/Local Measures?

- California Air Resources Board (CARB)
 - Ground Support Equipment and Airport Shuttles
- Air Districts
 - Memorandum of Understanding (MOU) between air districts and airports

CARB and Air Districts are evaluating potential measures to achieve additional health benefits, emissions reductions and to meet GHG targets.

Current Regulations

- Off-Road Diesel and Large Spark-Ignition Fleet Regulations apply to equipment operating at California airports, as well as other sectors
- Applicable equipment includes, but is not limited to
 - Forklifts
 - Baggage tractors
 - Aircraft tractors
 - Cargo loaders
 - Passenger stands
- Regulation requirements
 - Reporting and labeling
 - Meet declining emission fleet average by specific dates with
 - Cleaner engines
 - Zero-emission equipment



Airport Shuttles

CARB adopted the Zero-Emission Airport Shuttle regulation in June 2019



Regulation designed to transition all airport shuttles to zero-emission by 2035



Freight Day: Freight Projects and Regulatory Process

June 10, 2021

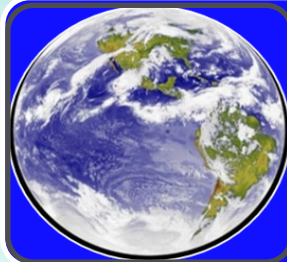
CARB Freight Actions Designed to Meet Multiple Objectives



Cut community health risk
(support AB 617 emission reductions)



Attain regional air standards
(support State Implementation Plan)



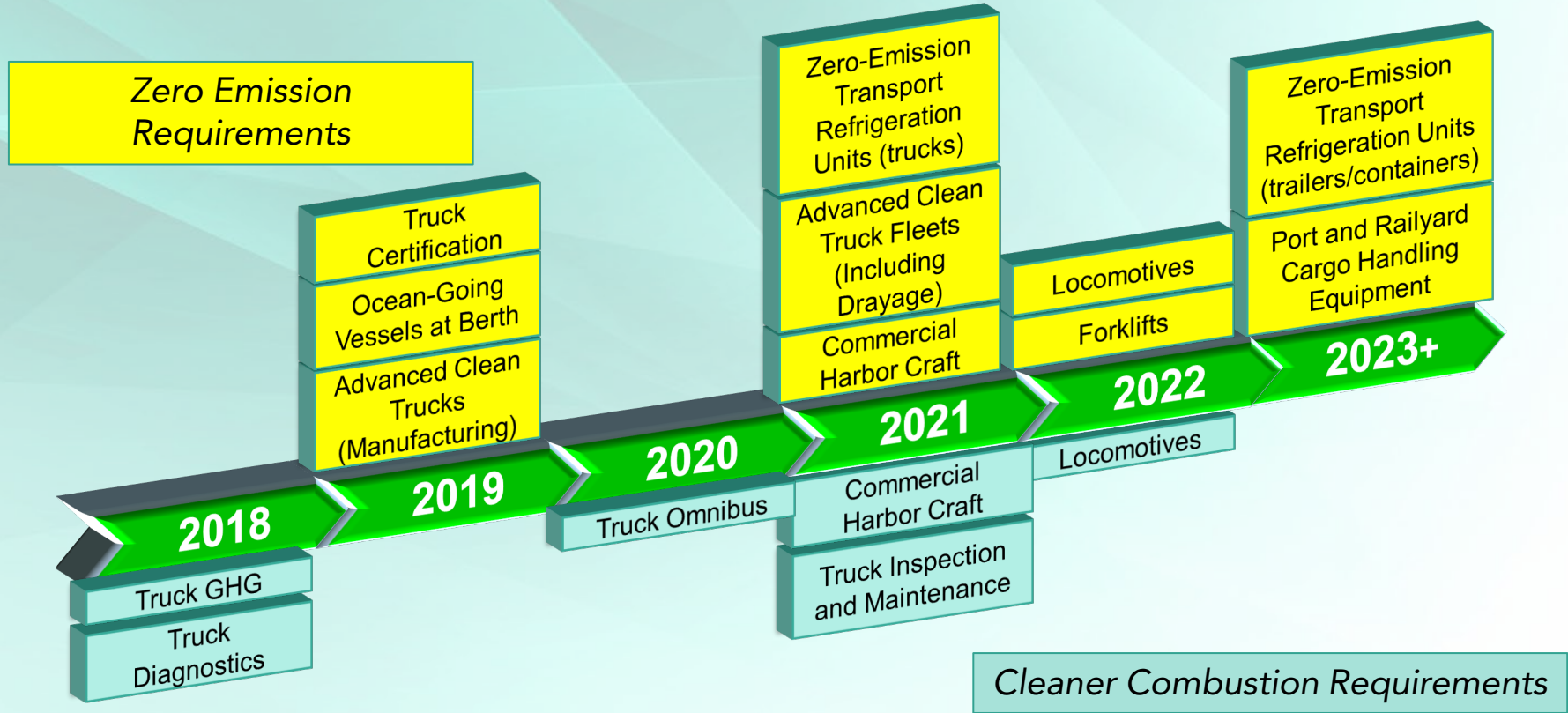
Mitigate climate change
(support Scoping Plan and SLCP Plan)

