ETSI Summit on Sustainability

The work of GeSI toward Energy Efficiency (and other sustainable technologies)

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ETSI

The Standards People

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GeSI exists to bring the ICT sector together to deliver against a vision: **Foster** digital innovation responsibly to transform our world for good *(*





PARTNERS



Greenhouse gas emissions have warmed our planet by 1°C since pre-industrial times

Evolution of global mean surface temperature (GMST) over the period of instrumental observations.



Human-induced warming reached approximately 1°C above preindustrial levels in 2017, increasing at 0.2°C per decade.



Source. IPCC SPECIAL REPORT: GLOBAL WARMING OF 1.5 °C

The World is not on track: under BAU scenarios, CO_{2e} emissions will continue to grow



Acknowledging the need for exponential change and the capacity of digitalization to deliver such exponential change while improving life quality



Gap between what we do and what we need is growing



What we do:

- Report carbon emissions annually
- Set targets to reduce these emissions

What we need:

 Need for a shift to measure and highlight the positive carbon impacts of products and solutions to enable emissions reductions



Enablement and Avoided Emissions - what are they?



What are avoided emissions?

Avoided emissions: is the avoiding of carbon emissions from a Business as Usual (BAU) scenario, enabled through the use of a solution/innovation



- Examples include:
 - Commuting emissions avoided by teleconferencing
 - Fuel consumption reduced by using fleet management solutions
 - Domestic energy consumption reduced by using smart meters
 - Office energy consumption reduced by using smart building management systems



Avoided emissions example

If this is enabling carbon savings...

...then these are the avoided transport emissions







Some key issues with avoided emissions calculations

• Rebound effects occur when carbon emissions increase **Example:** Videoconferencing – due to often unintended or ancillary use of the increased international remote Rebound enabling solution. collaboration may also encourage Effect These are difficult to estimate as a number of different variables will impact the magnitude of the rebound additional international travel. effect **Example:** Videoconferencing – • Often avoided emissions are the result of multiple products working together. multiple enabling technologies, including video equipment, cloudthe avoided emissions and this can result in double based servers, telecommunication Allocation Currently no consistent way to allocate avoided technology. emissions. It is common practice to attribute all of the avoided emissions to one solution where that solution has a fundamental role in enabling the avoided **Example:** Videoconferencing – where • Risk of double counting the avoided emissions where you provide both the dedicated Double different solutions, or different technologies in one videoconferencing suite, and the solution (allocation issue) enable avoided emissions Counting internet connectivity. that overlap.



Benefits of reporting avoided emissions

Reputational:

- Highlighting the positive carbon impacts of their products/solutions.
- Demonstrate sector-leadership

Attract investment:

 Attract investors in green/sustainable activities as part of ESG strategies.

Inform product development:

 Positively influence the development of new products to enable further avoided emissions.

Enhance sustainability reporting:

 Quantification of carbon savings from products/solutions to compliment emissions reporting

Business model insight:

• Identifying where further emissions can be avoided.



Avoided emissions and scope 1, 2 & 3 emissions



- Scope 1, 2 & 3 emissions are emissions resulting from the direct, indirect upstream and indirect downstream activities of a company.
- Avoided should be reported separately from actual emissions.
- Avoided emissions are not widely reported unlike Scope 1, 2 & 3 emissions.

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Lack of an official standard for avoided emissions, but.... GeSI developed extensive work that can be leveraged

Various methodologies and approaches have been published.

• ICT SECTOR GUIDANCE BUILT ON THE GHG PROTOCOL PRODUCT LIFE CYCLE ACCOUNTING AND REPORTING STANDARD (21.07.2017)

This ICT Sector Guidance provides guidance and accounting methods for the calculation of GHG (greenhouse gas) emissions for ICT (Information and Communication Technology) products with a focus on ICT services.

CARBON ABATEMENT HANDBOOK (29.07.2016)

The purpose of this report is to provide practical support to practitioners who are calculating the carbon abatement from ICT (Information and Communication Technology).

• GESI MOBILE CARBON IMPACT (16.12.2015)

How mobile communications technology is enabling carbon emissions reduction

 EVALUATING THE CARBON REDUCING IMPACTS OF ICT – AN ASSESSMENT METHODOLOGY (31.10.2013)

A practical and consistent Methodology, Tool and roadmap for assessing ICT's capacity to enable the transition to a low-carbon economy.

