Where *don't* you want to go today?
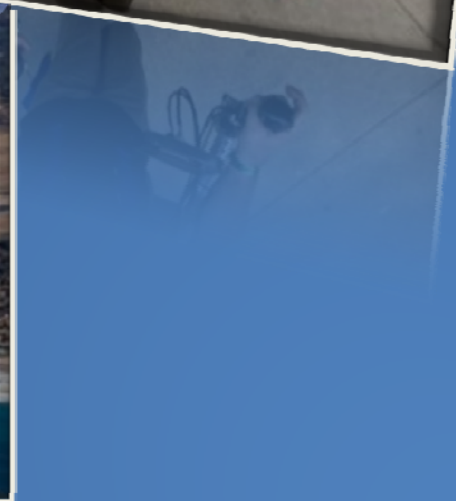
Cheaper, better, greener: The role of ICT in transforming our relationship with transportation

Mark Aggar
Director, Environmental Technology Strategy
Microsoft Corp

The unintended consequences of EVs?

We were promised jetpacks…

Climate Group/GeSI Smart2020 Report -- The ICT Enabling Effect

ICT can reduce annual GhG's by 7.8 GtCO2e
(~20% of all GHG's) by 2020

Industry
- Smart motors
- Industrial process automation
- Dematerialization* (reduce production of DVDs, paper)
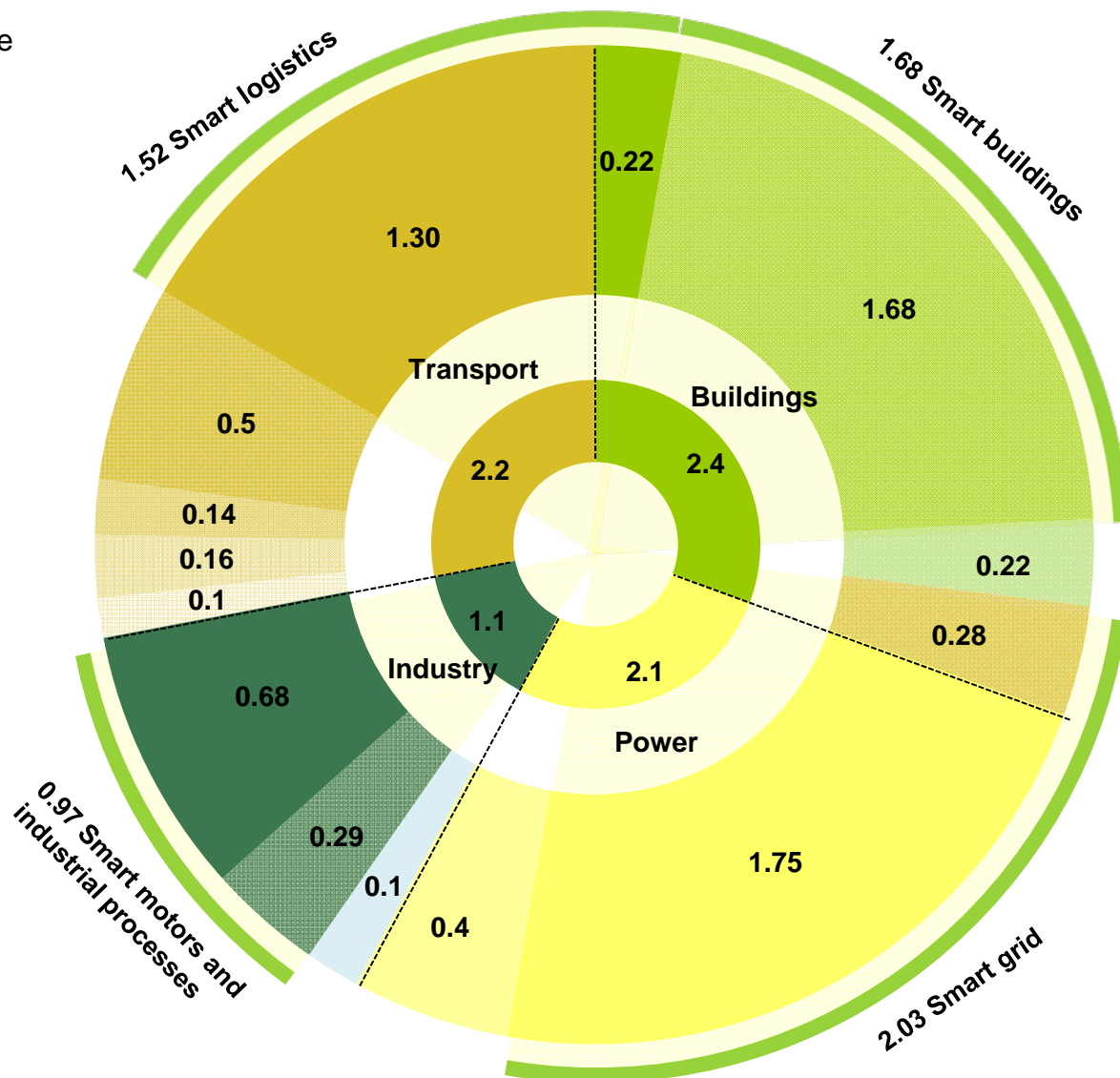
Transport
- Smart logistics
- Private transport optimization
- Dematerialization (e-commerce, videoconferencing, teleworking)
- Efficient vehicles (plug-ins and smart cars)
- Traffic flow monitoring, planning and simulations

