Services, Policies and Standards Working Group

CHALLENGE AND BREAKTHROUGHS

- Identify the macro traffic trends, network characteristics and traffic details and assist the GreenTouch projects and working groups when designing their network models

- Provide an appropriate platform to understand and influence standards central to realizing the GreenTouch innovations and architectures

- Provide un-biased, pre-competitive information and guidance to further the GreenTouch mission in the policy arenas

- Establish a channel for operators and service providers to clearly communicate the importance of energy efficiency improvements for future networks

Providing Input on Trends and Connecting GreenTouch Results with External Entities

GreenTouch™

Network-Wide Traffic Projections

KEY ACCOMPLISHMENT AND RESULTS

- Analysis relies on historical global Internet traffic data

- GreenTouch developed interpolation and regression analysis of traffic volumes and annual growth rates

- Traffic projections form the basis for other GreenTouch projects to evaluate energy efficiency gains

- Traffic projections included in GeSI SMARTer 2020 report
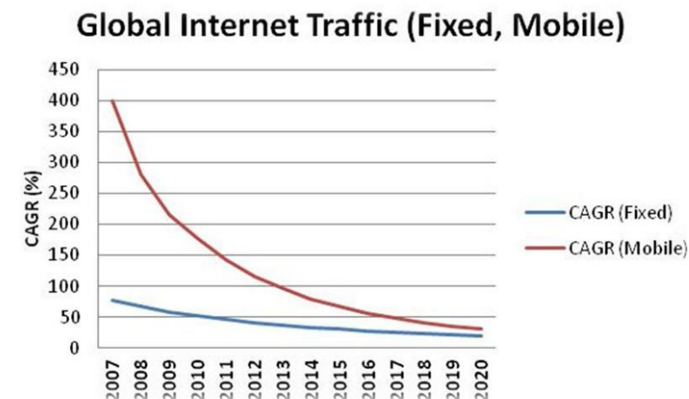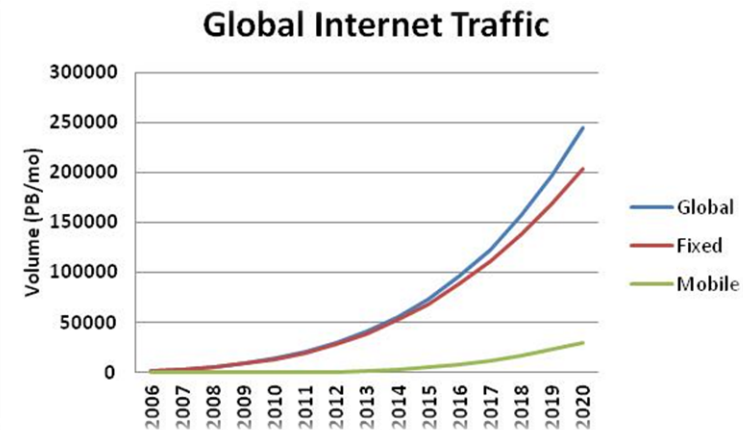
Traffic Growth Factor from 2010 to 2020	Mobile Access	Fixed Access	Core Networks
	89x	7.5x	10x

Global Internet Traffic

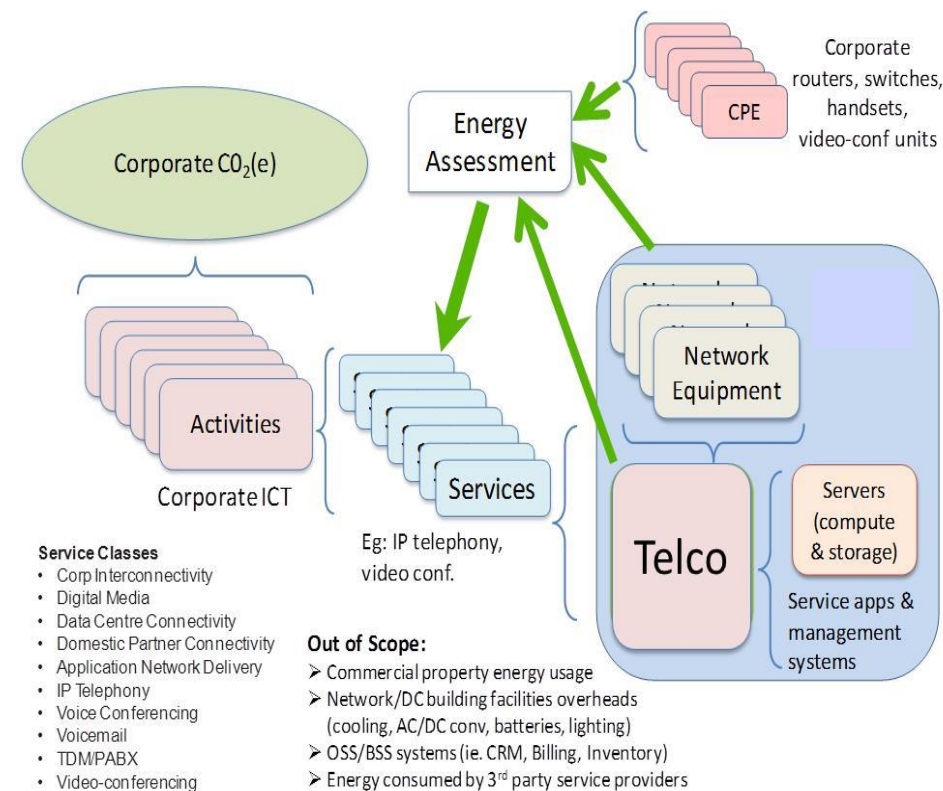**Global Internet Traffic (Fixed, Mobile)**

Current Traffic Projections Exhibit Slower Saturation Rate but Larger Future Traffic Volumes Than Previously Predicted

Energy Metrics for Internet Users and Service Providers

KEY ACCOMPLISHMENT AND RESULTS

- A methodology to estimate energy consumption of Internet services

- Based on modelling of required allocation of network resources (e.g. bandwidth, physical resource blocks)

- Applicable to:
  - Multiple ICT services
  - Wireline and wireless networks

- The accuracy of the energy assessment models has been validated using real network datasets from commercial and research & education networks

Corporate $CO_2(e)$

Energy Assessment

Corporate routers, switches, handsets, video-conf units — CPE

Network Equipment

Servers (compute & storage)

Service apps & management systems

Telco

Activities

Corporate ICT

Services

Eg: IP telephony, video conf.

Service Classes
- Corp Interconnectivity
- Digital Media
- Data Centre Connectivity
- Domestic Partner Connectivity
- Application Network Delivery
- IP Telephony
- Voice Conferencing
- Voicemail
- TDM/PABX
- Video-conferencing

Out of Scope:
- Commercial property energy usage
- Network/DC building facilities overheads (cooling, AC/DC conv, batteries, lighting)
- OSS/BSS systems (ie. CRM, Billing, Inventory)
- Energy consumed by 3rd party service providers

New ITU Recommendation for "Assessment of Energy Consumption of ICT Services"