

# Environmental Impact of Internet Applications and Systems Workshop

Conclusions? And now what?



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# What & Why

An IAB workshop with 73 participants from the IETF, research, and adjacent communities

- 26 position papers

Can we do something about the costs or benefits, better understanding, or start useful research?

- Workshop sessions: big picture, what we know or don't know, improvements, and conclusions

Read report from [draft-iab-ws-environmental-impacts-report](#)

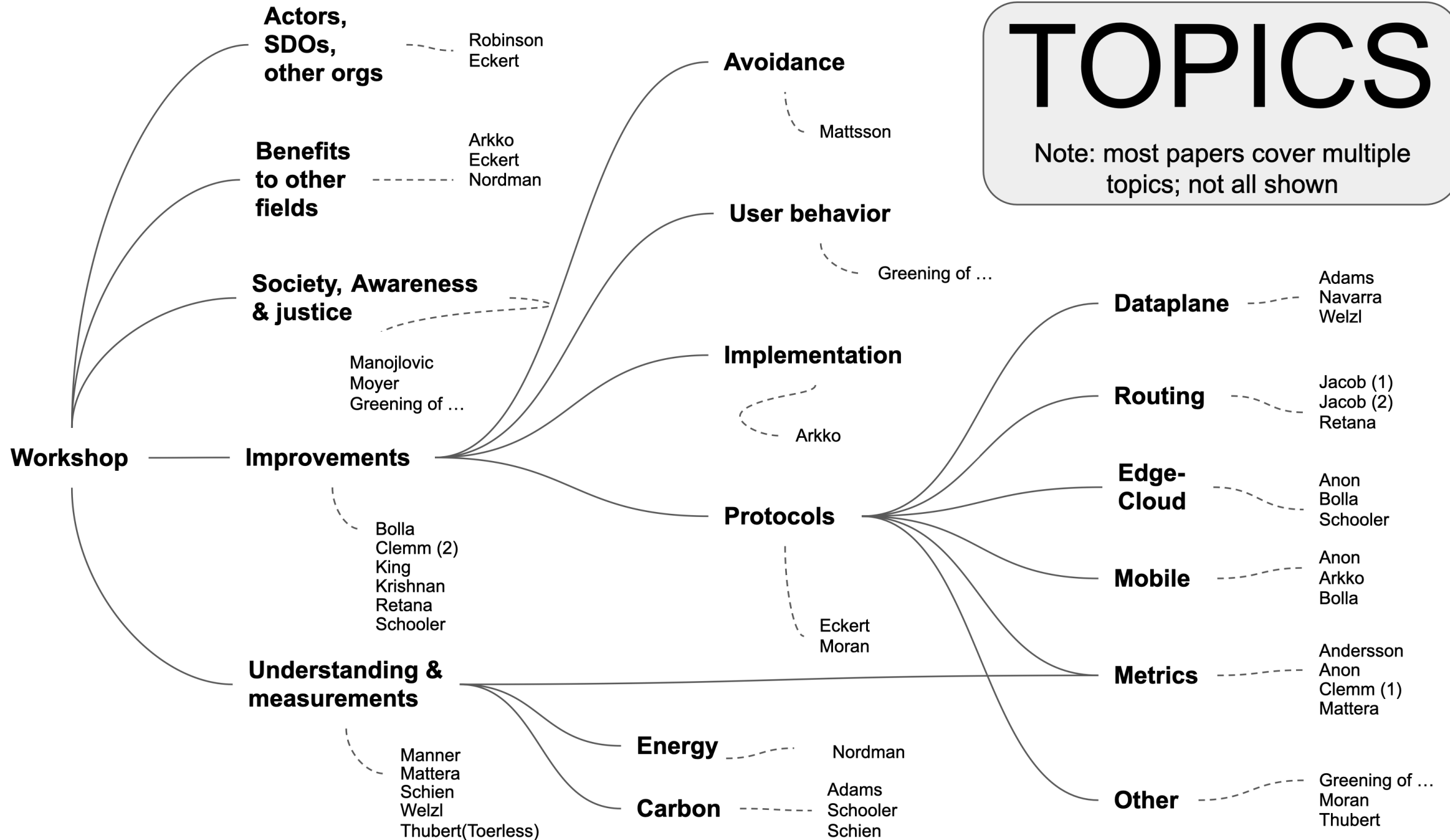
IAB's workshop [page](#)

New IETF list, [e-impact](#)

The presentations can be found from the [datatracker](#)

# TOPICS

Note: most papers cover multiple topics; not all shown



# Workshop Conclusions

Internet needs to both help the society and reduce its own environmental impacts

This is not entirely new for the Internet or the IETF (video conferencing etc.)

The problems are large, complex, and go far beyond Internet technology itself – we need to build better understanding

It is crucial also to understand the different tradeoffs and constraints, e.g., jitter, peak capacity, etc.

Detailed technical directions include

- Beyond protocols: implementations, green energy, etc.
- Metrics, measurements, and data
- Enable a more dynamic ability to slow down, sleep, or be awareness of energy availability
- Data format choices
- Multicast (?)
- Designing for low-power systems may be beneficial in general
- Avoid proof-of-work crypto assets
- “Environmental Considerations” (?)

# What's Next?

How do we

- Increase IETF's understanding? ?
- Relate to non-protocol aspects? ?
- Improve metrics and measurements? ?
- Take more measurements & gather data? ?
- Enable a more dynamic ability to slow down, sleep, or be aware of energy availability? ?
- Use more efficient data format choices? ?
- Use more multicast? ?
- Designing for low-power in general? ?
- Avoid proof-of-work crypto assets? ?
- Take environmental considerations into account? ?

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Keep talking, side-meetings, ... what else?  
?

Pursue current/new extensions

IRTF

Look at each (new) protocol

Challenge: cross-domain carbon awareness

Take into consideration in new protocols

Needs more justification

Take into consideration in new protocols

Avoid working on this

Training, what else?