Act on Climate
Sharing Session

Technical questions about zoom: email
Natalie.Bishop.INT@energy.ri.gov

We will get started shortly!

RIEC4

Act on Climate

Sharing Session #6

June 14-15, 2022

RIEC4

Act on Climate Mandates

2022 Update: By 12-31-2022, the EC4 shall submit an update to the *2016 Greenhouse Gas Emissions Reduction Plan*

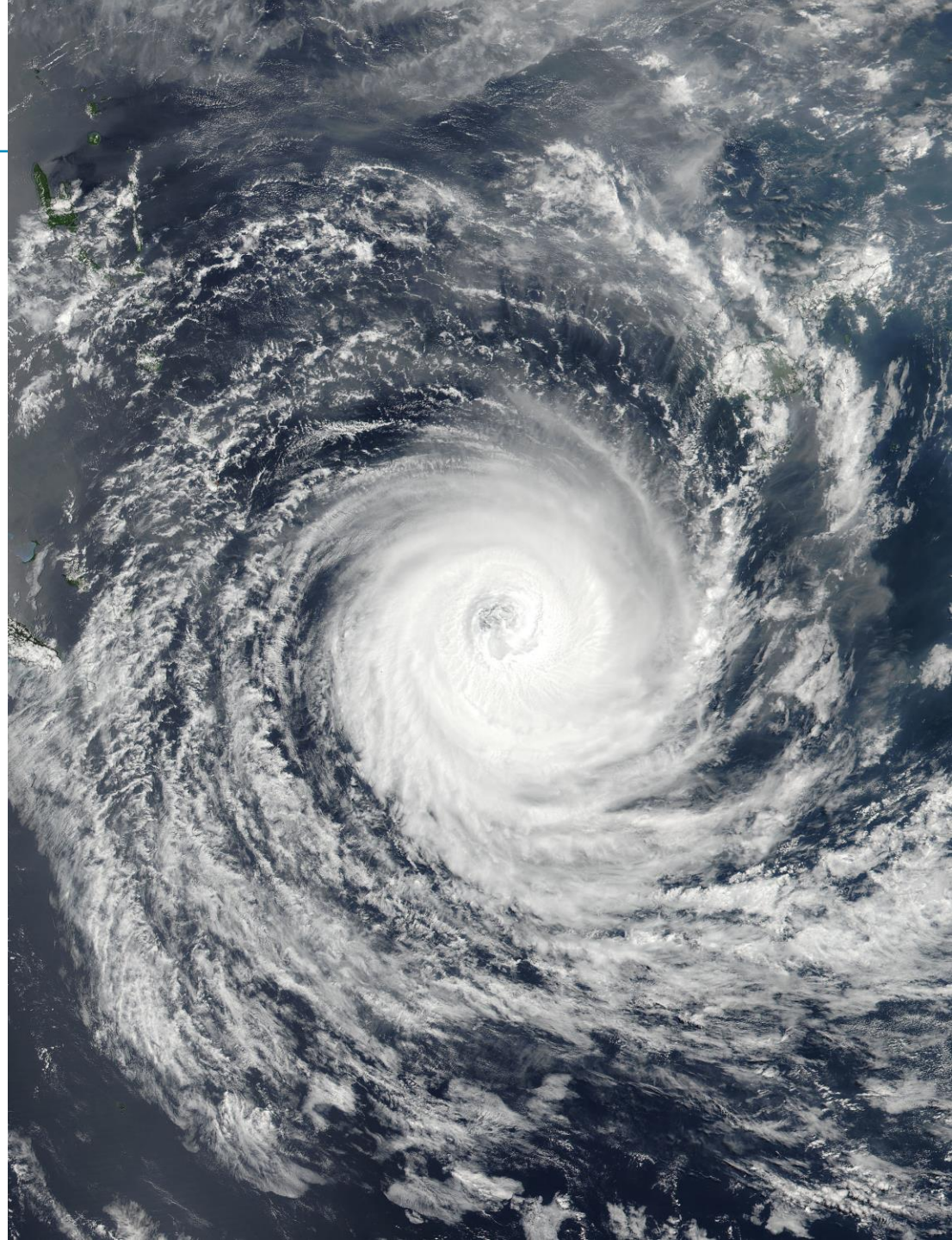
- For more info on the scope of the *2022 Update*, visit www.climatechange.ri.gov/aoc/
- Today's discussion informs priority actions we take over the next few years to set Rhode Island on a path to meet our 2030 emissions reduction mandate

The 2021 Act on Climate establishes economy-wide emissions reduction mandates of:

- 10% below 1990 levels by 2020
- **45% below 1990 levels by 2030 ← Today's focus**
- 80% below 1990 levels by 2040
- Net-zero emissions by 2050

Facilitated Discussion

1. What do we need to do to weatherize buildings
2. What do we need to do to electrify heating?
3. Other considerations?



How to Participate

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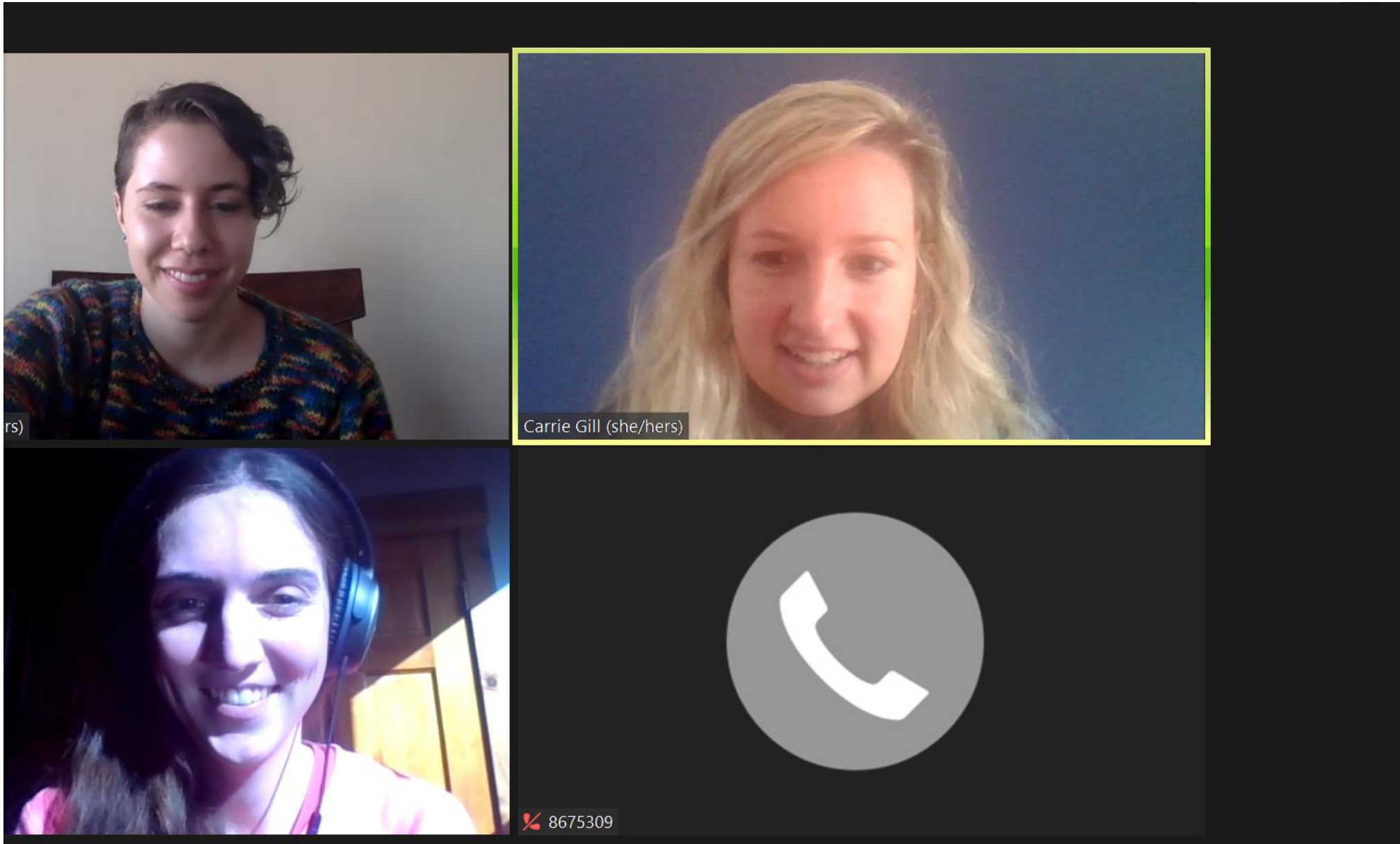
- **Unmute** yourself using the icon at the bottom right of the screen and speak your question or comment.

