

Research Coordination Network on the Digital Economy & the Environment

April 26, 2022, Virtual Workshop



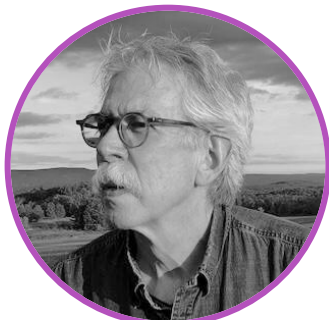
Yale SCHOOL OF
THE ENVIRONMENT



Berkeley
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The Core Team



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Origins: Network for the Digital Economy and the Environment

How Green is the Sharing Economy?



Workshop Conclusions

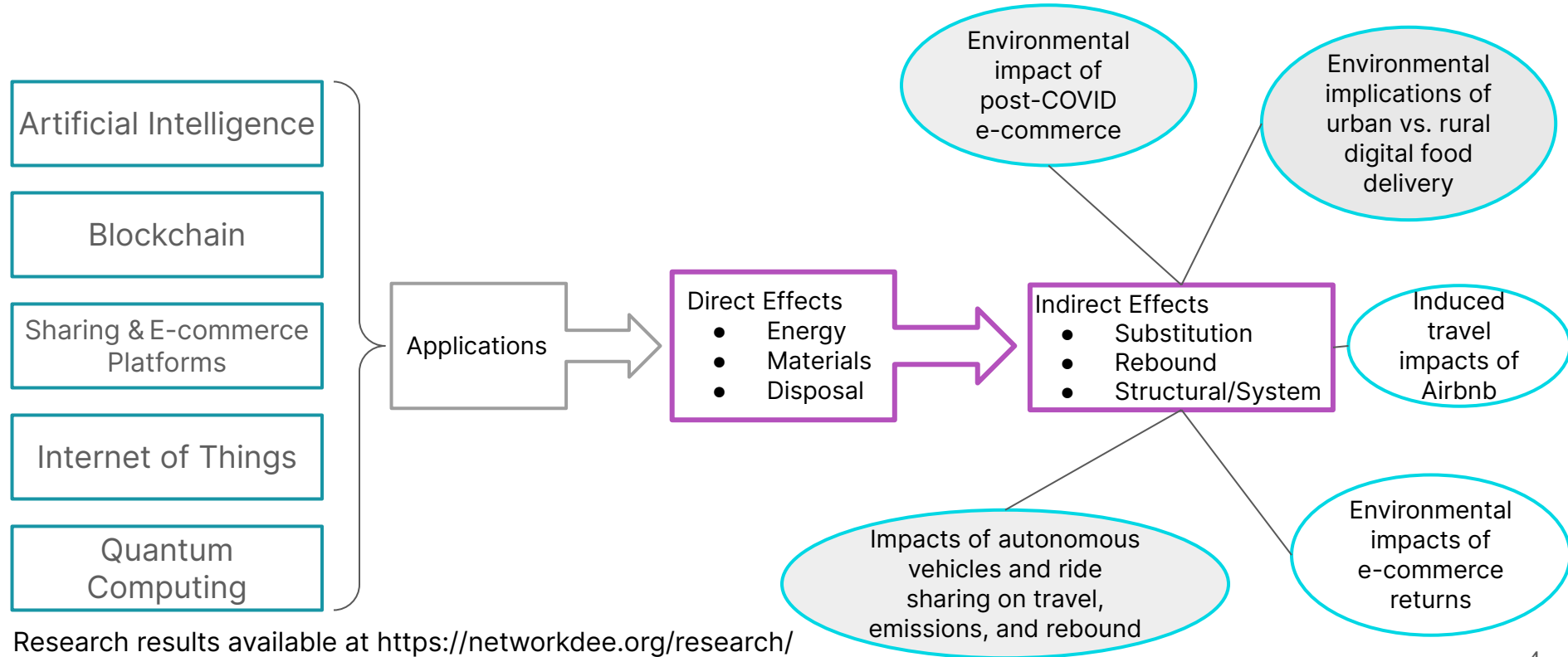
- Research on the energy and environmental impacts of digital sharing platforms has been episodic, opportunistic, and poorly funded.
- Interdisciplinary research will be needed to better understand the impacts, combining quantitative and qualitative approaches.
- There are opportunities for funders to advance the understanding of the energy and environmental impacts through strategic investments in research, coordination, and outreach.