CARB Freight Regulatory Actions Already Implemented

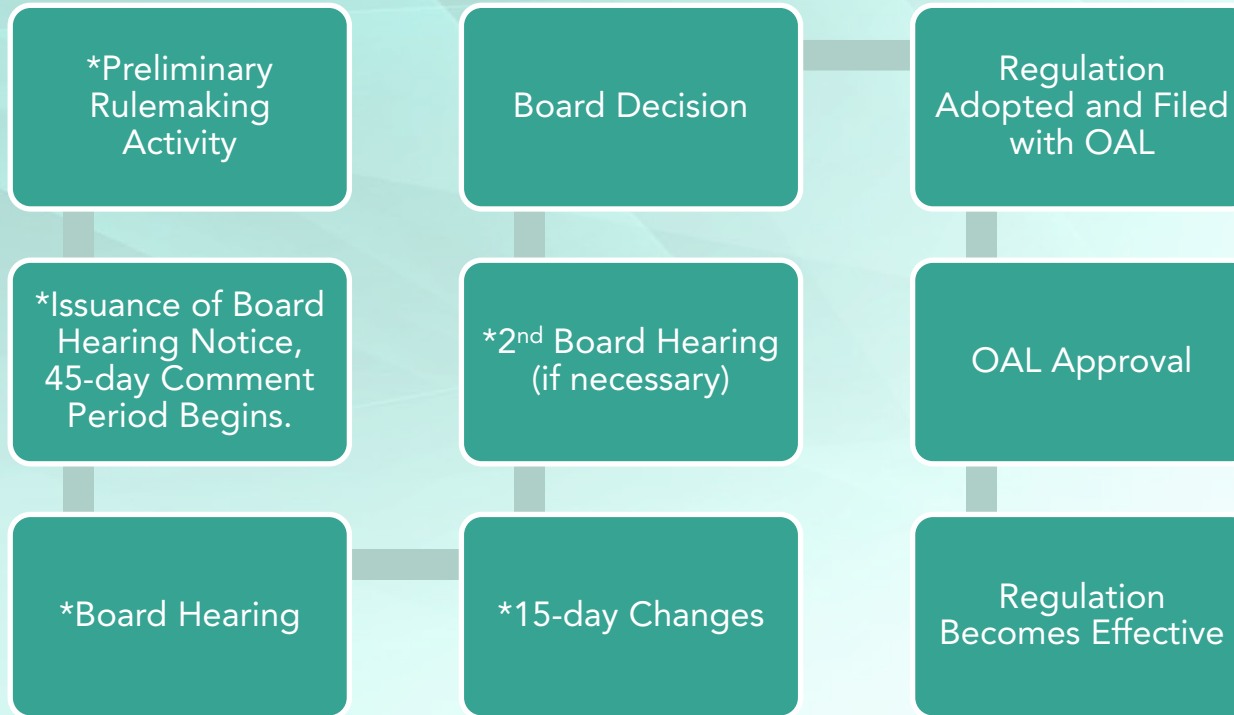
Trucks	Ships	Locomotives	Equipment	Harbor Craft
<ul style="list-style-type: none"> • Fuel/engine • In-use trucks/turnover • GHG limits • Idling and smoke limits • In-use compliance 	<ul style="list-style-type: none"> • Fuel • At berth reductions • Ship incinerator ban 	<ul style="list-style-type: none"> • Fuel • Fleet emission limits • Diesel soot reduction at rail yards 	<ul style="list-style-type: none"> • Fuel/engine • Port & rail equipment • Forklifts • Airport equipment • Transport refrigerators 	<ul style="list-style-type: none"> • Fuel • Harbor craft engines