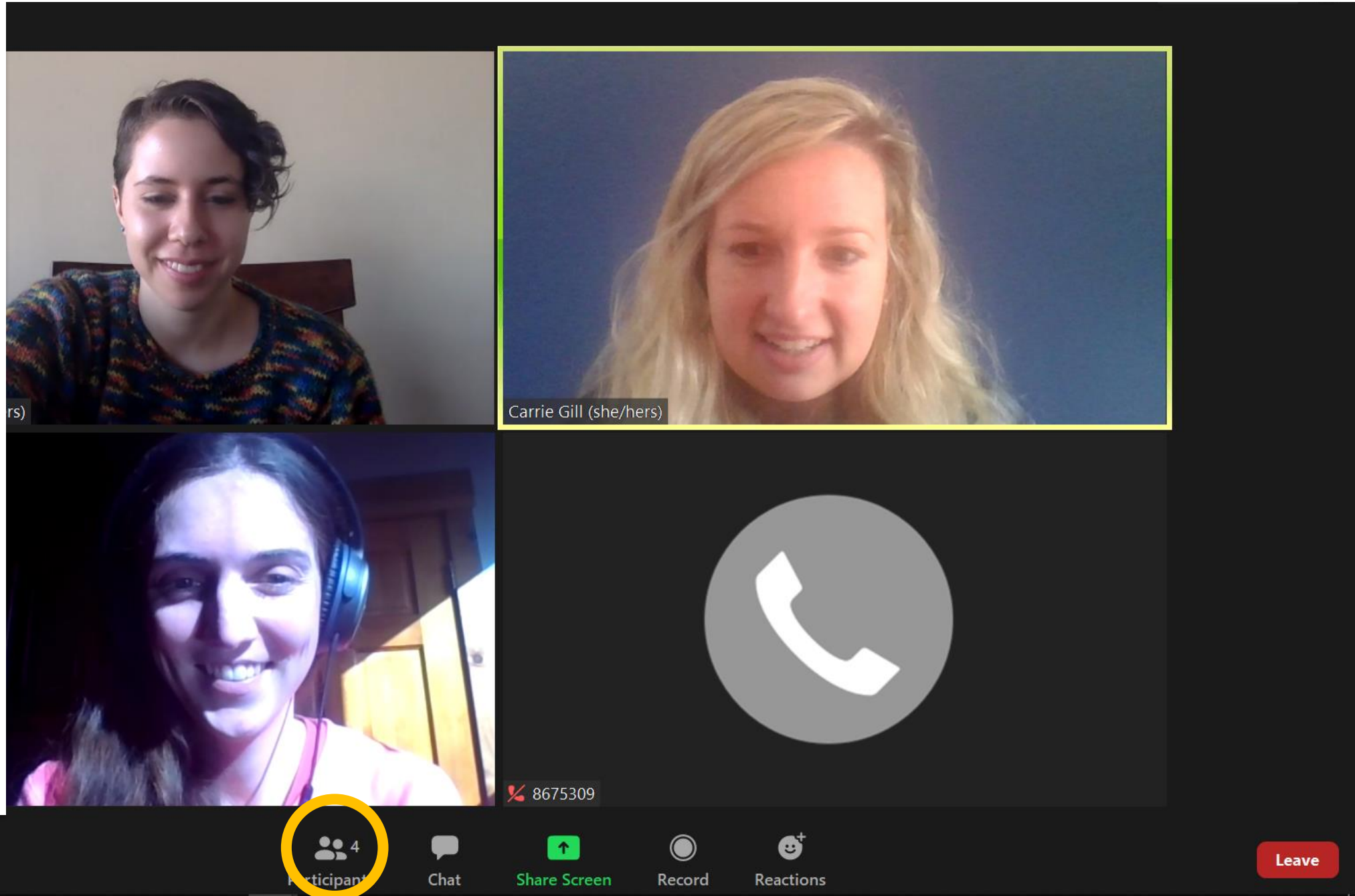


How to Participate

- Open the **chat box** by clicking on the icon at the bottom of your screen.
- Type your question or comment into chat.
- Type that you would like to speak in the chat.
- We will either read your comment or call on you to speak.

How to Participate

- Click the participants icon at the bottom of your screen then click the **raise hand** icon at the bottom left of the pop-up window to raise your hand.
- We will call on you to speak.



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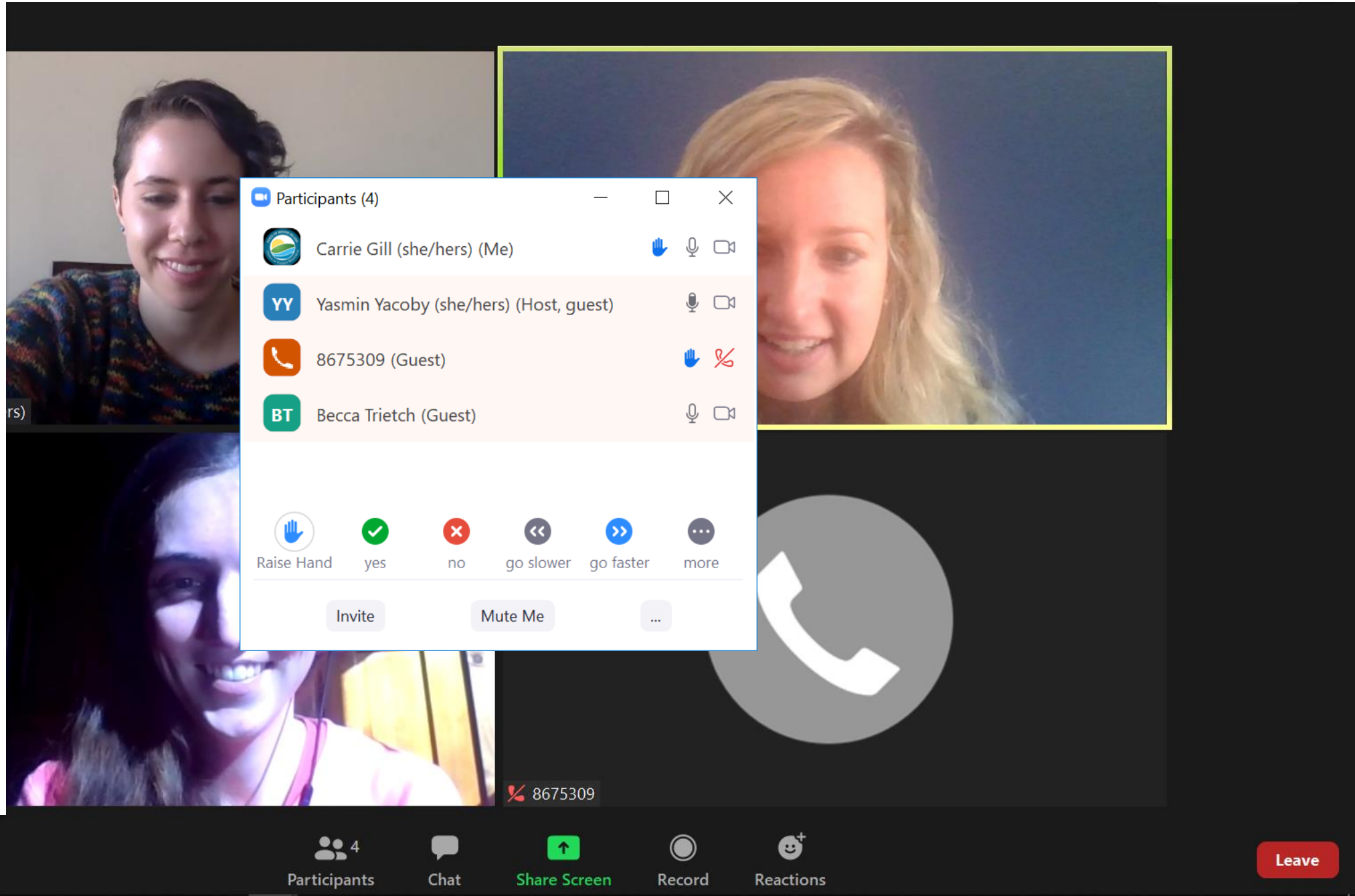

