

# Technologies and Policies to Decarbonize the Industry Sector

Introductory Remarks

John Katzenberger

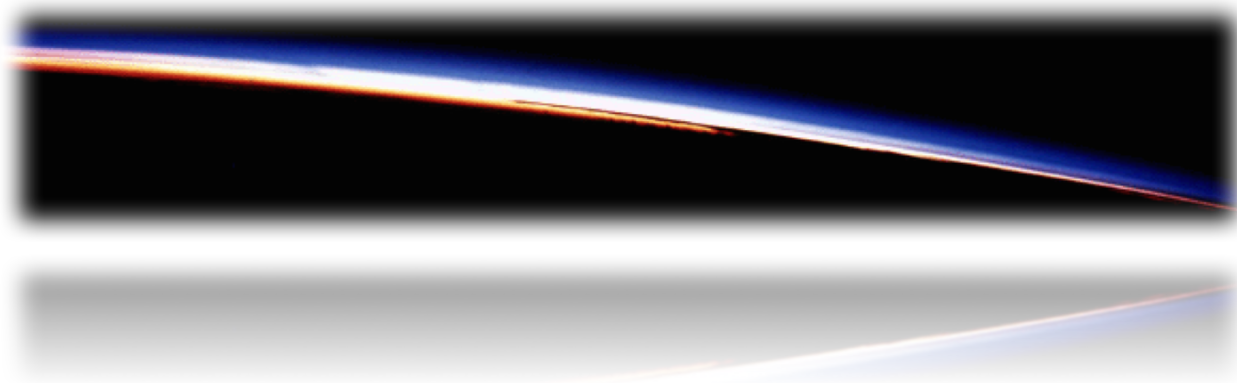
12-16 November 2018

Aspen, Colorado



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## Mission

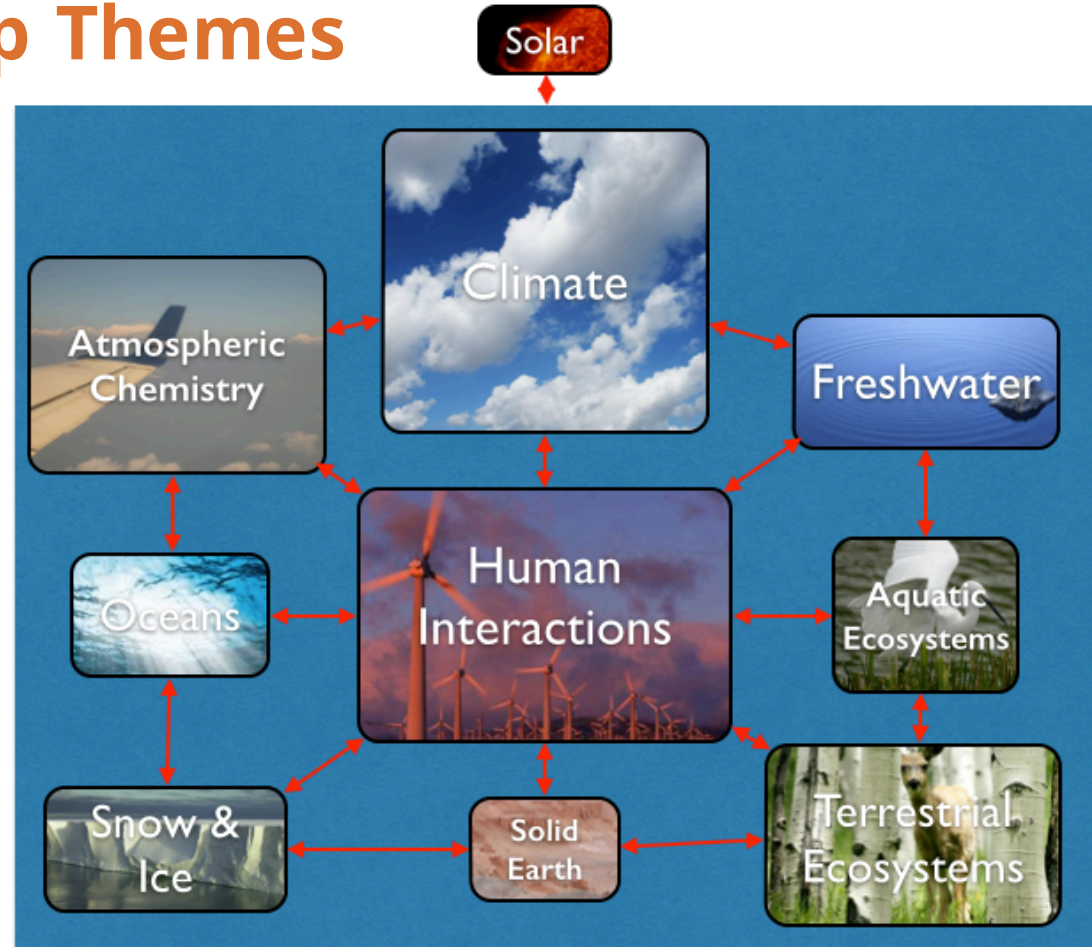
To further the understanding of Earth systems and global environmental change in service to society.



