

Greenhouse Gas Emissions from Salt Lake City and Beyond: Research and Engagement with Stakeholders



(figure by B. Fasoli)

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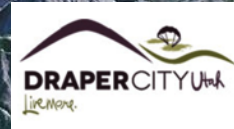


Land-Atmosphere Interactions Research (LAIR) Group

DEPARTMENT OF ATMOSPHERIC SCIENCES | THE UNIVERSITY OF UTAH



HDP



SUN



SUG

MUR/IMC

DBK

RPK

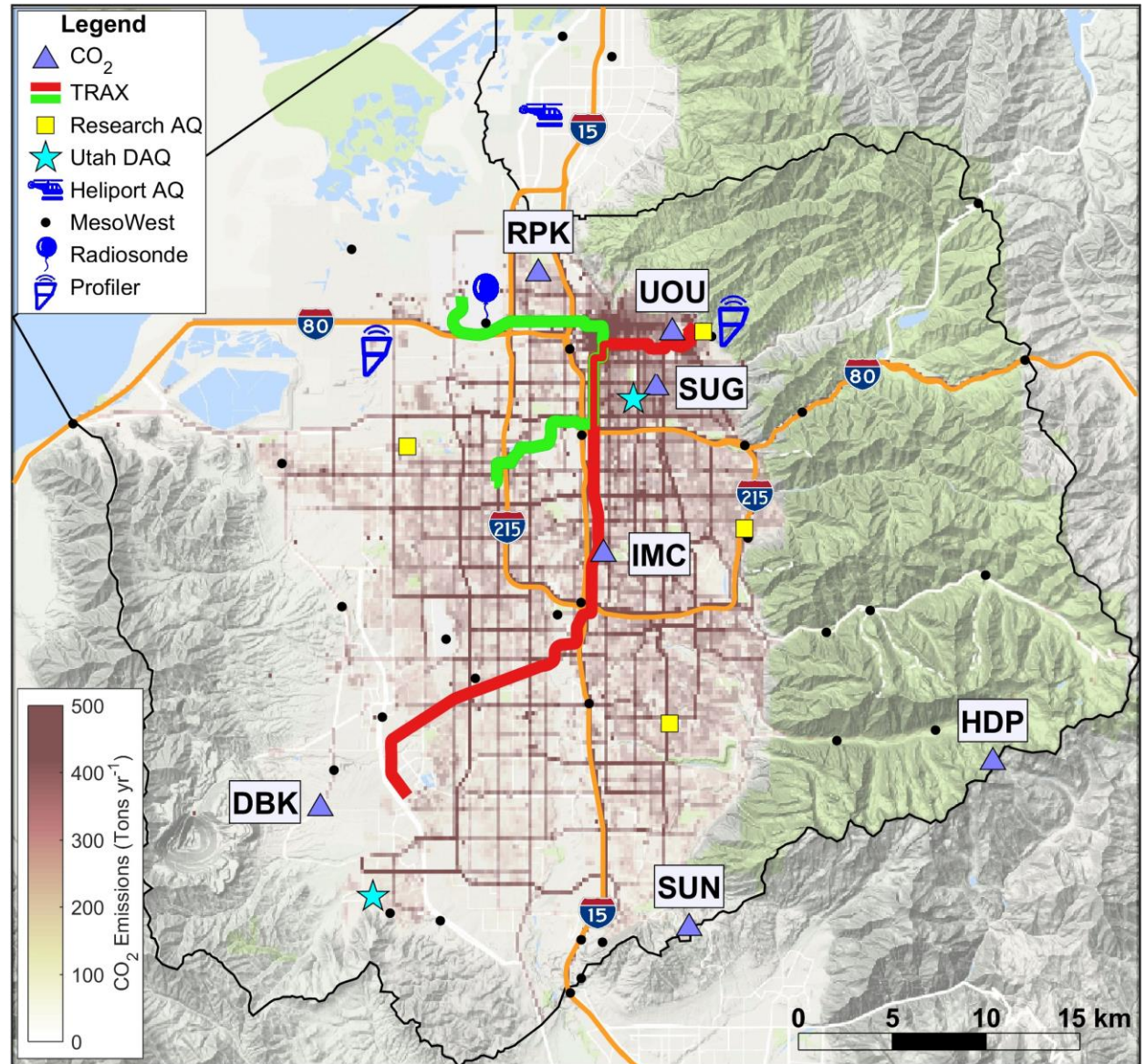


**Salt Lake Valley CO₂ Observational Network—
hosted at sites owned by numerous partner
organizations**

<http://co2.utah.edu>
(one of longest-running urban
CO₂ networks in the world)