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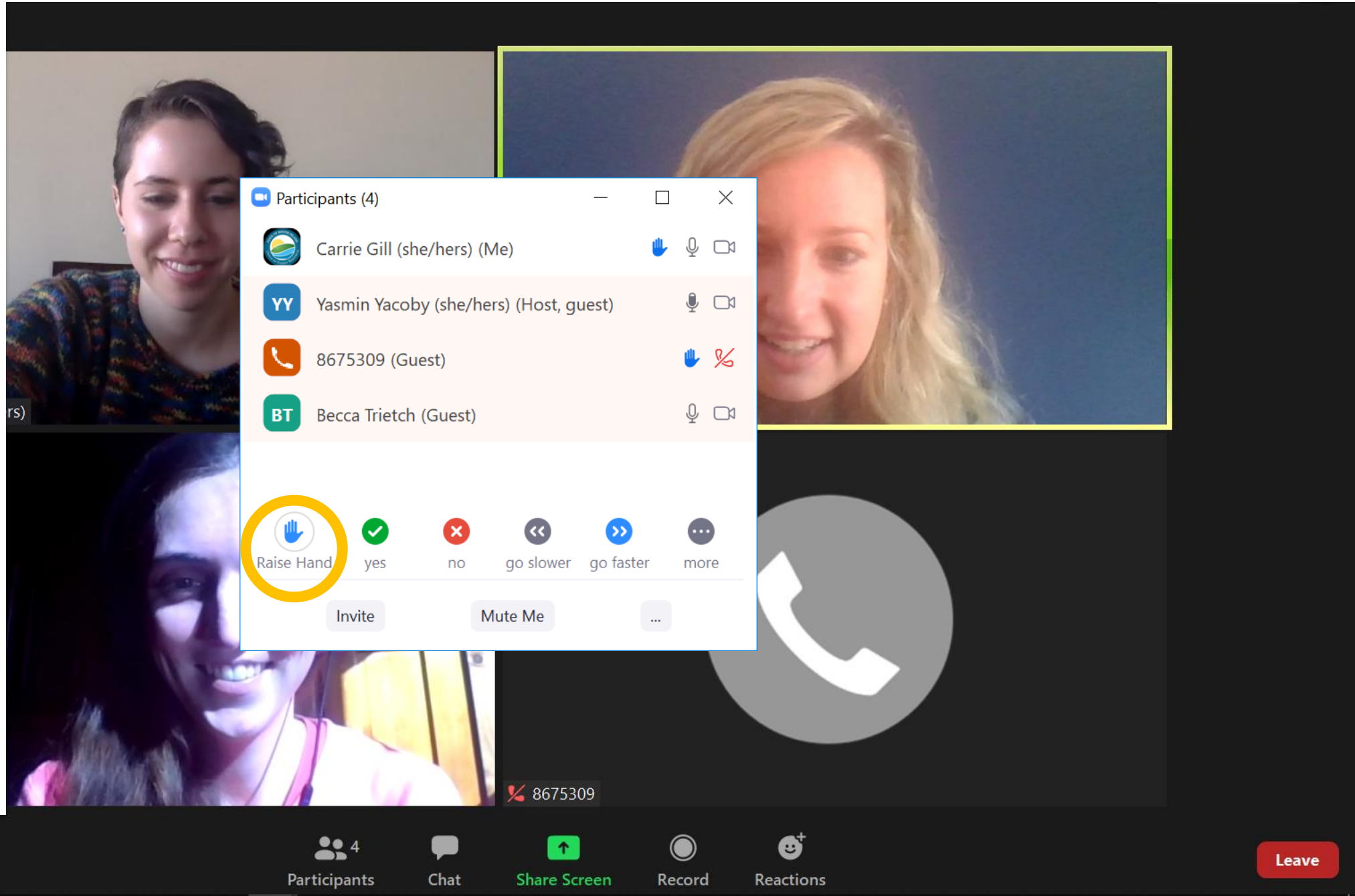
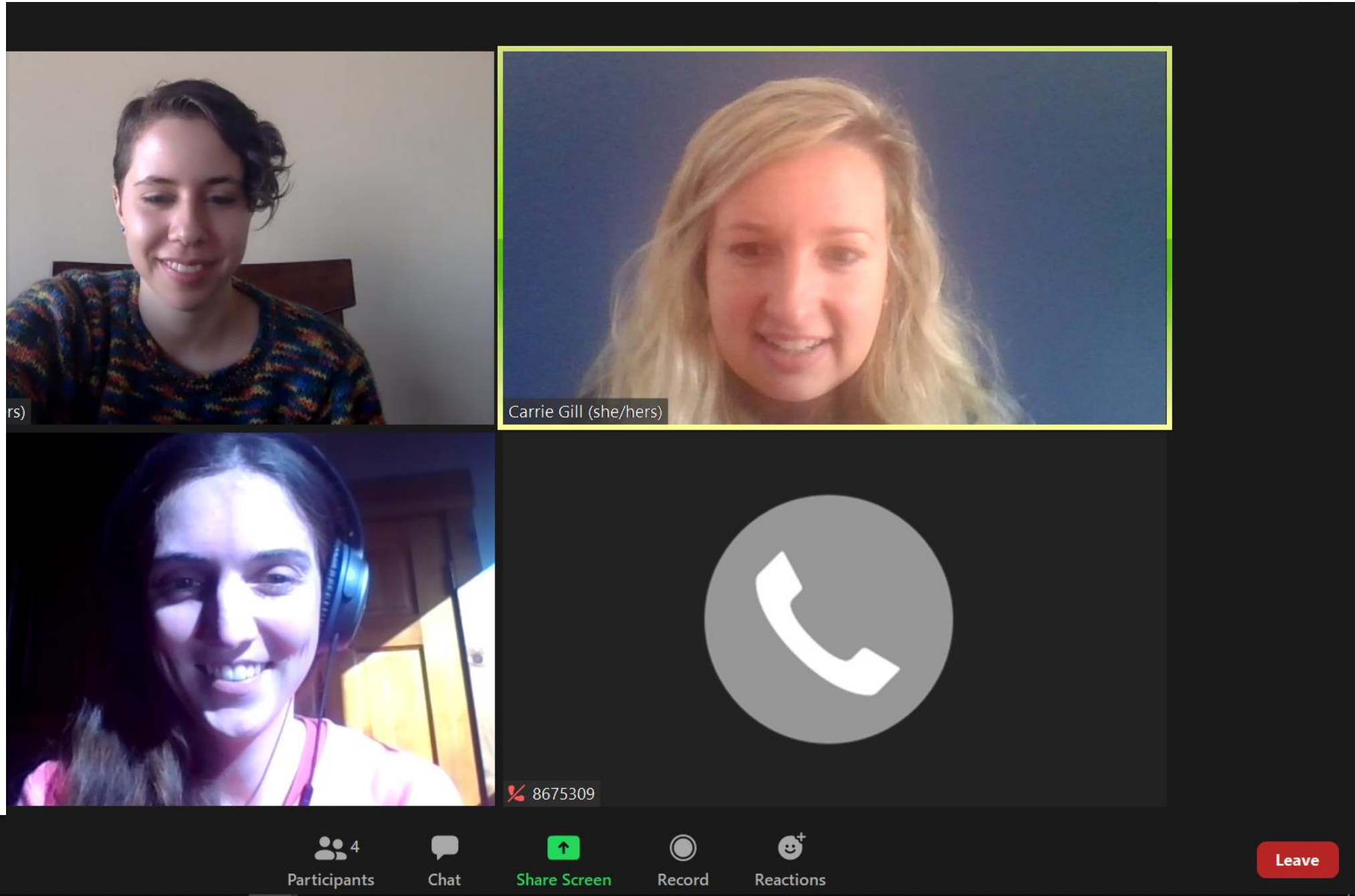


How to Participate

If you're calling in on the phone:

- Unmute yourself from your phone options and speak your question or comment.
- **Hit *6 to unmute** yourself and speak your question or comment.
- **Hit *9 to raise hand** and we will call on you to speak.