New CARB Freight Regulatory Actions

(1st Board hearing dates shown)



Regulatory Process



Importance of Public Engagement

- Input from communities, agencies, and industry
- Informal stakeholder meetings, calls, and site visits
- Community meetings, industry workgroups, and public workshops



California Environmental Quality Act Comment Letters

- Review and comment on freight-related projects
- Advocate for cleanest technologies
- Advocate for proper information of projects impacts to public health



How to Get More Information

- Email: Freight@arb.ca.gov
- CARB Sustainable Freight Transport Website:
<https://ww2.arb.ca.gov/our-work/programs/sustainable-freight-transport>
- Sign-up for notifications of sustainable freight activities and meeting notices by email:
https://public.govdelivery.com/accounts/CARB/subscriber/new?topic_id=sfti

Transport Refrigeration Units

Amendments for Board Considered in 2021

- TRUs are used to control the environment of temperature-sensitive products transported in trucks, trailers, railcars, or shipping containers
- CARB has an existing regulation that requires TRU owners to upgrade to cleaner equipment over time
 - However, most TRUs are still diesel-powered
- Staff are developing amendments to transition truck TRUs to zero-emission



Drayage Trucks

New Regulation for Board Considered in 2021

- Drayage trucks transport cargo in/out of ports and railyards
- CARB's existing drayage truck regulations phase in cleaner Class 7 & 8 trucks through 2023
- Staff are developing a new regulation that would require any truck added to the CARB Drayage Truck Registry to be zero emission starting in 2023
- All drayage trucks would be required to be zero-emission by 2035



Proposed Zero-Emission Forklift Regulation

New Regulation for Board Consideration 2022

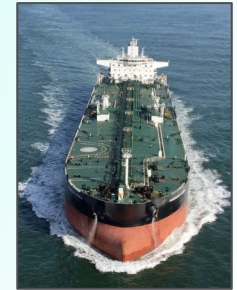
- Purpose: developing a measure that would accelerate the transition to zero-emission (ZE) forklifts within fleets throughout the state in order to reduce air pollution, improve air quality, and combat climate change.
- Applicable to forklifts in which a ZE option is readily available, up to 12,000lbs. lift capacity
- Next workgroup: early June 2021
- Proposed full implementation by 2038
- Webpage: <https://ww2.arb.ca.gov/our-work/programs/zero-emission-forklifts>



Ocean-Going Vessels

New Regulation Adopted in 2020

- Large ships carrying cargo and passengers to/from California ports
 - Ocean-Going Vessels (OGV) include: container, refrigerated cargo, cruise, auto carrier, bulk and general cargo, and tankers
- CARB has two OGV regulations to reduce emissions:
 - Clean Fuel Regulation
 - At Berth Regulation
- Expanded At Berth Regulation begin January 1, 2023



Commercial Harbor Craft

Amendments for Board Considered in 2021

- Commercial harbor craft (CHC) include: ferries, tugboats, barges, and other diesel-powered commercial vessels
- Existing regulation has accelerated turnover to cleaner engines and requires CARB ultra-low sulfur diesel
- New regulation could begin in 2023, requiring cleaner engines, expansion to more vessels/engines, and use of shore power at dock
 - Zero-emission requirements are being considered where available



Locomotives

New Regulation for Board Consideration in 2022



- No current California regulation for locomotives
- A California regulation is needed to provide emissions reductions in rail communities
- CARB staff regulatory concepts (still in development):
 - Develop a “spending account” to help operators purchase cleaner equipment
 - Prevent locomotives from idling for more than 30 minutes beginning in 2023
 - Ban locomotives older than 23 years in California as of 2030
 - Increase reporting (by Air District)

Cargo Handling Equipment

Amendments for Board Consideration in 2023

- Move containers and freight at seaports and railyards
- Existing cargo handling equipment (CHE) regulation require in-use and newly purchased diesel-powered equipment at ports and intermodal rail yards
- CARB staff is developing concepts for a new regulation to move towards zero-emissions



RTG Cranes



Top Picks



Side Picks



Yard Trucks



Reach Stackers



Forklifts



Bulk Equipment