

# Welcome to the 2020 JISEA Annual (Virtual) Meeting!

## Financial Risks and Opportunities of Decarbonization

4 August 2020

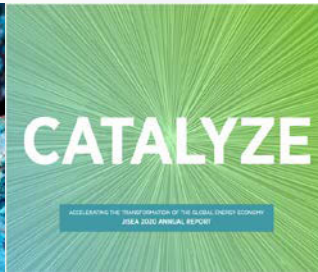
Introduction: Jill Engel-Cox, JISEA Director

Moderator: Mark Ruth, JISEA



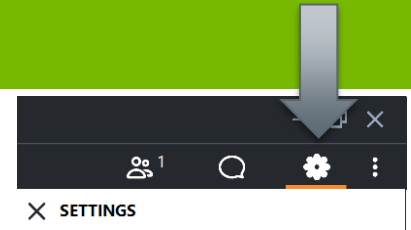
@JISEA1

[www.jisea.org](http://www.jisea.org)



# Some Housekeeping Items

## TWO OPTIONS FOR AUDIO SELECT SETTINGS WHEEL



1

### Listen through your computer.

Please select the “Computer” option and review your Microphone and Speakers selection.

2

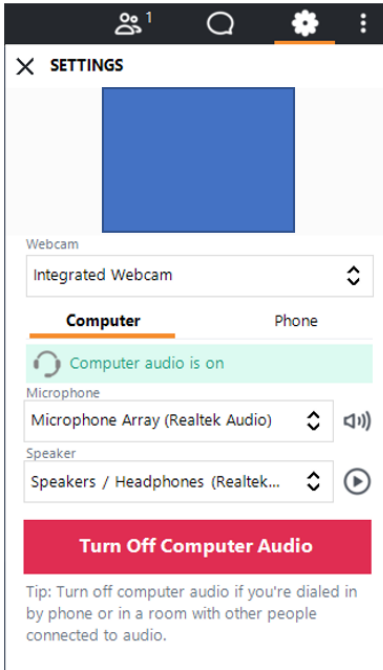
### Listen through by telephone.

Please select the “Phone” option and a phone number and access code will display.

**Unless presenting, please mute your audio device.**

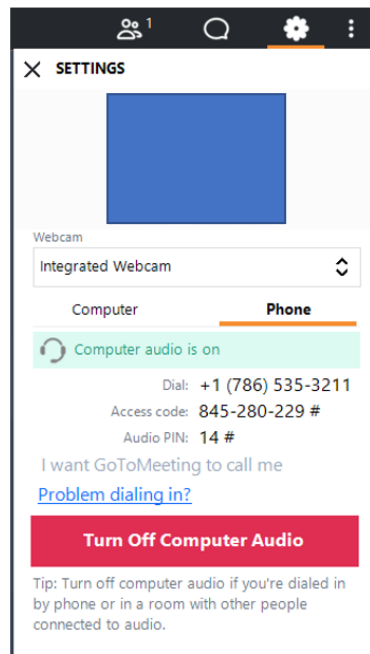
# GoToMeeting: Attendee Participation

## Computer Audio



Settings panel for Computer Audio. The 'Computer' tab is selected. A green bar indicates 'Computer audio is on'. Below, microphone and speaker options are visible. A red button at the bottom says 'Turn Off Computer Audio'. A tip at the bottom reads: 'Tip: Turn off computer audio if you're dialed in by phone or in a room with other people connected to audio.'

## Phone Audio



Settings panel for Phone Audio. The 'Phone' tab is selected. A green bar indicates 'Computer audio is on'. Below, dialing information is shown: 'Dial: +1 (786) 535-3211', 'Access code: 845-280-229 #', and 'Audio PIN: 14 #'. A link for 'Problem dialing in?' is present. A red button at the bottom says 'Turn Off Computer Audio'. A tip at the bottom reads: 'Tip: Turn off computer audio if you're dialed in by phone or in a room with other people connected to audio.'

## Your Participation

- Open and close your control panel.
- Join audio:
  - Choose **Computer** to use VoIP
  - Choose **Telephone** and dial using the information provided
- Submit questions and comments via the Chat panel (note if you don't want to ask verbally)
- We will call on and unmute you to ask question verbally with video on
- Be sure to answer the polling question!

# Overall Agenda: All Sessions 8:30-9:45 am MT

## July 27-30: Sustainability in a Changing World

- Technical “Poster” Session and JISEA Intern Experience
- Energy for Future Food Systems
- Keynote Discussion: Rural Economies & Social Systems
- Circular Economy of Materials and Global Supply Chains

## Aug 3-6: Big Data and Business Systems

- Machine Learning and Artificial Intelligence for Energy Solutions
- Financial Risks and Opportunities of Decarbonization
- Keynote Discussion: Corporate Decision Making for Systems Innovation & Disruption
- Topic “Tables”: Open Discussion Breakouts with Experts

***All sessions about 45 minutes presentation and 30 minutes open questions & discussion***

# Financial Risks and Opportunities of Decarbonization

**Allyson Anderson Book** (Baker Hughes)

**Alice Jackson** (Xcel Energy - Colorado)

**Steve Freilich** (DuPont – Retired)

*Moderator: **Mark Ruth** (JISEA/NREL)*

# Survey Question

Where does the risk of decarbonization / climate change fit in your organization's risk considerations?