How to Participate

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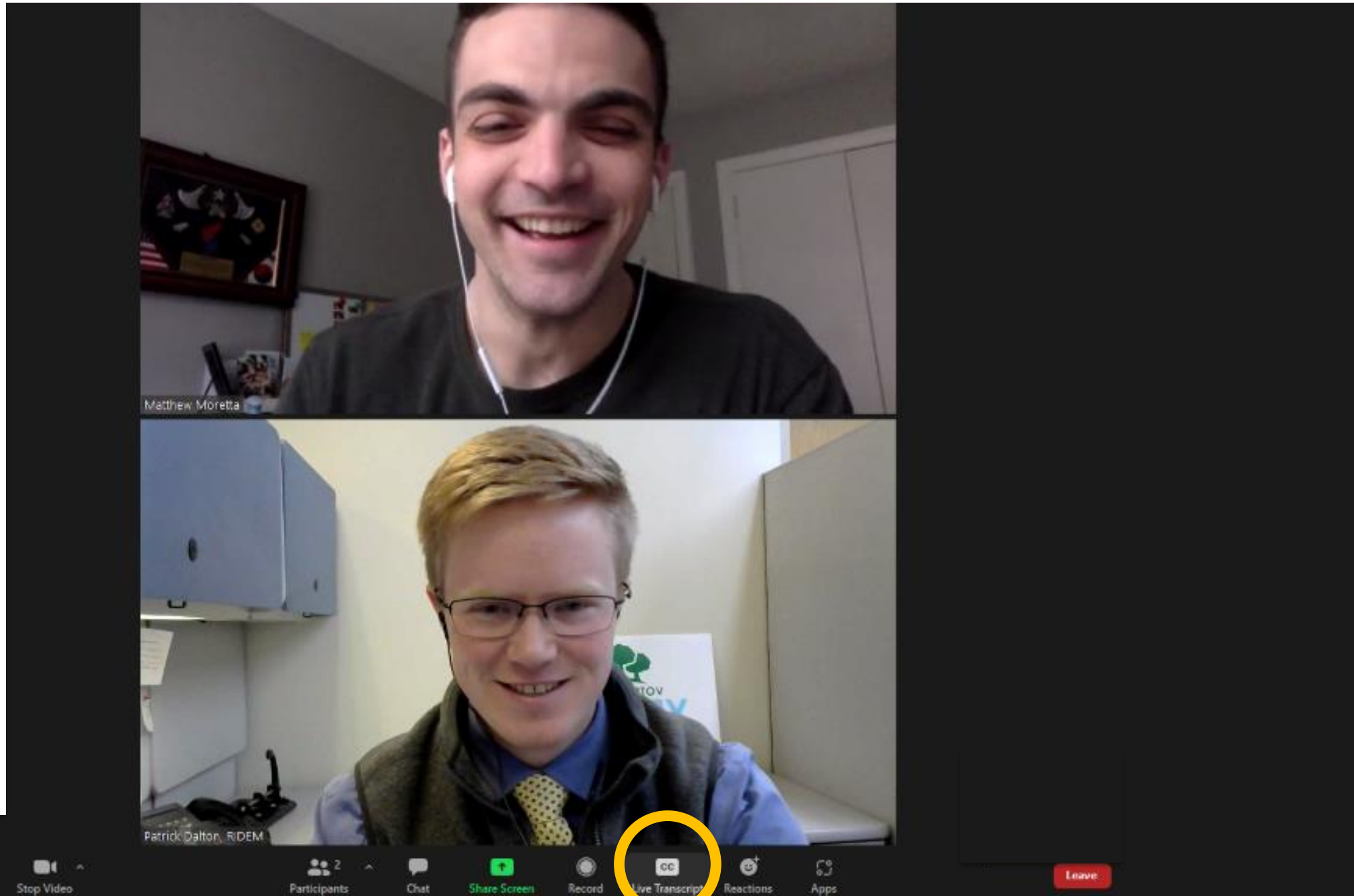
- You can also change the subtitle settings from this menu.



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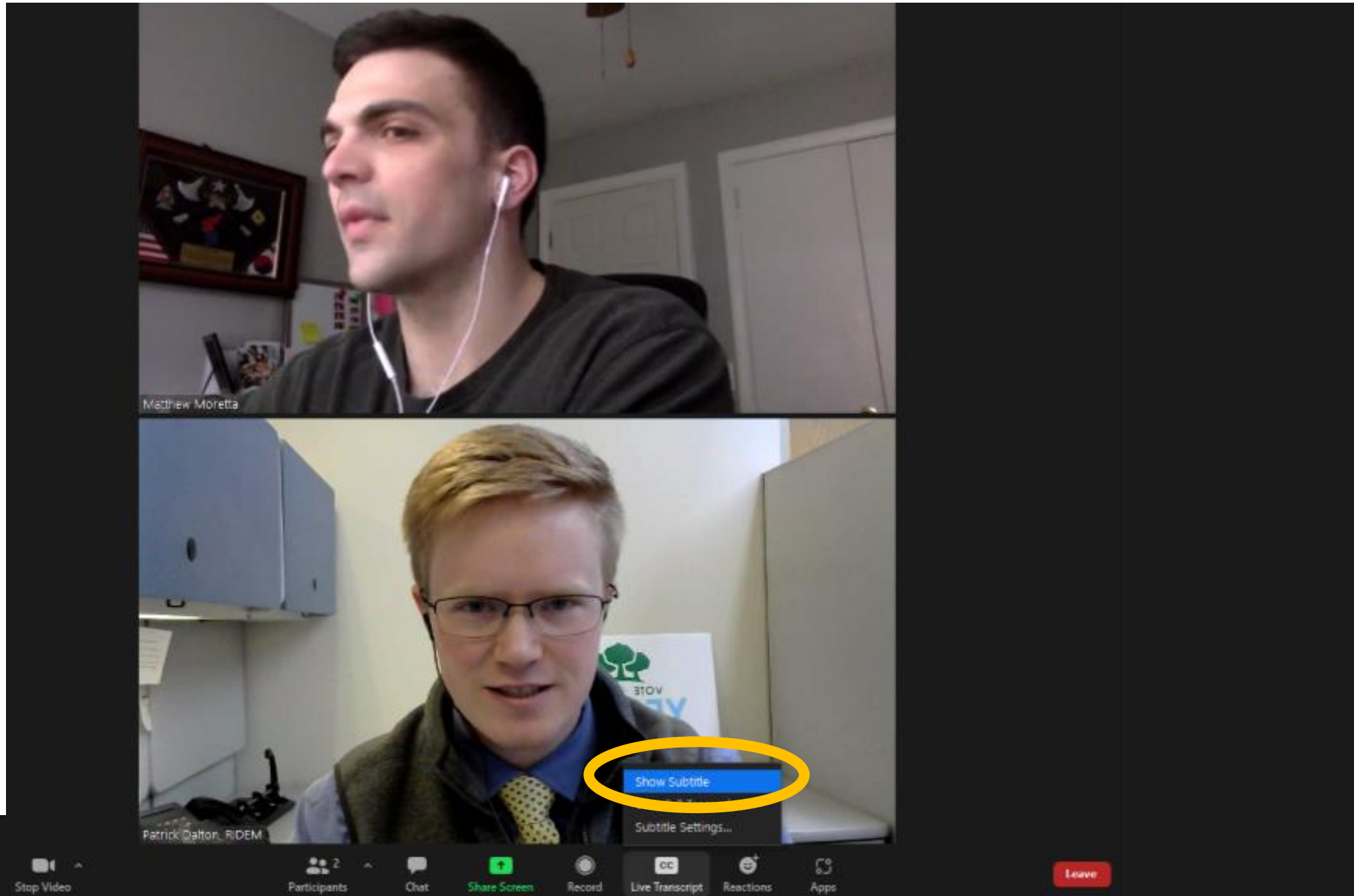

