The IAB workshop on
Environmental Impact of Internet Applications and Systems

Session 4 Monday December 12th, 2022

Future Developments & Next Steps

Ground Rules Reminder

Welcome!

This session is <u>recorded</u>, and the recordings will be published

Your <u>position papers</u> are public

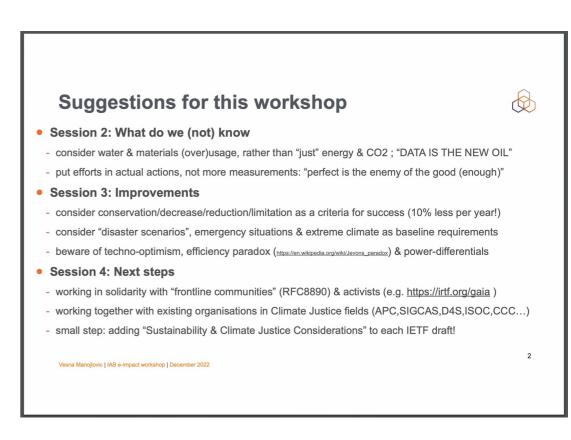This is a <u>professional meeting</u>, and we expect professional behaviour

Any kind of <u>harassment is not accepted</u>

Remember: This is a <u>diverse group</u>!

- Including people who have no experience of the IETF

Please <u>be polite</u>, explain your viewpoint in an understandable manner, and <u>learn from others'</u> viewpoints

Goals for Today

- A look back at the previous sessions

- Potential future developments in different areas

- Conclusions & next steps

- Workshop next steps
  - Report RFC
  - Future discussions
    - On list & IABOPEN in IETF-116
  - Feedback

Suggestions for this workshop

- **Session 2: What do we (not) know**
  - consider water & materials (over)usage, rather than "just" energy & CO2 ; "DATA IS THE NEW OIL"
  - put efforts in actual actions, not more measurements: "perfect is the enemy of the good (enough)"
- **Session 3: Improvements**
  - consider conservation/decrease/reduction/limitation as a criteria for success (10% less per year!)
  - consider "disaster scenarios", emergency situations & extreme climate as baseline requirements
  - beware of techno-optimism, efficiency paradox (https://en.wikipedia.org/wiki/Jevons_paradox) & power-differentials
- **Session 4: Next steps**
  - working in solidarity with "frontline communities" (RFC8890) & activists (e.g. https://irtf.org/gaia)
  - working together with existing organisations in Climate Justice fields (APC,SIGCAS,D4S,ISOC,CCC...)
  - small step: adding "Sustainability & Climate Justice Considerations" to each IETF draft!

Vesna Manojlovic | IAB e-impact workshop | December 2022

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Today's Agenda

- Summaries (15 min)
  - Big picture (Jari Arkko)
  - What we know & don't know (Colin Perkins)
  - Improvements (Eve Schooler)
- Potential future developments (25 min)
  - Carbon-aware networking (Eve Schooler)
  - Technology - implementations, protocols, open source (Suresh Krishnan)
  - Mobile networks (Beatrice Siccardi)
  - What we should not do (John Mattsson)
  - IETF (Jukka Manner)
- Discussion, conclusions, next steps (40 min)
- Workshop end & next steps (10 min, Jari Arkko)

How to look at what we've learned

Observations

• ...

Useful tools

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Actions that we should take

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Goals that we should have

• ...

Research that needs doing

• ...

Session 1 summary

Observations

- This is much bigger than our tech
- Influences all parts of society
- Inequality, externalized costs, justice
- Improvements come in many forms
- No silver bullet
- We all bring our preconceptions

Useful tools

- Solidarity, sufficiency, awareness
- Not waiting for the perfect solution
- Renewable energy
- Carbon-awareness

Actions that we should take

- Connect IETF with others

Goals that we should have

- Continuous improvement
- Switching goals from "bigger webpages" to
   (1) Increased usefulness to society
   (2) Declining emissions from ICT
- It would be useful to have a scenario, timeline, cost for what we need to do – but we don't have that today

Research that needs doing

- Effects beyond energy (mfg., water)
- Cross-domain carbon awareness
- Business-model impacts (e.g., advertising)
- What's the actual impact of changes?