

DRAFT

Enabling Realistic Pathways & Actions to Climate Goals A Virtual Snowmass Climate Change Workshop

Zoom Meeting

December 8, 9, & 10, 2021

10 AM – 1 PM Eastern time¹

(Draft as of December 7, 2021)

The Snowmass series of workshops spanning over 25 years has catalyzed interaction between researchers using integrated assessment and leading experts in areas such as climate science, technology, health, economics, policy, and political science to address pressing questions. With the suspension of this summer's Snowmass workshop due to the pandemic, we are organizing this virtual session to continue to foster interaction.

Workshop Objective: This 3-day workshop seeks to exchange perspectives on (day 1) the definition and use of climate goals and what would make transitions implied by the goals broadly wanted, (day 2) the wide range of pathways to climate goals and what makes them more-or-less probable, and (day 3) policies and actions to reach climate goal and what areas are outpacing or lagging-behind pathways. This workshop's theme is moving from pathways thought to be infeasible to ones that could be probable.

The workshop is composed of 9 one-hour sessions framed to focus discussion, beginning with inspirational keynotes in the first one-hour session. The workshop is structured to maximize discussion. Sessions two through eight each start with a series of short initial comments to jumpstart discussion, followed with a significant amount of time for open discussion, and conclude with some reflections. The last session will focus on opportunities for future Snowmass workshops, activities, or research. In this workshop we will observe the Chatham House Rule to promote inclusive and open discussion.

Times and dates are shown in **red**.

¹ Start time on all three days is at 10 AM Eastern (NYC), 7 AM Pacific, and 4 PM Central European time. Times in this agenda are Eastern Standard Time.

December 8, 2021 -- Workshop Scene Set and Climate Goals

Session 1-1. Workshop Scene Set and Keynote Talks

Climate change goals have been formed that imply rapid transitions in energy, land, cities, infrastructure, and industries, yet we are, at best, in the early stages of realizing these transitions. This workshop is kicked off with keynote talks to provide perspectives and begin workshop participant discussion of the transitions.

10 AM Workshop Introduction by session moderator (5minutes): **John Weyant (Stanford)**

Keynote Talks (30 minutes)

10:05 AM Energy and economic transitions: **Daniel Yergin (IHS Markit)**

10:20 AM Climate policy and the transitions: **Jonathan Pershing (U.S. Department of State)**

10:35 AM Open Discussion (20 minutes)

10:55 AM 5--minute break between sessions

Session 1-2. Exploring Climate Goals

Climate goals range from ultimate goals on limiting global temperature or net-zero emissions, to intermediate goals such as levels of emission reduction or sectoral actions. This session will focus on the definition of goals and their use, connecting near-term or sub-global actions to ultimate goals, and exploring the avoided climate impacts from achieving goals.

11 AM Discussion framing by session moderator (5 minutes): **Haroon Kheshgi (U of Illinois)**

Discussion (50 minutes)

11:05 AM Initial Commenters (3 minutes each): **Jim Skea (IPCC WGIII Co-Chair), Chris Field (Woods Institute)**

11:15 AM Open Comments (35 minutes)

11:50 AM Concluding Comment (5 minutes): **Steve Rose (EPRI)**

11:55 AM 5-minute break between sessions

Session 1-3. Making the Transition Desirable

The transition to a low carbon world implies transformation of our economy and the way we live, and meeting temperature goals implies that this transition would be very fast. This session will focus on what would be needed to make such a fast transition broadly desirable. Discussion could include, for example, issues associated with the disruptions for many implied by a fast transition, or transition in the context of current world priorities (the focus of the 2020 virtual Snowmass workshop, or as represented by the SDGs).

12 PM Discussion framing by session moderator (5 minutes): **Jae Edmonds (PNNL)**

Discussion (50 minutes)

12:05 PM Initial Commenters (3 minutes each): **Brian Fisher (BAEconomics), Surabi Menon (ClimateWorks Foundation), Keywan Riahi (IIASA)**

12:15 PM Open Comments (35 minutes)

12:50 PM Concluding Comment (5 minutes): **Rob Lempert (RAND)**

12:55 PM End of day's sessions

December 9, 2021 -- Pathways to Climate Goals

Session 2-1. Global Pathways over this Century

A wide range of pathways to climate goals continue to emerge. This session will describe how this range is evolving as consideration of climate goals has evolved.