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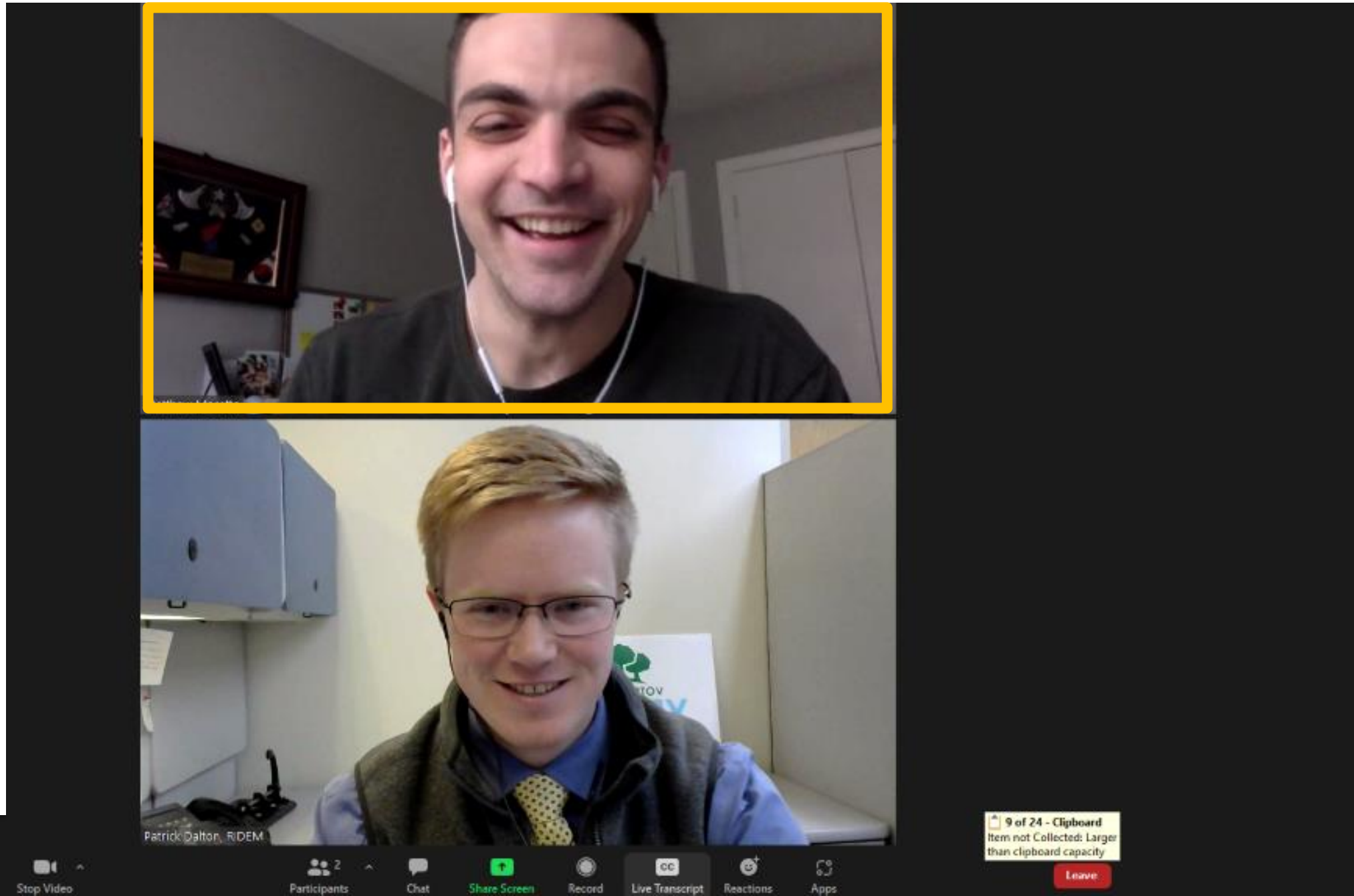


Housekeeping and Logistics

- This meeting is being **recorded** so we can be sure to capture your comments.
- We do not intend to post this recording publicly.

- Please **mute** your mic when not speaking.
- OER will monitor noise levels and mute folks who may have accidentally unmuted themselves.

- **Make space and take space**
- Each person will be allotted a maximum of 3 minutes to speak initially to ensure we are allowing everyone an opportunity to be heard

- We recognize there may be inherent **power dynamics** in this conversation.
- We **encourage** everyone to voice both support *and* concerns, and invite you to challenge our assumptions and our thinking.

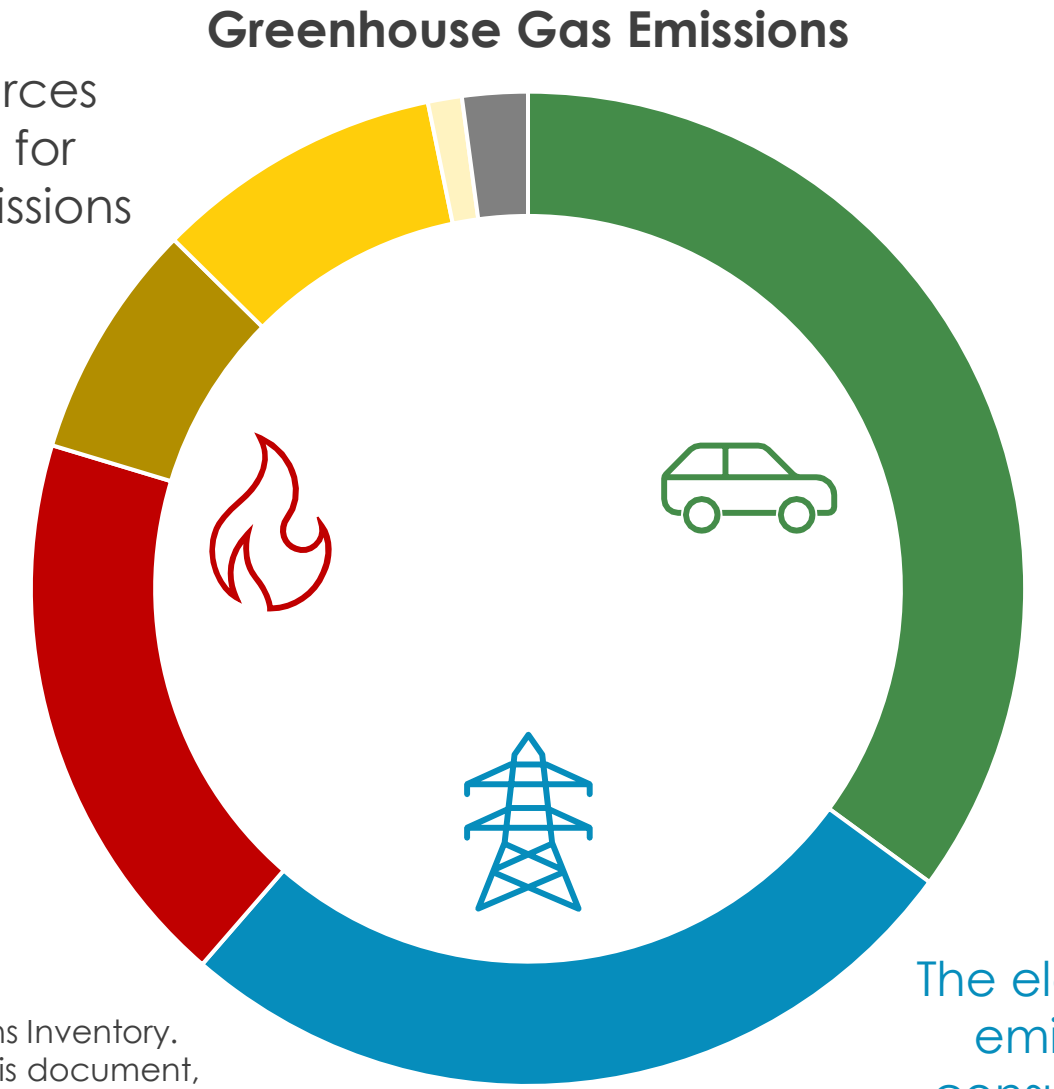
- Thank you in advance for your good intentioned comments and questions and for your **respect** toward everyone present.
- Please refrain from interrupting or speaking over others – this will ensure we hear and understand all speakers.

Background Information

Emissions from Rhode Island's Thermal Sector

1. 2018 Emissions
2. Efforts since 2016
3. Recommendations from recent key studies

Rhode Island's 2018 Greenhouse Gas Emissions Inventory



Other sources account for 2.1% of emissions

The thermal sector accounts for 36.6% of emissions

The transportation sector is the largest source (35.0%) of greenhouse gas emissions

The electric sector – meaning emissions from electricity consumed in Rhode Island – accounts for 26.3% of emissions

Source: RI DEM 2018 Greenhouse Gas Emissions Inventory. Please note that data are consistent, but in this document, the Thermal Sector includes the following distinct sectors: residential heating, commercial heating, industrial heating and processes, and natural gas distribution.