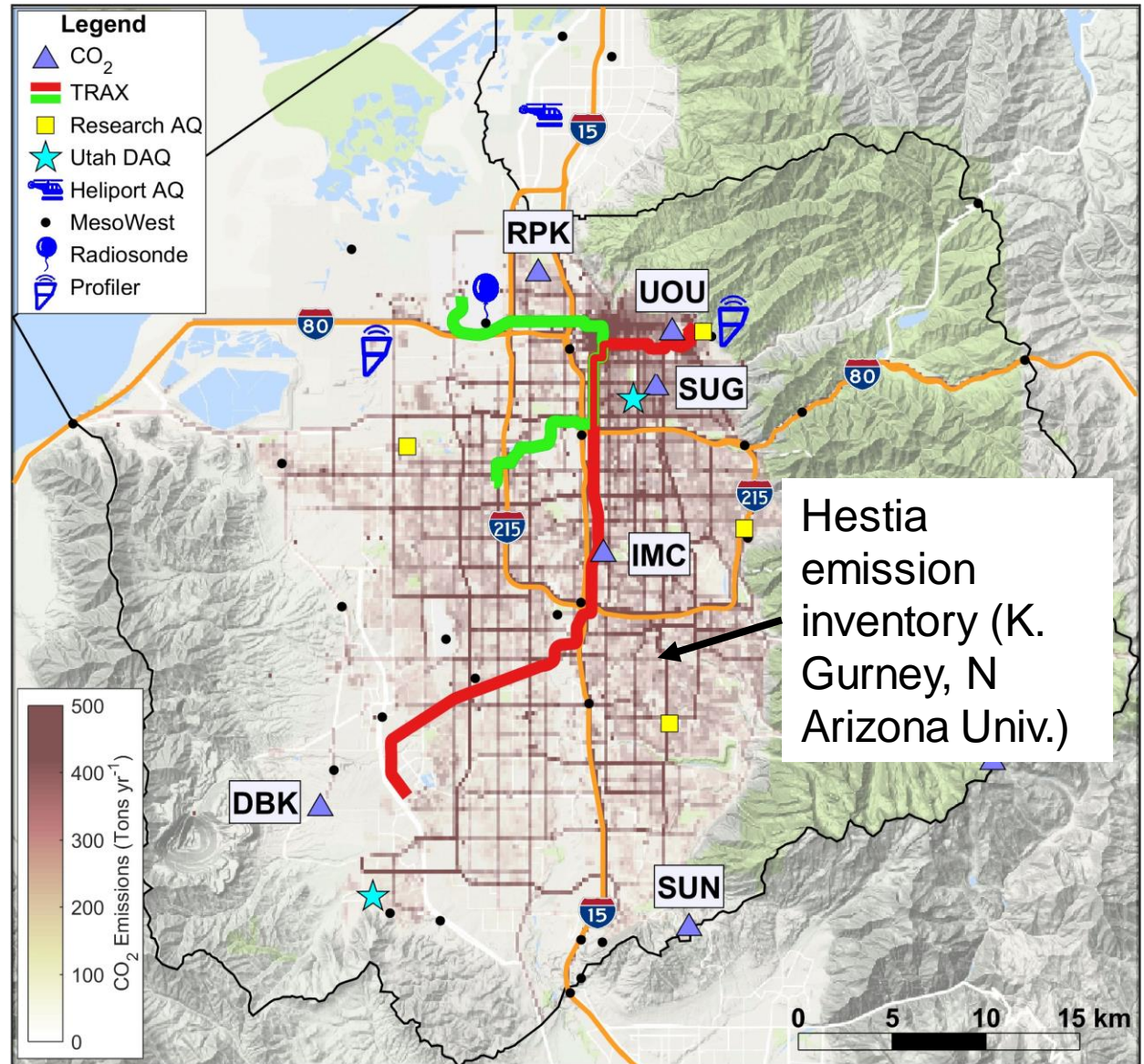
Salt Lake Area Greenhouse Gas Monitoring System

<https://air.utah.edu/>; Lin et al., BAMS, In Press (Nov. 2018 Issue)