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# Workshop Themes



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# Our Work



Workshops



Research & Consulting



Education & Public Outreach



Sponsored Programs



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# Place-based research in support of local resource managers and governments



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# Decarbonization Related Thread

1998:

Innovative Strategies for CO2 Stabilization

2000:

Industrial Carbon Management: Crosscutting Scientific, Technical & Policy Implications

2003:

Energy Options and Paths to Climate Stabilization

2014:

Pathways for Climate Solutions: Assessing Energy Technology and Policy Innovation

2016:

Getting Near Zero – Decarbonizing the Last 20 Percent



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# Recent Publications

## **Understanding the Causes and Consequences of Polar Amplification (2017)**

Screen, J. A., C. Deser, D. M. Smith, X. Zhang, R. Blackport, P. J. Kushner, T. Oudar, K. E. McCusker and L. Sunn (2018), Consistency and discrepancy in the atmospheric response to Arctic sea-ice loss across climate models. ***Nature Geoscience***.

## **Getting Near Zero: Decarbonizing the Last 20% (2016)**

Davis, S. J., N. S. Lewis, and K. Caldeira (2017), Achieving a near-zero carbon emissions energy system, ***Eos***.

and:

**Davis, S.J., et al. (2018) Providing energy services without net addition of carbon dioxide to the atmosphere. *Science*.**

## **Decadal Climate Prediction: Improving Our Understanding of Processes and Mechanisms to Make Better Predictions (2015)**

Boer, George J. , Gerald A. Meehl, and Doug M. Smith (2015), Toward Improving Decadal Climate Predictions. ***Eos*** meeting report.

and:

Boer, G., et al (2016) Decadal Climate Prediction Project (DCPP) contribution to CMiP6. ***Geoscientific Model Development***.

## **Impact Relevance and Usability of High Resolution Climate Modeling and Datasets (2015)**

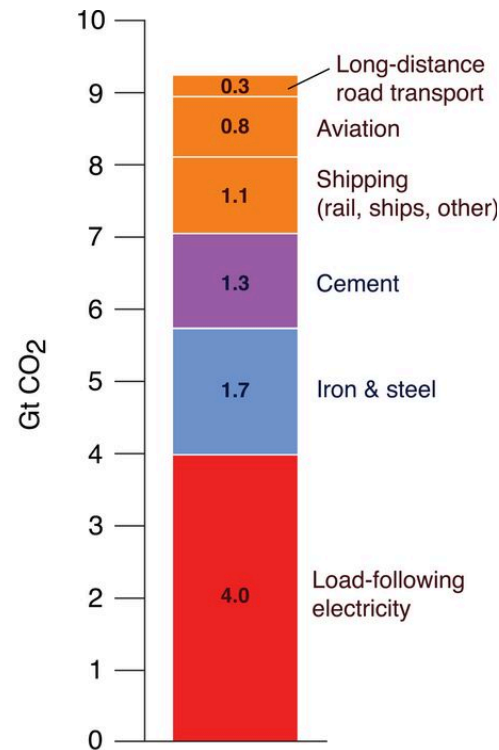
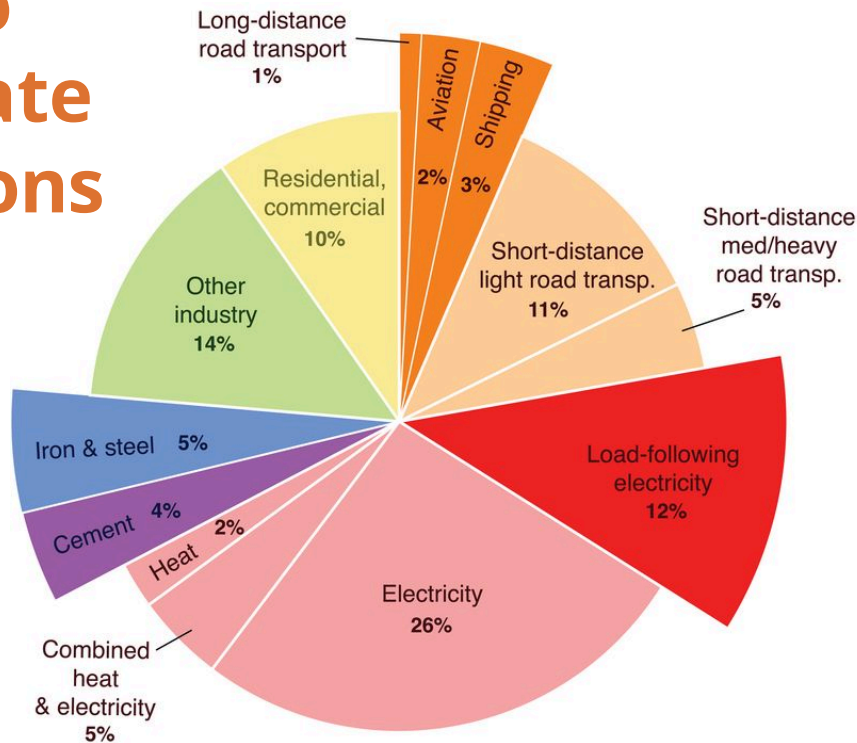
Jones, A., K. Calvin, and J.-F. Lamarque (2016), Climate modeling with decision makers in mind, ***Eos***.