Environmental Impacts of the Sharing Economy, April 28, 2017

Environmental Law Institute, Washington, DC

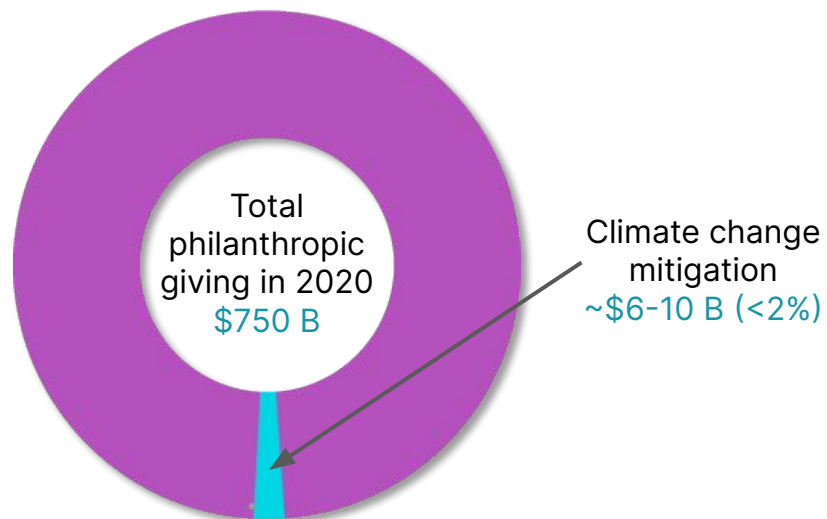
For more information visit <https://networkdee.org>

nDEE Research Portfolio (Support from Sloan & Internet Society Foundations)

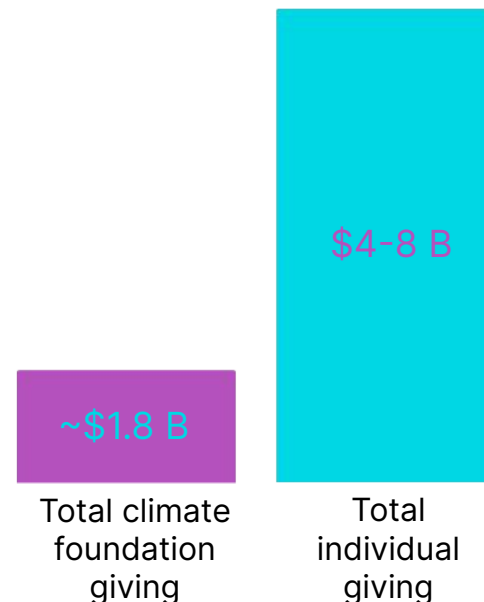


Leverage More Funding for Research

"In 2020, still less than 2% of global philanthropic giving was dedicated to climate change mitigation."



"In 2020, philanthropic giving for climate change mitigation totaled between \$6-\$10 billion."



Figures adapted from Desanlis et al., 2021, p. 3-4.