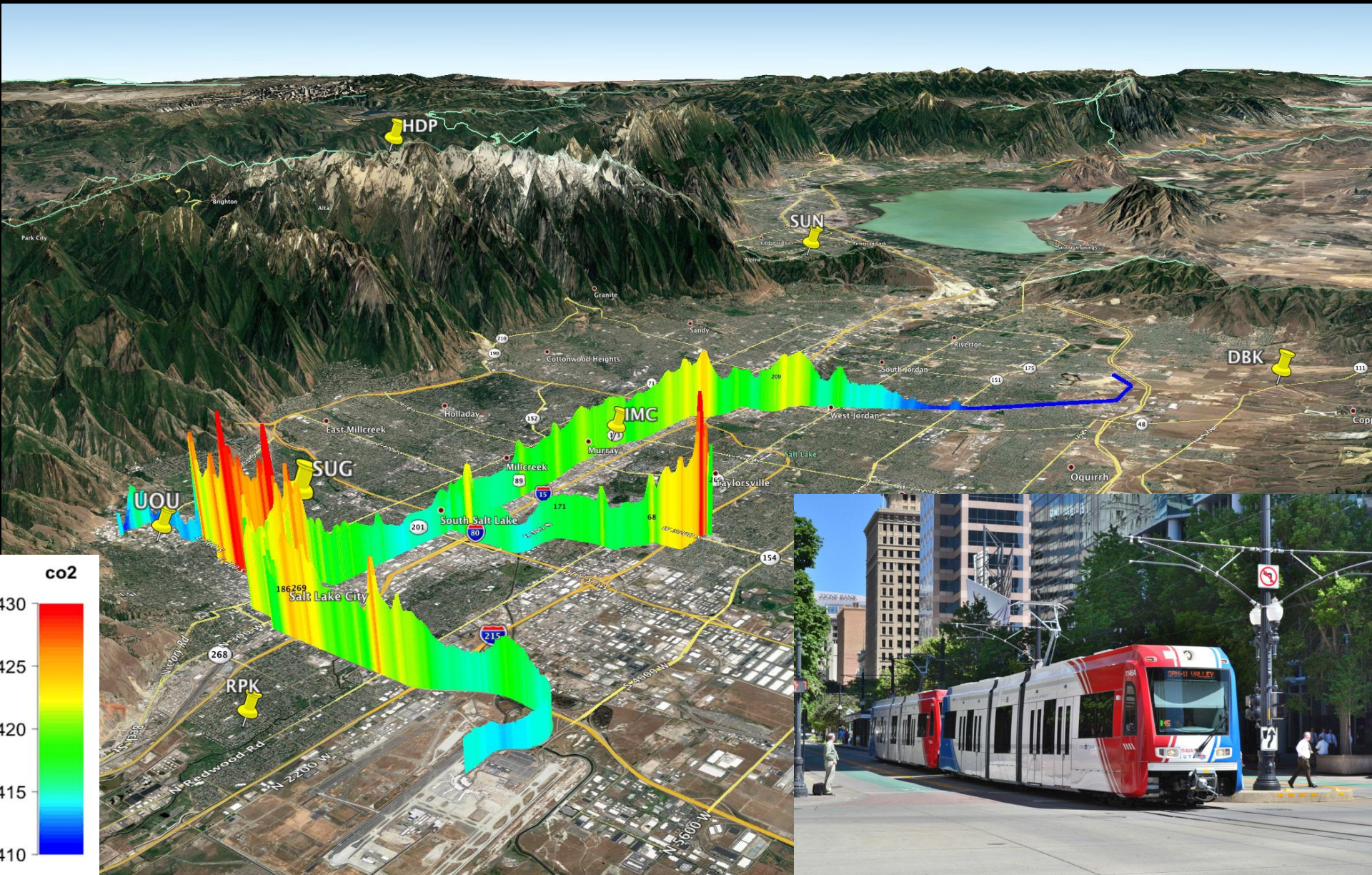


Salt Lake Area Greenhouse Gas Monitoring System

<https://air.utah.edu/>; Lin et al., BAMS, In Press (Nov. 2018 Issue)



Detailed CO₂ spatial patterns throughout Salt Lake area (summer 2015); also air quality data