10 AM Discussion framing by session moderator (5 minutes): **John Weyant (Stanford)**

Discussion (50 minutes)

10:05 AM Initial Commenters (3 minutes each): **Brent Wanner (IEA), Sergey Paltsev (MIT), Detlef van Vuuren (PBL/UU)**

10:15 AM Open Comments (35 minutes)

10:50 AM Concluding Comment (5 minutes): **Kate Calvin (PNNL)**

10:55 AM 5- minute break between sessions

Session 2-2. Moving Global Pathways from Infeasible to Probable

Assumptions regarding markets, behavior, technologies, and policies are a part of global mitigation pathways, yet there is great uncertainty, particularly for a rapid and unprecedented transformation. This session will explore the range of assumptions used for different pathways and consider how pathway likelihood is evolving with our understanding.

11 AM Discussion framing by session moderator (5 minutes): **Bryan Mignone (ExxonMobil)**

Discussion (50 minutes)

11:05 AM Initial Commenters (3 minutes each): **Jennifer Morris (MIT), Chris Greig (Princeton), Mike Knotek (Energy Futures Initiative)**

11:15 AM Open Comments (35 minutes)

11:50 AM Concluding Comment (5 minutes): **Massimo Tavoni (EIEE)**

11:55 AM 5-minute break between sessions

Session 2-3. Political, Social and Institutional Factors in Global Pathways

Political, social, and institutional factors can result in preferences towards and opposed to specific pathways. This session will focus on what are the crucial factors, how they influence which pathways are more likely, and what information is needed to account for these factors.

12 PM Discussion framing by session moderator (5 minutes): **Jae Edmonds (PNNL)**

Discussion (50 minutes)

12:05 PM Initial Commenters (3 minutes each): **David Victor (UCSD), Elke Weber (Princeton), Vaibhav Chaturvedi (CEEW)**

12:15 PM Open Comments (35 minutes)

12:50 PM Concluding Comment (5 minutes): **Leon Clarke (UMd)**

12:55 PM End of day's sessions

December 10, 2020 -- Policy and Actions

Session 3-1. Government Actions

Over the past decade there has been a gap between the aspiration described by climate goals and the climate ambitions (e.g., NDCs) of countries. Governments are currently evolving their level of ambition through the policies and actions that they are taking. This session will explore the directions those actions are going in to provide some context to the range of pathways considered in day #2.

10 AM Discussion framing by session moderator (5 minutes): **Bryan Mignone (ExxonMobil)**

Discussion (50 minutes)

10:05 AM Initial Commenters (3 minutes each): **Franck Lecocq (CIRED), Allen Fawcett (US EPA), Toshi Masui (NIES)**

10:15 AM Open Comments (35 minutes)

10:50 AM Concluding Comment (5 minutes): **Surabi Menon (ClimateWorks Foundation)**

10:55 AM 5-minute break between sessions

Session 3-2. Sustainable Finance

Finance is increasingly being looked towards to enable a net-zero transition while minimizing negative consequences in the mitigation of and adaptation to climate change. What actions are needed and what are the information needs to be provided to take these actions?

11 AM Discussion framing by session moderator (5 minutes): **Steve Rose (EPRI)**

Discussion (50 minutes)

11:05 AM Initial Commenters (3 minutes each): **Stephane Hallegatte (World Bank), Amal-Lee Amin (CDC Group), Tom Heller (Stanford)**

11:15 AM Open Comments (35 minutes)

11:50 AM Concluding Comment (5 minutes): **Elmar Kreigler (PIK)**

11:55 AM 5-minute break between sessions

Session 3-3. Opportunities for Future Snowmass Activities

There continues to be a need to catalyze interaction between researchers using integrated assessment and leading experts in areas such as climate science, technology, health, economics, policy, and political science to address pressing questions as our response to global change evolves. This session provides open discussion to share ideas for the Snowmass series of activities (including perhaps the traditional Snowmass workshop the summer of 2022 in Colorado), continuing with the topics and theme of this workshop -- *Enabling Realistic Pathways & Actions to Climate Goals* – and/or other topics of interest. Please share ideas on topics to address and communities to gather.

12 PM Discussion framing by session moderator (5 minutes): **Haroon Kheshgi (U of Illinois)**

12:05 PM Open Discussion (45 minutes): **All Participants**

12:50 PM Closing Remarks (10 minutes): **John Weyant (Stanford)**

1:00 PM End of Workshop