Increase and Integrate Social/Behavioral Science Research

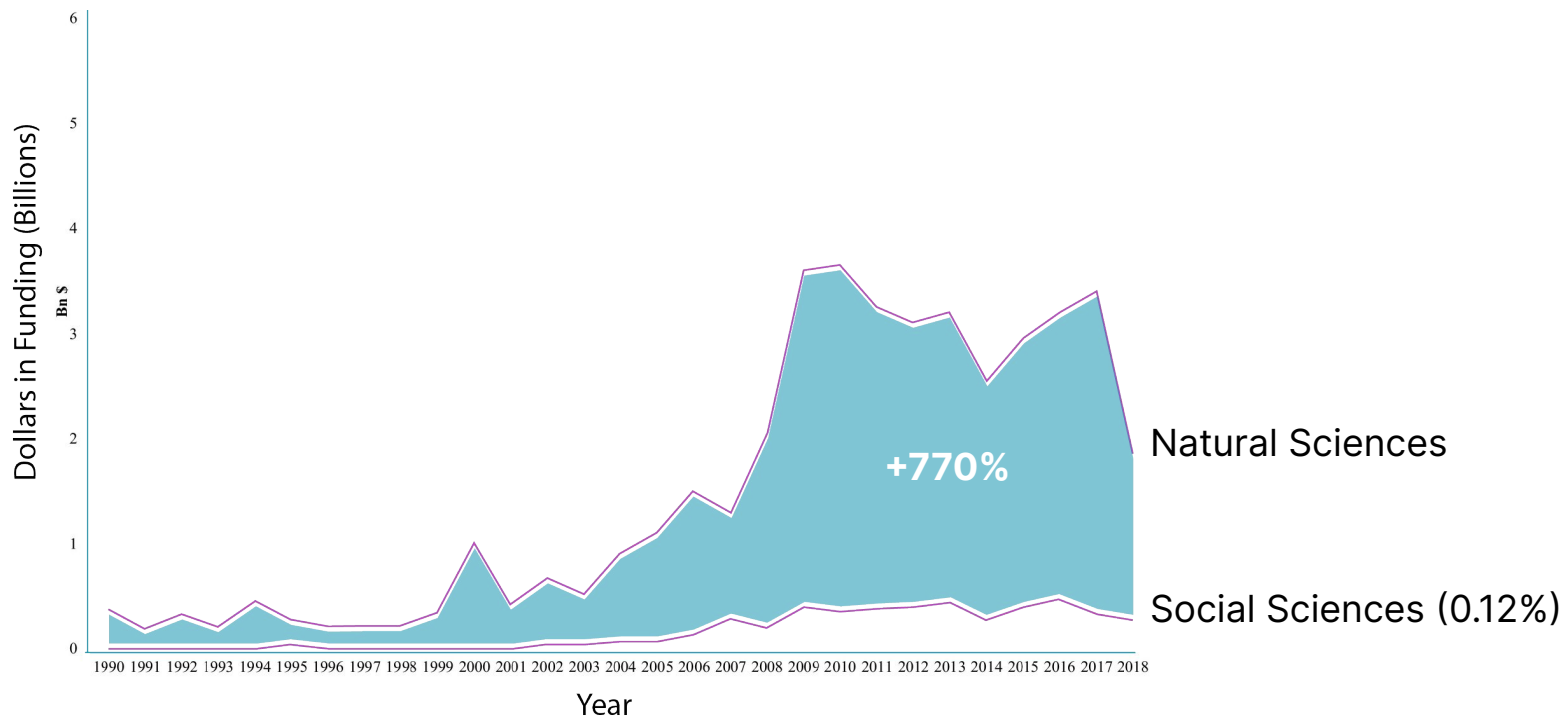


Figure adapted from Overland and Sovacool, 2020, p. 3.

Support Collaboration and Reduce Fragmented Efforts



Engage Early-, Mid-Career and Senior Researchers



RCN Outcomes

Research Coordination Networks are designed to “...foster communication and promote collaboration among scientists with common interests from a broad background across disciplinary, geographical, and organizational boundaries.”
— U.S. National Science Foundation

Desired Outcomes of this RCN:

- Identify research needs (priority for Workshop #1)
- Develop research strategies
- Co-publish papers
- Pursue funding opportunities
- Connect and grow the research community

Workshop Agenda

Time	Agenda Items
0:00	Welcome, Opening Remarks, and Agenda Review
0:20	Scope of the Endeavor and Summary of Network Survey Results
0:30	Round-Robin Self-Introductions — RCN-DEE Members and Other Participants
1:10	Breakout Groups
2:00	Report-Outs to the Larger Group
2:40	Evaluation Plans for the RCN-DEE — Short Survey
2:55	Summary of Outcomes and Wrap-Up
3:00	Adjourn

Overview of RCN Meetings, Format, and Goals

April 2022: Virtual Workshop #1 — Set expectations and goals, clarify scope and focus, brainstorm ideas for research.