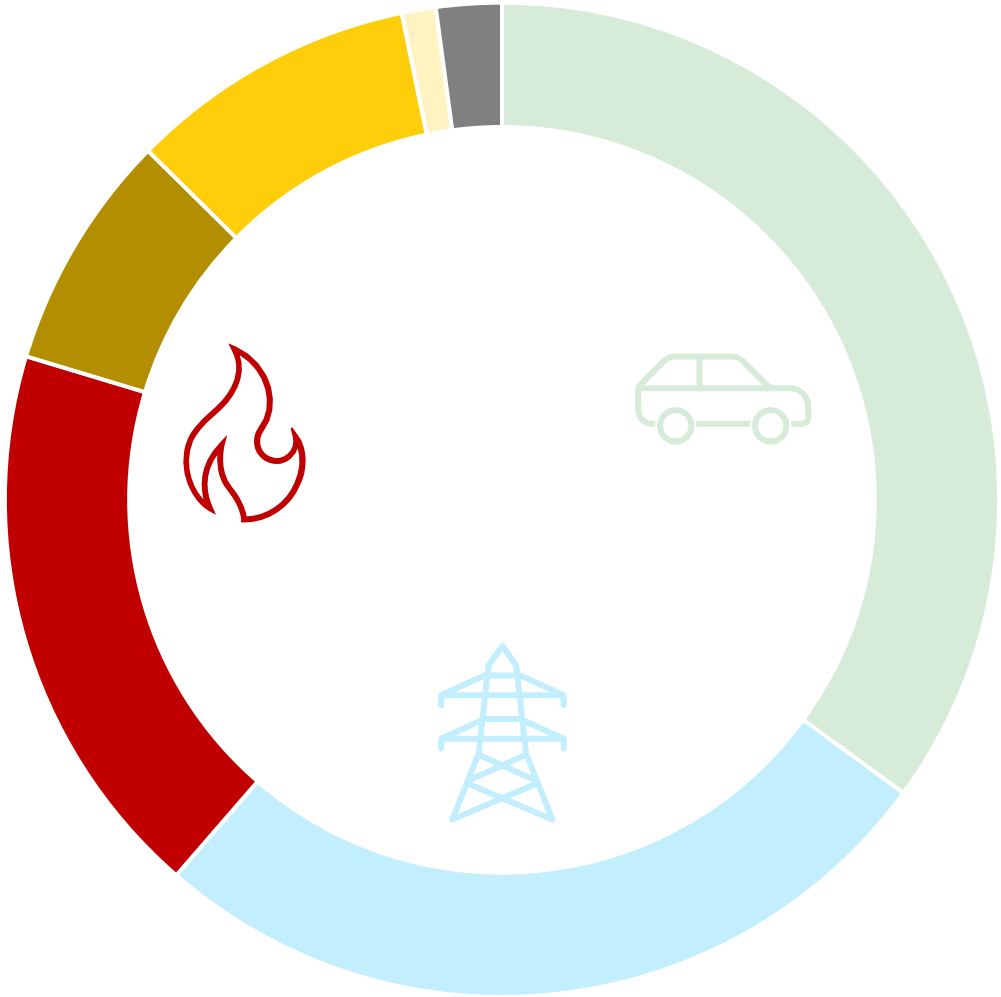
Rhode Island's 2018 Greenhouse Gas Emissions Inventory

The bulk of thermal emissions result from residential heating.

Other sources include commercial heating, industrial heating and processes, and natural gas distribution.

Note differences in how we group emissions into sector here versus in the annual Emissions Inventory

Focus on emissions from the thermal sector



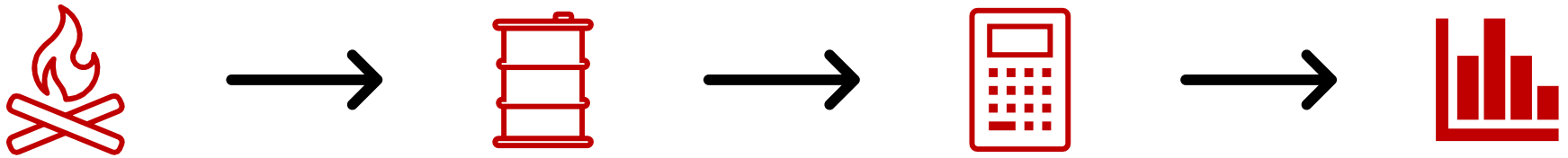
Estimating Emissions from Residential Heating

Utilities report amount of natural gas delivered to the US EIA

The US EIA also estimates amount of oil and propane consumed for each state

US EPA imports data from US EIA into their SIT tool

RIDEM uses the SIT tool to estimate emissions that result from combusting each type of fuel



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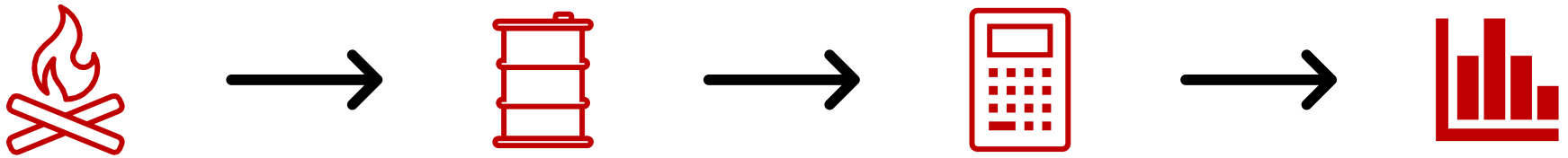


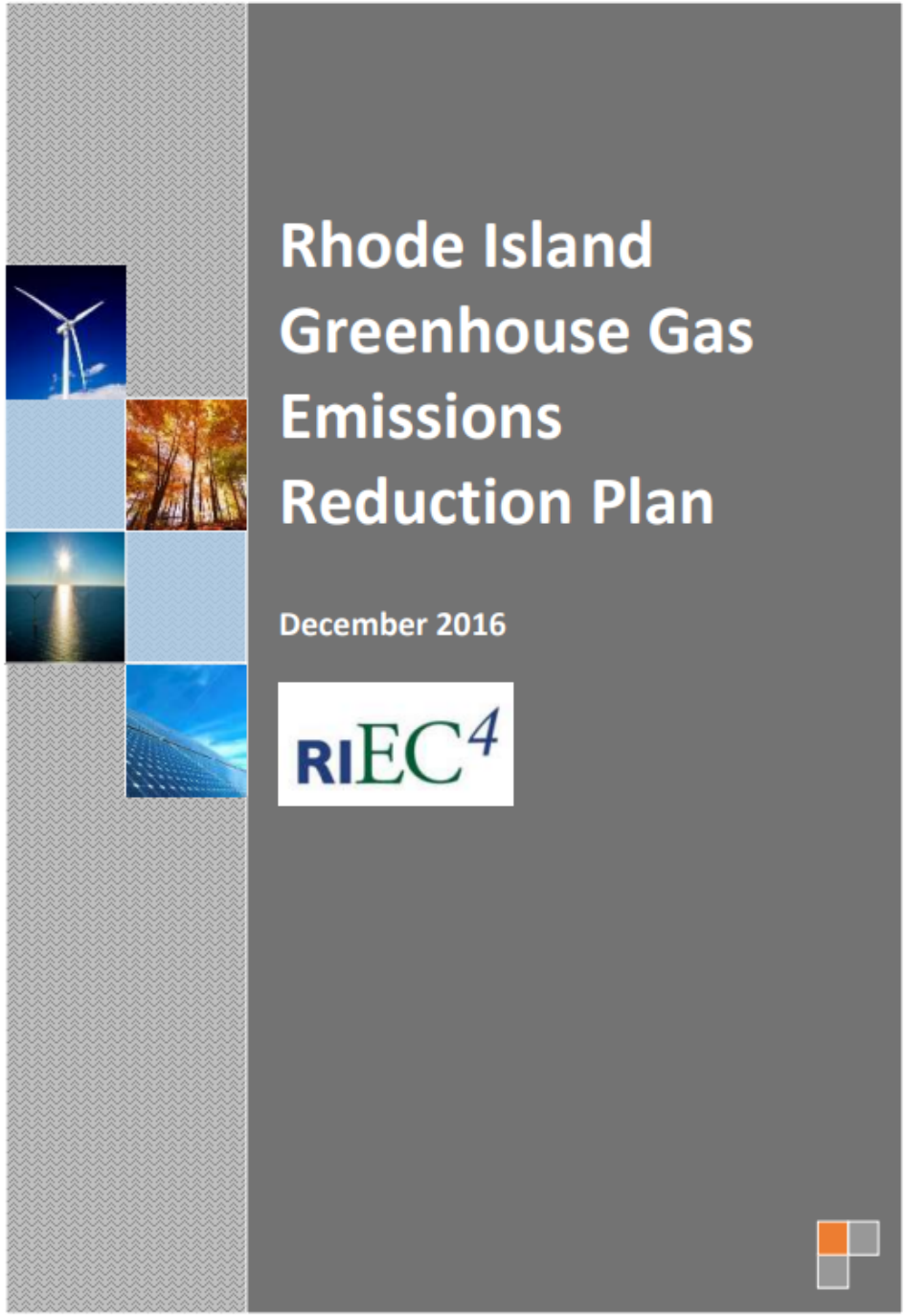
Emissions decrease when:

- **We consume less fuel** (e.g., by weatherizing our buildings so we don't need to heat as much, by using more energy efficient heating systems like heat pumps)
- **We consume lower-emissions fuel** (e.g., by heating with electricity instead of a combustible fuel)

Pathways from the 2016 Plan

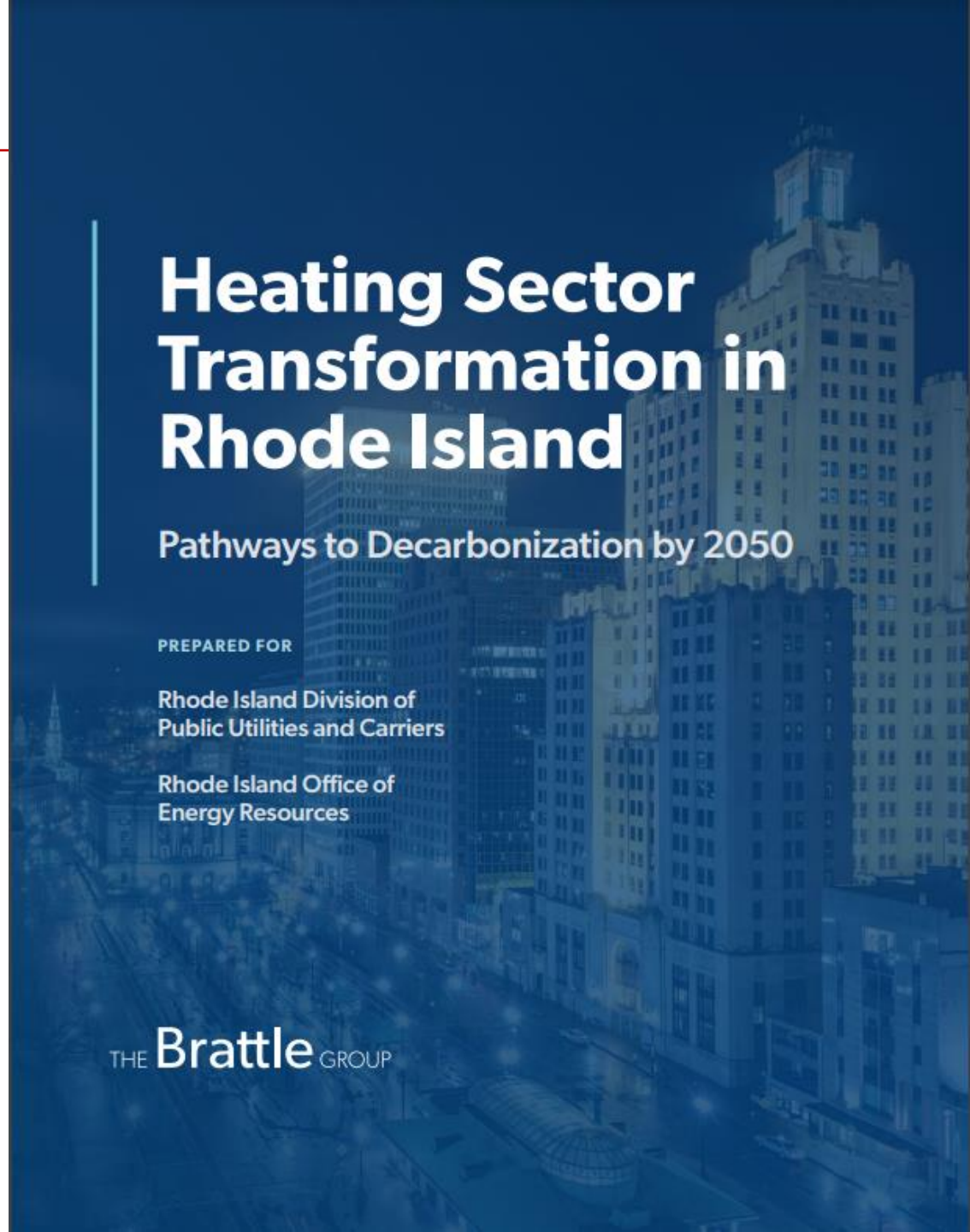
- **Energy Efficiency (Weatherization)**
  - ✓ For electric and gas customers
  - For delivered fuels customers
- **Electric Heat**
  - Incentivize energy efficient electric heating for all Rhode Islanders
- **Biofuel Heat**
  - ✓ Updated Biodiesel Heating Oil Act: B10 in 2023, B20 in 2025, B50 in 2030
- **Reduce Natural Gas Leaks**
  - ✓ Leak-prone pipe replacement program
- **Other pathways**
  - Lead-by-Example, regional collaboration, workforce development, etc.

http://climatechange.ri.gov/aoc/index.php#working-draft



Select Key Studies

- **Heating Sector Transformation**
- Energy Efficiency Market Potential Study
- Other reports related to the thermal sector



Heating Sector Transformation: Policy Framework

Ensure	Increase efficiency and reduce carbon content of all fuels to zero over time – ensures progress no matter which technologies are used
Learn	Data collection, R&D, pilot projects to understand technologies, infrastructure, and customers
Inform	Educate stakeholders – customers, installers, policy-makers – about pros and cons of options, system interactions, etc.
Enable	Facilitate deployment with incentives; target natural investment opportunities; align regulation, rules, codes; expand workforce
Plan	Expand planning horizon; develop long-term, high-level contingency plans now (don't commit yet) and use to guide near-term policy

Facilitated Discussion

Meeting our 2030 Mandate – Prioritizing Actions for the Thermal Sector

1. What do we need to do to weatherize buildings?
2. What do we need to do to electrify?
3. Other considerations?

Scope

- Actions required over next 1-3 years
- Limited to reducing emissions from heating
- Consider 2030 Mandate (45% emissions reduction)

- Some principles to consider
  - Prioritize low-hanging fruit – biggest impact with lowest cost
  - Prioritize actions we can control
  - Prioritize actions that balance and advance multiple policy objectives
  - Others?

Priority Actions – Consume Less Fuel – June 14 @ noon

Weatherize Buildings

- Weatherizing existing buildings (and improving weatherization in new building codes)
- Short-term priority is to weatherize and ready buildings for electric heat pumps
- Energy efficiency as a 'first fuel'

Equity Considerations

- Consider how we incentivize energy efficiency and electric heat pumps for renters
- Address the 'split incentive' between landlords and tenants: one way is to better enforce building codes and safety standards for existing buildings (e.g. violations in Multifamily Buildings)

Refining our actions

- Tailor actions to three different categories of buildings:
  - New buildings – building codes are a critical lever
  - Large existing buildings – energy reporting and building performance standards (i.e. require lowering emissions from buildings over time)
  - Residential/smaller existing buildings – serve via energy efficiency programs, build weatherization up in these programs (may require revised legislation, new funding sources)
- Consider municipal ability to adopt stretch codes (e.g. MA)
- Enforcing existing buildings codes better

Priority Actions – Consume Less Fuel – June 15 @ noon

Weatherize Buildings

- Notes

Equity Considerations

- Cost of electricity
  - Can also prohibit/discourage switching
- Cost of natural gas – reducing reliance on natural gas can reduce cost pressures on electricity (and natural gas, too)
- Environmental justice may be improved if combustible fuel deliveries are reduced

Refining our actions

- Costs of decarbonization are critical to mitigate: fuel costs and technology costs
- Consider use cases and how we can/should tailor decarbonization strategies to use cases, customers, etc.
- Develop demonstration projects that help us learn about tradeoffs
- Microgrids may be an opportunity for cost-effective solutions to reducing emissions across all sectors (electric, transportation, thermal) and may provide other benefits as well (reliability and resilience)
- Balanced diversification can improve energy security and energy reliability across Rhode Island – energy security leads to economic benefit, too (reference State Energy Plan)

Priority Actions – Consume Lower-Emissions Fuels – June 14 @ noon

Energy Efficient Electric Heat

- Support a 100% electric building code (all-electric new construction, prohibit new connections to the natural gas system)
- Consider sizing of incentives to reduce payback period
- Consider addressing cost components
- Consider how to couple electric heat pumps with rooftop solar – synergies with electrical work, sizing, etc? Making combined payback periods more palatable