“CO₂-USA” Network

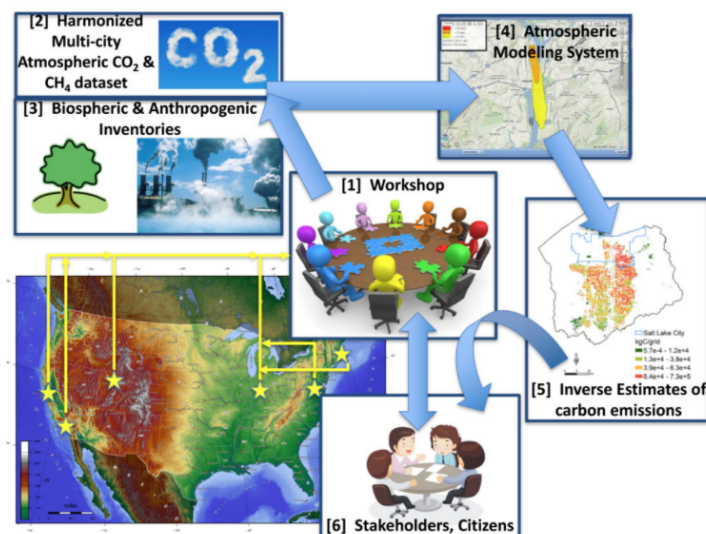
<http://sites.bu.edu/co2usa>

Principal Investigators: [John Lin](#), [Lucy Hutyra](#), [Steven Wofsy](#), [Christopher Loughner](#)

Project Summary

Cities have emerged as leaders in US efforts to reduce greenhouse gas emissions, but the scientific knowledge to quantitatively track emissions and assess the efficacy of mitigation is lacking. As the global population increasingly resides in urban regions, scientific knowledge about *how much, where, and why* a particular city emits carbon becomes increasingly important. This workshop launches a collaborative network to exchange information on community standards and common measurements, facilitate data sharing, and create analysis frameworks and cross-city syntheses to catalyze a new generation of researchers and enable new collaborations tackling important objectives that are difficult to address in isolation. Specifically this synthesis effort seeks to:

- Quantify & understand similarities/differences in CO₂ and CH₄ fluxes across cities;
- Develop harmonized CO₂ and CH₄ mixing ratio datasets that are readily useable, traceable, and accessible by the research community and the public;
- Construct an atmospheric modeling system that is scalable and transferable between cities;
- Compare & understand similarities/differences between anthropogenic emission inventories;
- Improve estimates of biospheric fluxes across cities;
- Foster a community of urban carbon cycle researchers and generate collaborative studies;
- Engage stakeholders to link them with data, syntheses, and insights into urban emissions.



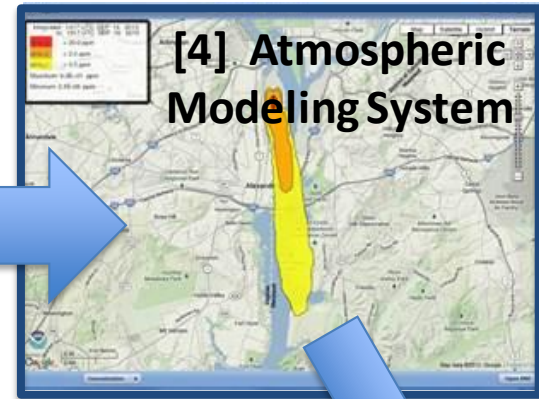
**[2] Harmonized
Multi-city
Atmospheric CO₂ &
CH₄ dataset**



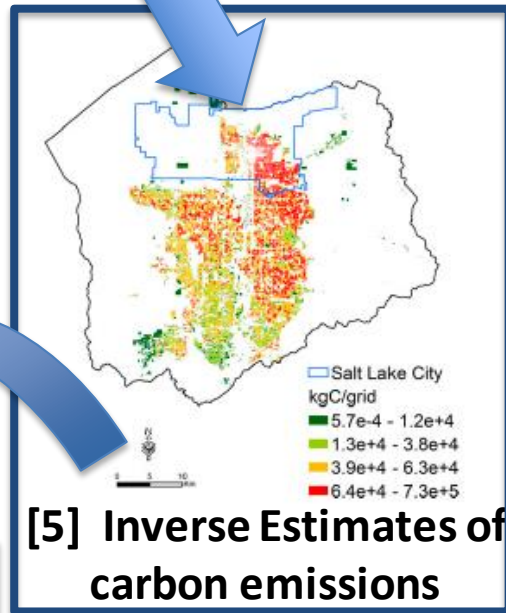
**[3] Biospheric & Anthropogenic
Inventories**