June 2022: Virtual Workshop #2 — Discuss goals, identify possible research priorities, identify emerging topics and leads.

June - Sept. 2022: Working Groups — *Develop preliminary proposals and white papers (e.g., on gaps, methodologies, etc.).*

Oct. 2022: Hybrid Workshop (NYC) #3 — Share proposals on research topics, methodologies, and drafts of white papers.

Jan. 2023: Virtual Workshop #4 — Report on progress and continue to refine research topics and grant opportunities.

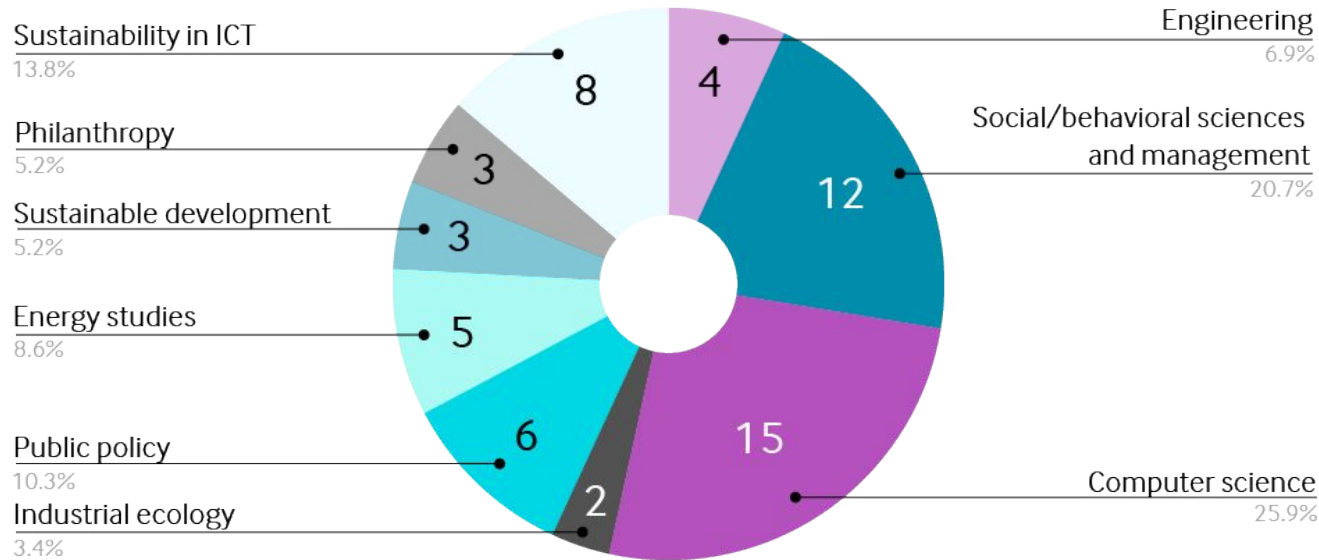
March 2023: Hybrid Workshop (EU) #5 — Continue to share proposals on research topics, methodologies, etc., and explore how to strengthen the network in the future.

March - Sept. 2023: Working Groups — *Refine grant proposals, articles, and/or related initiatives.*

Sept. 2023: Virtual Workshop #6 — Discussion of follow-ups, evaluation of process, possible next steps.