Lower-Emissions Combustible Fuels

- Heating fuel standards (e.g. cap and trade on carbon in the heating sector, can be met with electric too)
- Remove incentive for new gas hook ups from the Revenue Decoupling Statute
  - Stop incentivizing new gas hook ups (including incentives for energy-efficient gas appliances – new appliances, infrastructure, buildings, etc.)
- Develop long-term strategy related to gas decarbonization → relates to decarbonizing electric system as well!
- Investigate net-zero combustible fuels that may be decarbonized substitutes in some use cases (and use the gas distribution network)

Refining our actions

- At this time, leaving all options on the table is important – finding from Heating Sector Transformation Report, allows markets and technologies to develop
- Using demonstration projects to test decarbonized technologies (e.g. electric heat pumps and networked geothermal)
- Build out/implement cost-savings and flexible distribution system solutions (i.e. non-pipes alternatives (NPAs) and non-wires alternatives (NWAs))
- Consider cross-fuel solutions (e.g. consider the electric and gas systems together when decarbonizing and finding lowest-cost solutions)
- Review state policies and programs to make sure there is a consistent signal (e.g. gas energy efficiency programs may be at odds with Act on Climate)

Priority Actions – Consume Lower-Emissions Fuels – June 15 @ noon

Energy Efficient Electric Heat

- Centralized heating systems may be an opportunity – look to Europe for examples of community geothermal systems
- Workforce development for installation of heat pump systems
  - Workforce needed for expanding number of systems installed
  - Training needed for right-sizing systems, reducing install costs, and therefore reducing overall costs
  - Just transition is key – training and certifications for folks who currently work on emissions-intensive/legacy systems
  - Training on use of systems: 'set it and forget it'
  - Need for education for contractors and customers
- Consider total ownership costs (savings on maintenance)

Lower-Emissions Combustible Fuels

- Consider how blending of lower-emissions fuels impacts technology + equipment needs
  - E.g. high biodiesel blends may void warranties
  - E.g. hydrogen may need new equipment

Refining our actions

- "Distributed AND centralized solutions to get to scale quickly"
- Can federal funds help demonstrate geothermal?
- How can we best group/reduce costs of electrification and decarbonization such that we keep electric prices low relative to other emissions-intensive fuels
- Must consider overall 'energy wallet' when thinking about costs and benefits of decarbonization (e.g. heat pumps provide BOTH heating and cooling so should be compared to separate heating and cooling systems)
  - Important to analyze cost-benefit at scale (social planner perspective… statewide, economy-wide)
- How can/should we track costs to understand market maturity and consumer protection
- Consistency leads to reduction in costs: programs are an opportunity to monitor and train the market/market actors

Other considerations? – June 15 @ 6pm

- We had a small group of folks who had joined previous meetings, so we had a discussion rather than sharing the slide deck
- Discussed upcoming PUC docket on the future of the gas system and if/how the EC4 might participate (which is to be determined)
- Discussed that Rhode Island Energy must do a decarbonization study as a result of the transaction and that such a study should be consistent with the 2022 Update (as appropriate) and we should look for synergies to reduce costs, gain consistency, etc.
- Discussed prioritizing investments for historically underserved communities
- Discussed developing an upcoming workshop/sharing session on climate-buildings nexus
- Discussed the linkage between energy bills and building investments
- Discussed DEM bringing on board a climate justice specialist (soon!)
- Discussed education for youth to help prepare them to engage in these conversations – what can we learn from prior education priorities (e.g. recycling)?
  - Schools, RIDE, EC4, etc. should consider education duties as part of Act on Climate (video, field trip, etc.)
  - Discussed whether there is an opportunity for a climate-education or climate-youth callout in the 2022 Update
- Discussed how we can improve identifying connections and synergies between resources, waste, energy resources, etc. – holistic lifecycle analysis
  - "holistic innovation component"
  - How do we provide a forum to help match resources to needs: what is the role of the Administration to help make these connections?
  - What does 2050 look like?
- Discussed the idea of climate notes (or emissions notes) akin to fiscal notes attached to proposed bills

Next Steps

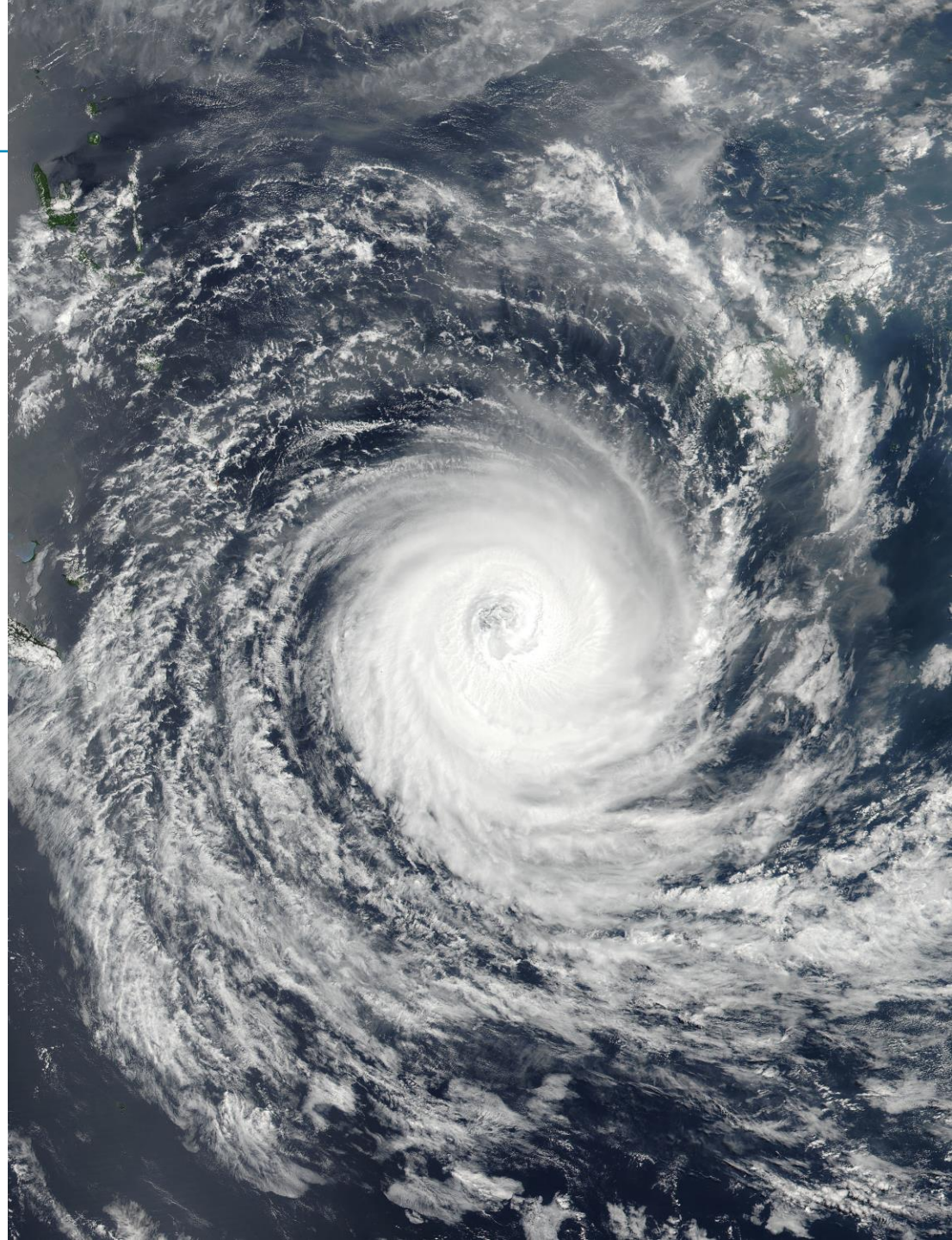
June

- 6/23 EC4 Council Meeting

July

- 7/12 Meet the Utilities
- 7/13-14 Sharing Sessions on Land Use
- 7/27 Climate-Food Systems Nexus

More info & comment form:
www.climatechange.ri.gov/aoc



Act on Climate

Thank you!

Comments may be submitted: www.climatechange.ri.gov/aoc

Check back for updated project materials: www.climatechange.ri.gov/aoc

All climate-related activities will be posted to the EC4 calendar: www.climatechange.ri.gov

RIEC4