**[4] Atmospheric
Modeling System**

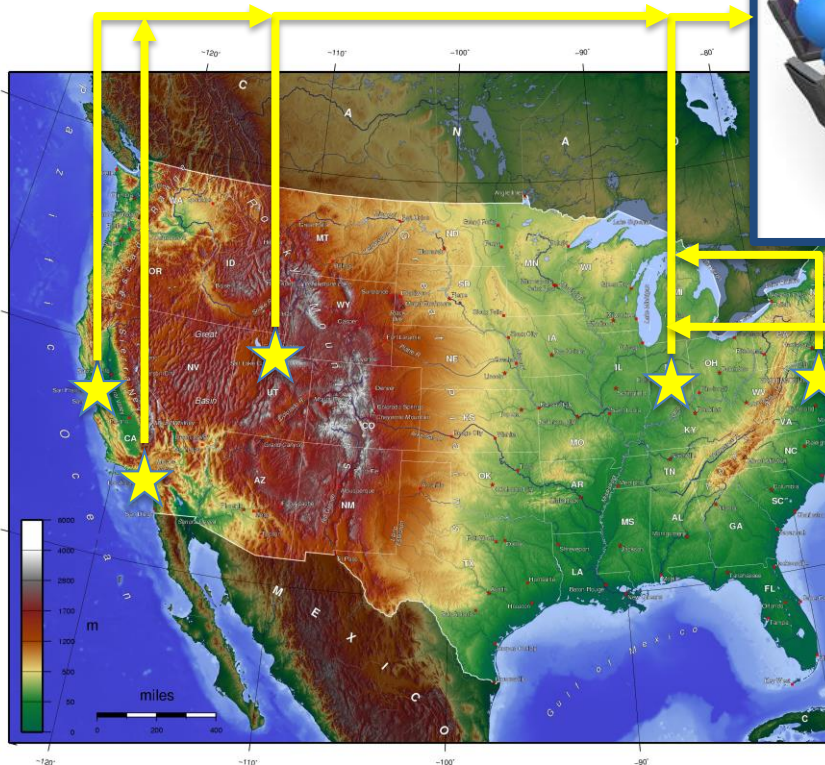


[1] Workshop



**[5] Inverse Estimates of
carbon emissions**

[6] Stakeholders, Citizens



CO₂-USA UTAH WORKSHOP



Sunsets on Salt Lake City CC BY-NC 2.0 Thomas Hawk <https://www.flickr.com/photos/thomashawk/>

This will be the second of three workshops as part of the CO₂-Urban Synthesis and Analysis (CO₂-USA) project bringing together leading scientists, practitioners, and policy makers who are working on understanding urban greenhouse gas emissions. The project aims to synthesize researchers' findings and to bring together leading scientists and policy makers in order to better understand urban GHG emissions. This workshop will highlight new scientific findings, progress towards analysis of urban GHG emissions, and will facilitate interaction between scientists and policymakers.

Registration deadline is September 21.

Agenda

Click to download draft agenda.

The final agenda is pending confirmation. Updates will be posted here.

Register

Information on Lodging, Venues, Salt Lake City

Field Trip 10/26

<https://environment.utah.edu/co2-workshop/>



“Our city. . . is committed to powering 50% of municipal operations with renewables by 2020. We have set another goal of transitioning the entire community's electricity supply to 100 percent clean energy by 2032, followed by an overall reduction of community greenhouse gas emissions 80% by 2040. “

--Jackie Biskupski, mayor of Salt Lake City



SLCgreen

Climate Positive 2040

Reduce pollution,
save resources, &
empower our city



SLCgreen.com/ClimatePositive

Spence and Cleone Eccles Scholarship Box



Spence and Cleone Eccles Scholarship Box



Key Messages from Urban Stakeholders

- Need more information about on road emissions
- Need for relating GHG emissions with air quality
- Importance of working with utility companies to decarbonize power generation
- Critical mass of multiple municipalities working with utility companies
- Significance of scientists as communicators and educators

Challenges: Potential Mismatch between Urban Stakeholders' vs Researchers' Emission Estimates

- Onroad emissions—need to take out “pass-through traffic”
- Totals from summing emissions from individual municipalities not necessarily consistent with estimate over larger area
- Scope 1, 2, versus 3 emissions
- Power consumption—not emitted directly, but significant part of reduction plans
 - difficult to obtain granular data (privacy concerns)