The Composition of the RCN

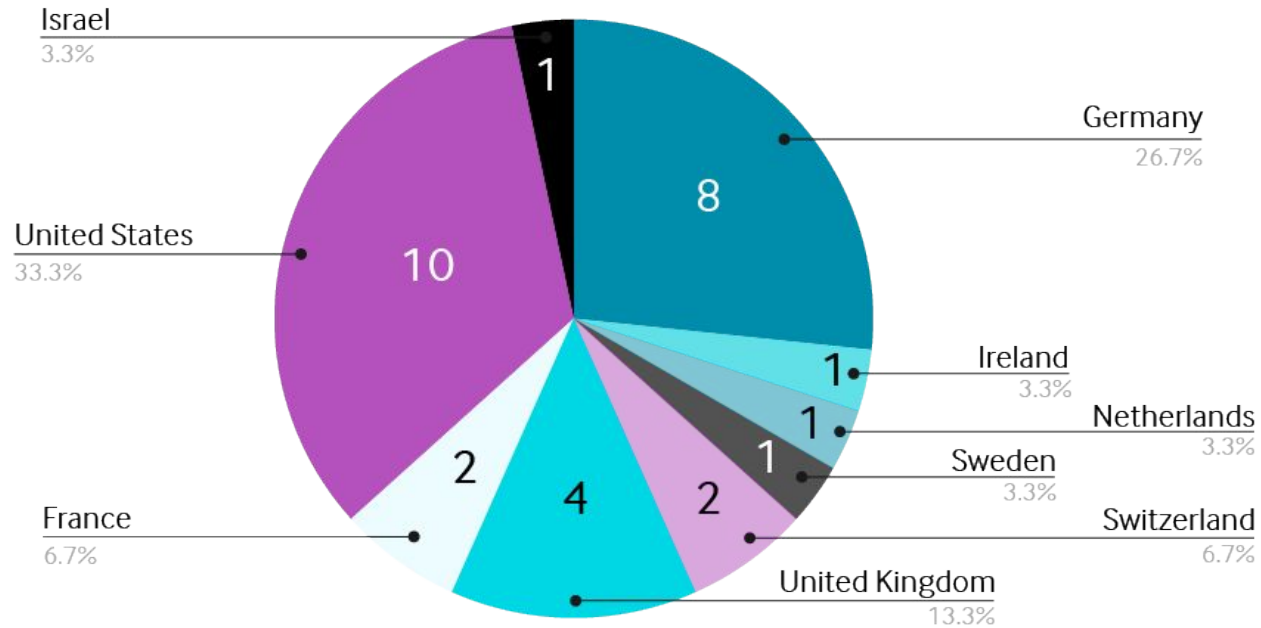
Figure Title: The disciplines/fields of the RCN members.



Note: The figure represents the number of fields indicated by RCN members in the survey.

The Composition of the RCN

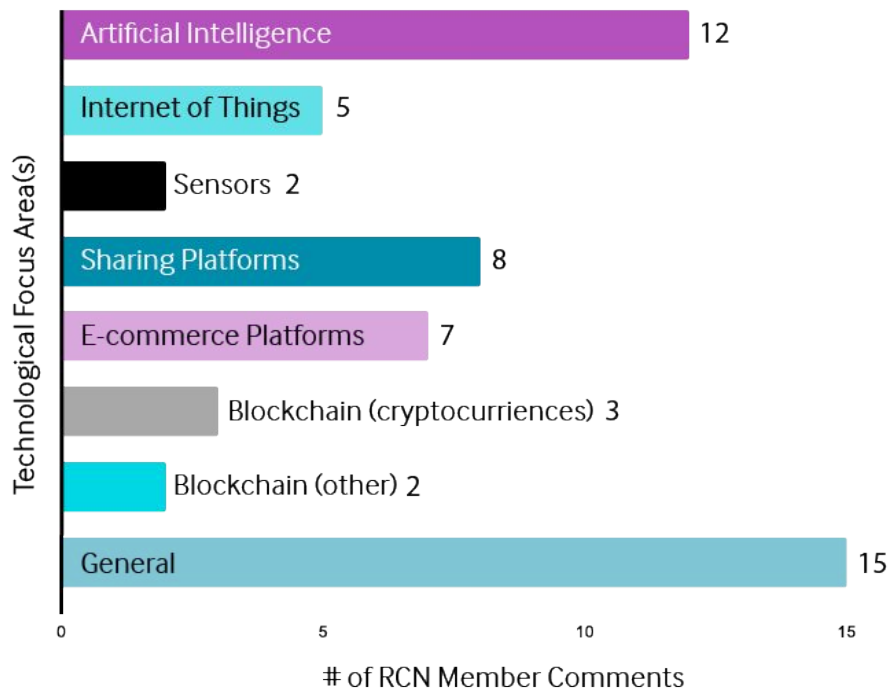
Figure Title: The geographies of the RCN members.