- It is the biggest risk we consider
- We are more focused on short-term societal risks
- We are focused on risks that impact the next quarter's (or year's) earnings report
- Ask me after we solve the COVID-19 crisis.

# JISEA-NREL Analysis of the Future – Scenarios

- Historically, most involve optimization and technoeconomic assessment using discounted cash flow calculations
- Now performing large-scale parameter analyses and developing analytic models
- Future work: Real options, impact assessment, societal cost-benefit?

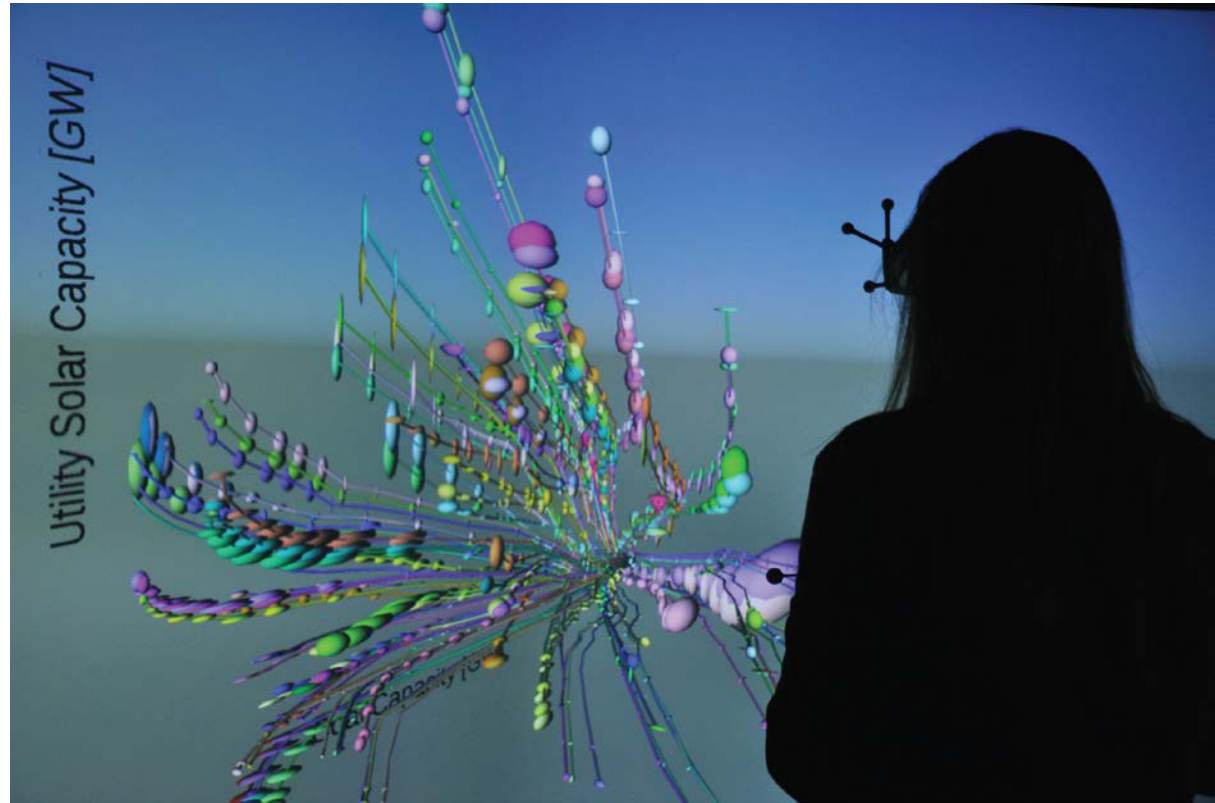


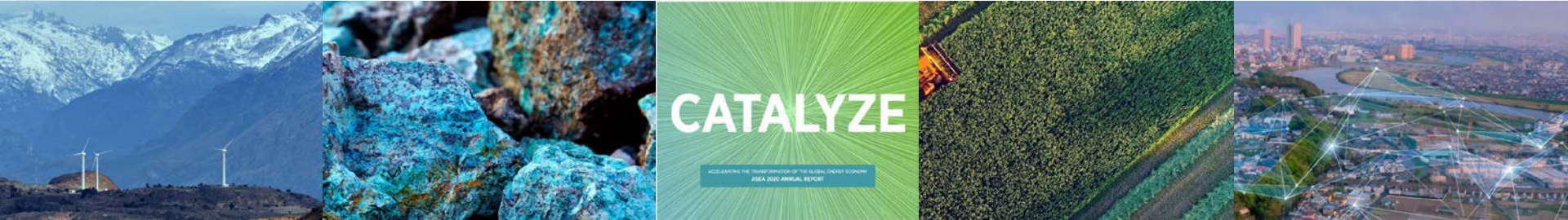
Figure Credit: Statistical Analysis and Data Mining: The ASA Data Science Journal, Volume: 12, Issue: 4, Pages: 325-337, First published: 13 June 2019, DOI: (10.1002/sam.11419)

# Survey Results

Where does the risk of decarbonization / climate change fit in your organization's risk considerations?

- It is the biggest risk we consider
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- Ask me after we solve the COVID-19 crisis.





# Thank you

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Strategic Energy Analysis