Buildings
- Smart logistics
- Smart buildings
- Dematerialization (teleworking)
- Smart grid

Power
- Smart grid
- Efficient generation of power, combined heat and power (CHP)

The Bottom Line

"[In the U.S], with feasible policy measures, ICT can enable positive environmental change with a 13-22% abatement in CO_2 emissions and gross savings of $140-240 billion from reduced energy use."

Without building any more roads!

www.smart2020.org

ICT as a virtual (transportation) resource

Reuse · Sharing · Orchestration

Energy and Resource Data:
Use ICT to Monitor, Measure, Analyze, Inform & Act

Reporting · Optimization · Substitution

Act 1: Reporting

Commute Logging

Traffic Information

Driving Efficiency

Act 2: Optimization

E-Commerce

Mobile Productivity

Multi-modal trip planning & routing

Act 3: Substitution (Dematerialization)
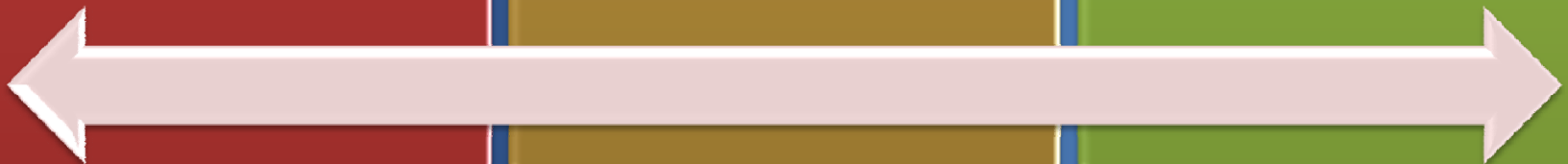

Digital downloads

Digital Workflow

Virtual presence

Act 4: Reuse

Local Waste -> Local Resource

EV -> Grid

Used EV batteries -> Grid Infrastructure

Act 5: Sharing

Products & Services

Ride & Vehicle Sharing

Mobility Hubs

Act 6: Orchestration

Supply chain optimization

Advanced meeting scheduling and co-ordination

Traffic flow management

Conclusion

- ICT is already a component of transportation and can play a strategic role in de-carbonizing transport and reducing hard infrastructure investments

- Prioritize solutions that can easily layer onto existing systems and scale organically to create a strong network effect

- Wanted: Leaders with courage to try out something new!