Note: The figure indicates the number of RCN members from a given geography.

The Composition of the RCN

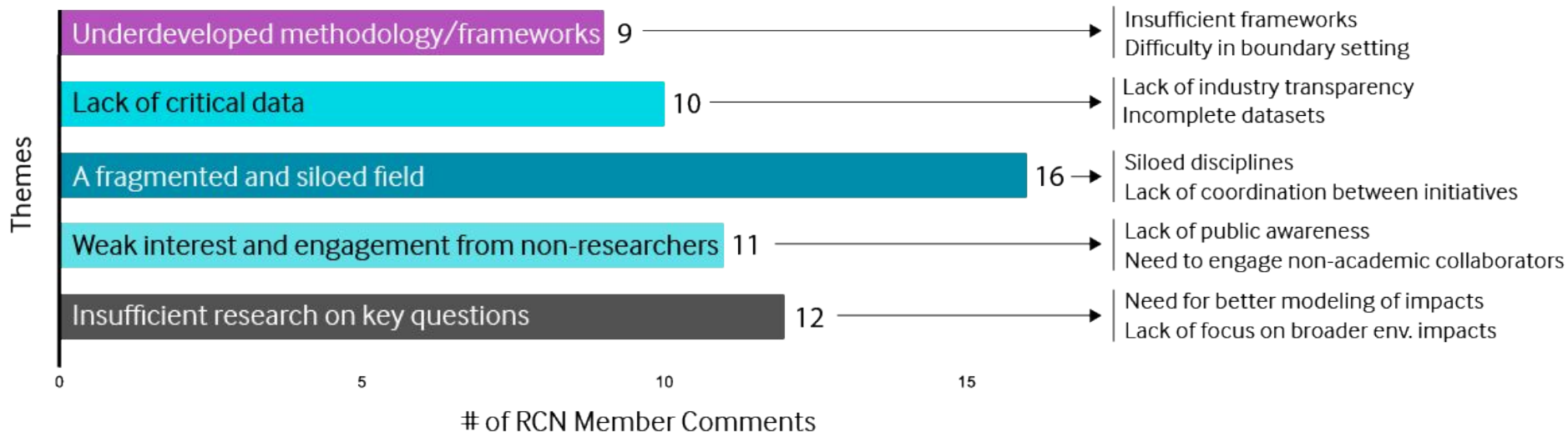
Figure Title: The technological focus areas of the RCN members.



Note: The figure represents the number of RCN members who identified with a given technology in the survey.

Survey Results: What are the most significant barriers to growing this emerging field of research?

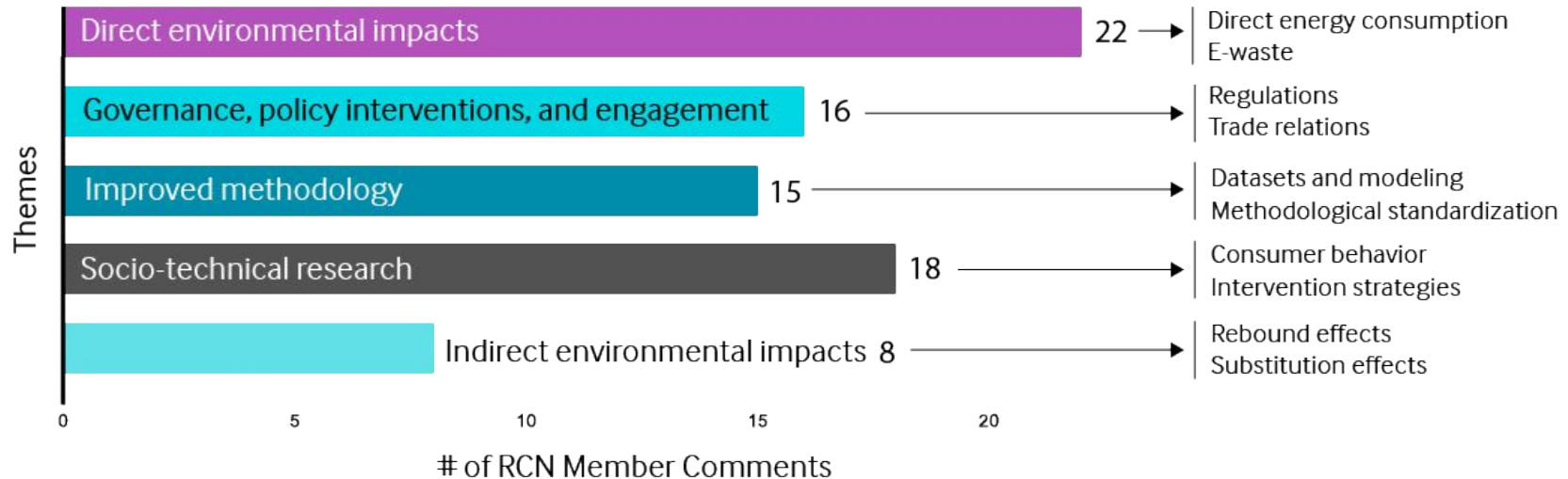
Figure Title: The most significant barriers to growing the field.