• SMART REPORTS 2007 (MCKINSEY), 2012 (BOSTON CONSULTING), 2015 (ACCENTURE STRATEGY), 2019 (DELOITTE)

Enablement Methodologies for the ICT



Building on a history of knowledge and expertise





ICT – A key sector to address climate change – ICT enablement



Smart solutions to mobility, manufacturing, agriculture, building and energy deliver ICT's potential of 12Gt CO

CO_{2e} abatement potential by sector (Gt CO_{2e})



Smart mobility solutions consider improved driving efficiency but also the reduced need to travel from various sectors, including health, learning, commerce, etc. 1

2 12 Gt CO2e reduction in 2030 enabled by ICT include 2 Gt CO2e abatement from integration of renewable energy production into the grid. In its business as usual emissions forecast for 2030 the Intergovernmental Panel on Climate Change (IPCC) already considers the CO2e abatement potential from renewable energy. Therefore, the additional ICT-enabled CO2e reduction against the IPCC emissions forecast for 2030 is 10 Gt CO2e

Source: WRI, IPCC, World Bank, GeSI, Accenture analysis & CO2 models

ICT is good for growth and could deliver over \$6 trillion in revenues and close to \$5 trillion USD in cost savings

ICT-enabled revenues and cost savings p.a. (2030, USD trillion)



Source: WRI, IPCC, Gartner, FAO, GeSI, Accenture analysis & CO2 models

The EU Green & Digital Twin Transition Strategy







EUROPEAN GREEN DIGITAL COALITION



CARBON TRUST



Deloitte.









Working Groups and Case Studies

The Working Groups

- 1. Solutions
- 2. Calculations (Avoided Emissions)
- 3. Calculations (Solution)
- 4. Reporting
- 5. SME Inclusion

The aim of the WGs is to provide perspective and insight from different stakeholders on methodological issues.

The groups will agree on a consensus on how to approach the methods and feed into the case study calculators.

Example of case studies

- Drone-based airport/seaport monitoring
- IoT flex-platform for public & private sectors, academia
- Hybrid work video devices
- 3D modelling tool
- GHG measurement tool
- Digital twin for wind turbine tool
- Augmented worker mixed reality
- Smart tire reader for the Cloud
- Deforestation monitoring tool

EUROPEAN GREEN DIGITAL COALITION ITU-T SG5 L.1480 is organizing the standard discussion how to define the ICT enabling GHG emissions reduction of other sectors.

Draft ITU-T L.1480 (ex. L.Enabling the Net Zero transition) already be initiative by ITU-T SG5 in 29st- Aug 2022, Currently it moves to SG5 14th Symposium to discuss and Co-researching.



INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION STANDARDIZATION SECTOR

STUDY PERIOD 2022-2024

Doc02

STUDY GROUP 5

Original: English

Question(s): 9/5

e-meeting, 29 August 2022

DOCUMENT RAPPORTEUR GROUP MEETING

 Source:
 Co-Rapporteurs Q9/5

 Title:
 Draft Recommendation ITU-T L.1480 "Enabling the Net Zero transition: Assessing how the use of ICT solutions impacts GHG emissions of other sectors" comments provided by Telefon AB - LM Ericsson and Nokia Corporation. Output from Q9/5 Rapporteur e-meeting held on 22 August 2022.

Digital with Purpose

The Framework

We have developed a mechanism for scoring companies to encourage corporate commitment to the amplification and acceleration of SDG impact through digital technology. The Digital with Purpose framework comprises of three main component parts. Participants will receive an overall Digital with Purpose performance score, and access to like-minded organisations for opportunities to collaborate to overcome shared barriers and drive collective progress against the SDGs.



Purpose

Metrics covering a company's commitment to becoming a purpose-led business; connecting its core business model to a desired impact on the SDGs, working to maximise its positive contribution and minimise its negative externalities.

Digitally Enabled Solutions

Metrics framed by the SDGs, reflecting how a company contributes innovative digital solutions through its products, services, and core business practices, to improve the sustainability of our society and our planet.

Responsible Business

Metrics covering: Climate Change; Digital Trust and Responsibility; Circular Economy; Digital Inclusion; and Supply Chain. The metrics reflect how the business acts in a responsible manner concerning: its own operations; its interactions with its suppliers; and the design, delivery, and end of life management of its products and services.



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