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# Hard to eliminate emissions



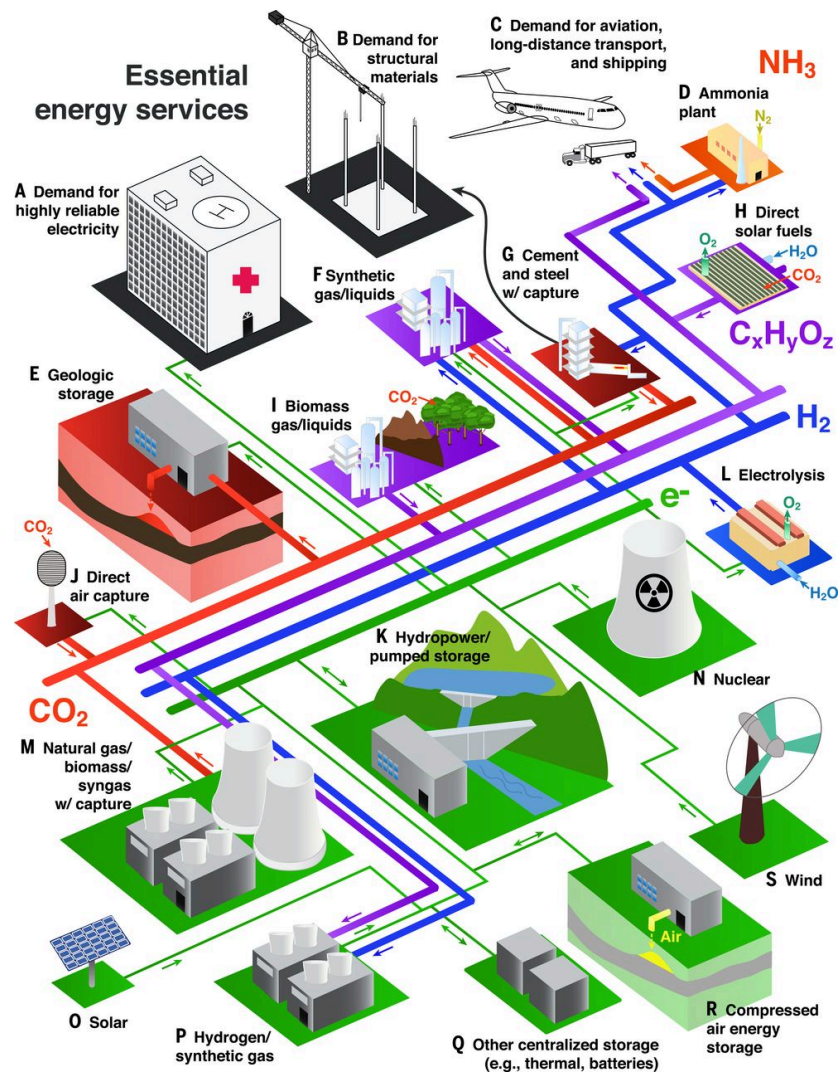
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Davis et al Science 2018



# Integrated Systems



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Davis et al. Science 2018

# Past & Upcoming Workshops

Integrating Climate Change Adaptation and Disaster Risk Management to Protect Health and Build Resilience in Pacific Islands

May 20-25, 2018

Innovating Global Fruit and Vegetable Food Systems to Help Bring Sustainable Nutrition Security