Note: The figure represents the number of comments made in the survey related to this question.

Survey Results: What research do you feel is a priority for advancing the field?

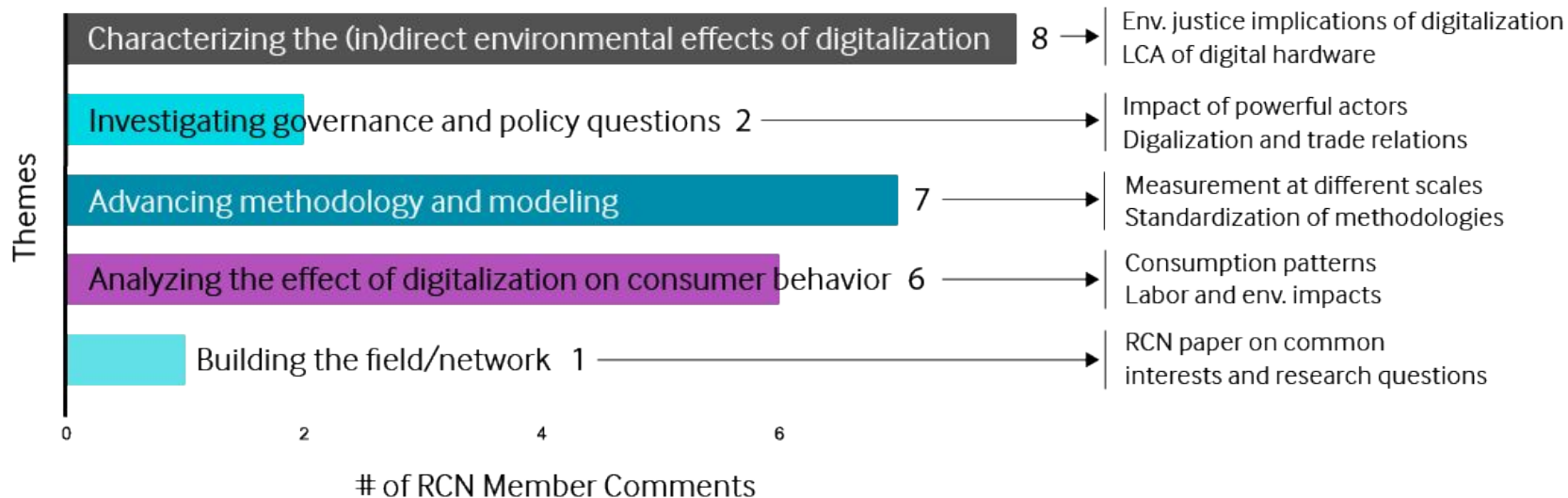
Figure Title: The research priorities for advancing the field



Note: The figure represents the number of comments made in the survey related to this question.

Survey Results: What are some research projects you'd like to work on as part of the RCN?

Figure Title: The types of research projects of interest to RCN members.



Note: The figure represents the number of comments made in the survey related to this question.

Primary Focus on Indirect Effects

	Embodied Energy/Resources	Operation	Disposal	Efficiency	Substitution	Rebound (Direct & Indirect)	Economy Wide (structural change)	Systemic Transformation
Direct Effects	Energy & resources used to manufacture GPS units	Energy used to operate and associated emissions	Energy/waste produced at end of life & disposal					
Indirect Effects				Less congestion/fuel use due to better traffic routing	Replace paper-based maps			
Structural & Behavioral Effects						More travel due to less congestion = more carbon emissions	GPS enables autonomous vehicles (AVs)	AVs change decisions of where to live and work

Research complexity →

↑ Research quantity

Project Focus

Adapted from Horner et al., 2016.

RCN Introductions

Breakout Group Discussions

- Five Breakout Groups with approximately 5-6 RCN members in each group, with a designated facilitator, rapporteur, and notetaker in each group.
- 45 minutes to learn about member expertise and interests and brainstorm research ideas that touch upon the indirect environmental impacts of the digital economy. RCN Members will be asked to share their ideas about:
 - research you're interested in conducting as part of a research team; and
 - identifying research gaps in the field more broadly.

If time allows, discuss barriers to research and how they might be addressed.

- 5 minutes to summarize discussion and prepare for report outs (app. 5 min for each group)
- These are not permanent subgroups: Later in the process, working groups will be formed to work on specific tasks related to the development of research proposals, white papers, articles, etc.

Breakout Group Assignments

Breakout Group 1:

- Callie Babbitt (facilitator)
- Georgia Ray (notetaker)
- Maria Pouri (rapporteur)
- Shayna Robinson
- Sunday Leonard
- Tamar Makov
- Carole-Jean Wu

Breakout Group 2:

- Reid Lifset (facilitator)
- Tessa Lee (notetaker)
- Pernilla Bergmark (rapporteur)
- Bruce Hamilton
- Lorenz Hilty
- Arman Shehabi
- Johanna Pohl

Breakout Group 3:

- George Kamiya (facilitator)
- Aidan Smith (notetaker)
- Charlie Wilson (rapporteur)
- Tom Dietz
- Martin Krzywdzinski
- Harald Vranken
- Daniel Schien
- Ayelet Gneezy

Breakout Group 4:

- Markus Siewert (facilitator)
- Jessie Sugarman (notetaker)
- Johannes Kirnberger (rapporteur)
- Alex Jones
- Emma Strubell
- Vlad Coroama
- Lucia Reisch
- Lynn Kaack

Breakout Group 5:

- Dave Rejeski (facilitator)
- Laura Jacobsen (notetaker)
- Daniel Sui (rapporteur)
- Evan Michelson
- Ozlem Ergun
- Rebecca Reczek
- Anna Scaglione
- Dorothea Kleine

Reports from the Breakout Groups

Next Steps

- The nDEE will analyze notes from the breakout groups, highlighting areas of emerging consensus around research gaps, topics, and strategies.
- Using that analysis, confer with RCN members about research priorities.
- Information will be used to suggest agenda and working groups for workshop #2.
- Virtual workshop #2 in June at date *TBD* (you will receive a Doodle poll).
- Honoraria available to support writing projects over the summer in preparation for hybrid workshop #3 (funding guidance will be provided in advance of workshop #2).
- Hybrid workshop in October or November in New York City.

**Thank you
and let's begin!**

Works Cited

- Desanlis, H., Matsumae, E., Roeyer, H., Yazaki, A., Ahmad, M., and Surabi Menon. (2021). Funding trends 2021: Climate change mitigation philanthropy. Climateworks Global Intelligence.
https://www.climateworks.org/wp-content/uploads/2021/10/CWF_Funding_Trends_2021.pdf
- Overland, I., and Benjamin Sovacool. 2020. The misallocation of climate research funding. *Energy Research & Social Science* 62: 1-13.
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- Horner, N., Shehabi, A., and Ines Azevedo. 2016. Known unknown: indirect energy effects of information and communication technology. *Environ. Res. Lett.* 11(10): 1-20.
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