July 30 to August 03, 2018

Drought on Subseasonal to Seasonal Timescales: Water and Food Security

September 9-14, 2018

**Technologies and Policies to Decarbonize the Industry Sector**

November 11-16, 2018

**The Future of Past Climate**

**Spring 2019**

**Next-Generation Food Shock Modeling**

**Spring 2019**



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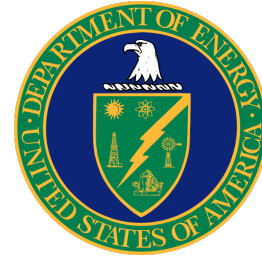
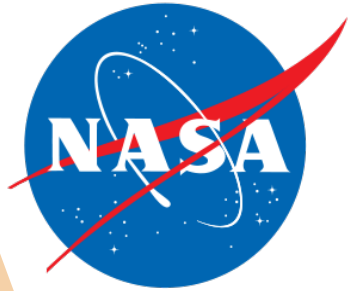


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# Recent Funding



+ Other private foundations & contributors



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# AGCI Guide to Conduct

1. Share our time & space together: Actively listen, contribute, and learn
2. Find ways to support the work & ideas of others
3. Respect differences
4. Practice self-care
5. Advocate for help when needed

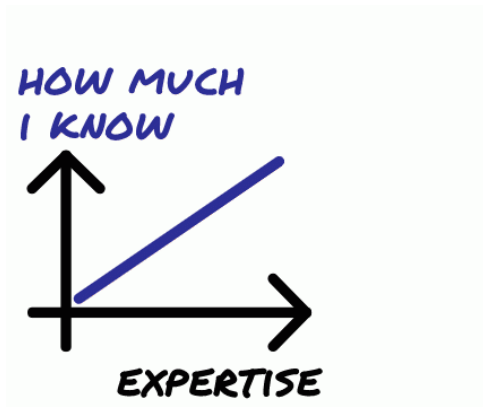
(AGCI Contact: Emily, [ejs@agci.org](mailto:ejs@agci.org))

For more detail refer to AGU Code of Conduct online.



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# Motivating Challenge

Seek solutions that  
*stay within planetary  
boundaries*

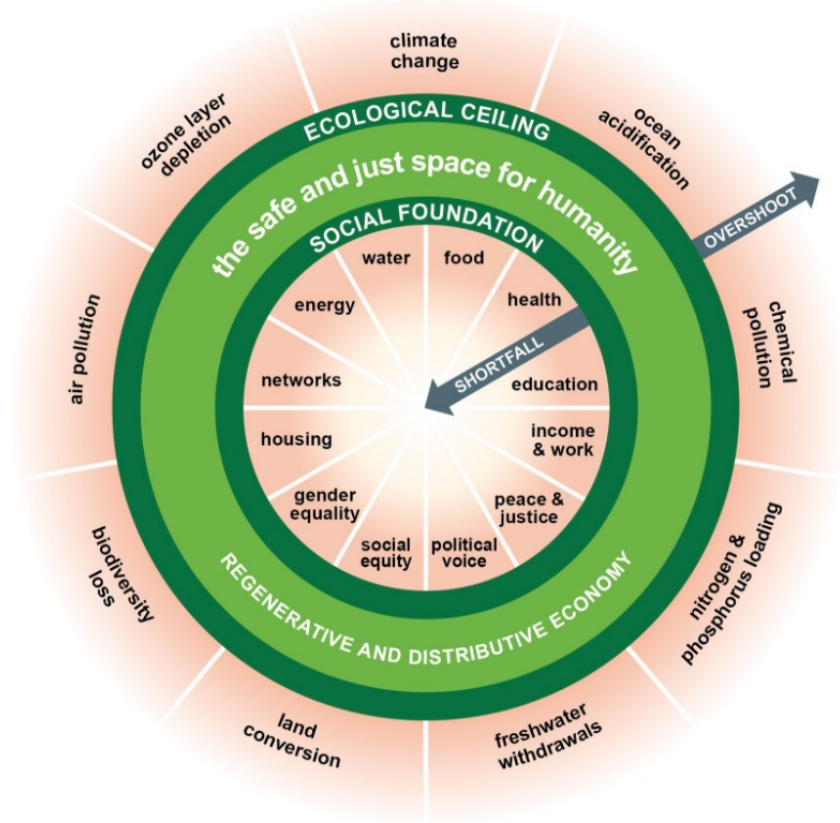
AND

*raise the social  
foundation.*



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Raworth 2012



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Decarbonize the Industrial Sector**

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