



GreenTouch™

GreenTouch Approach in Standards

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GreenTouch in a nutshell



Global aviation industry

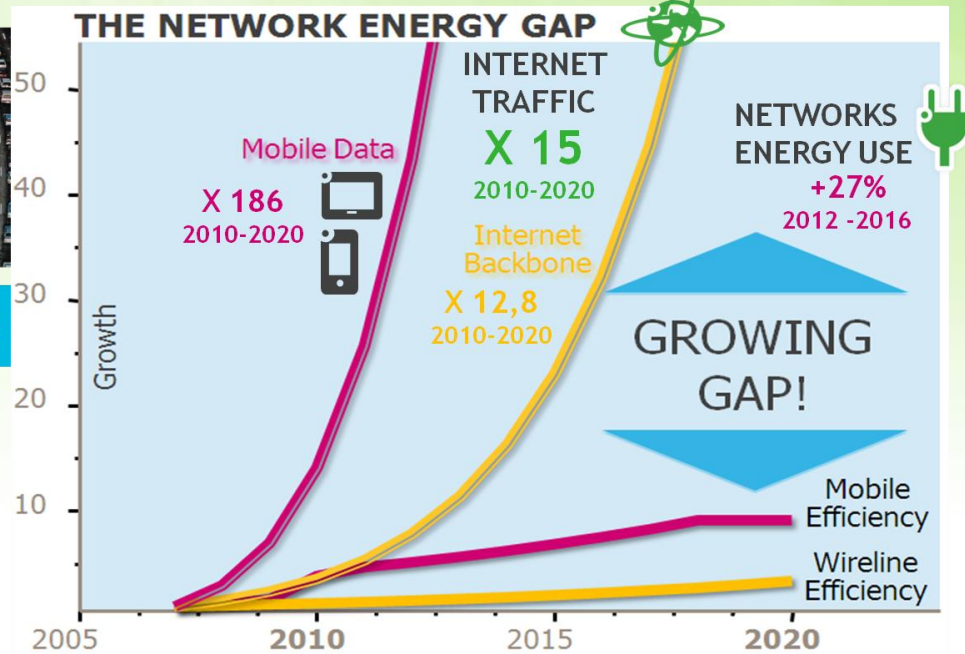


50 million cars

**Global ICT Emissions:
2.3%, Growing at 4% YoY**

GeSI "SMARTer 2020: The Role of ICT in Driving a Sustainable Future", 2012

- Slow-down in technology improvements
- Network energy efficiency only increasing at 10-15% per year



ICT also has significant enabling effect to reduced global carbon emissions through increased and more intelligent use of communication and networking technologies

GreenTouch in a nutshell

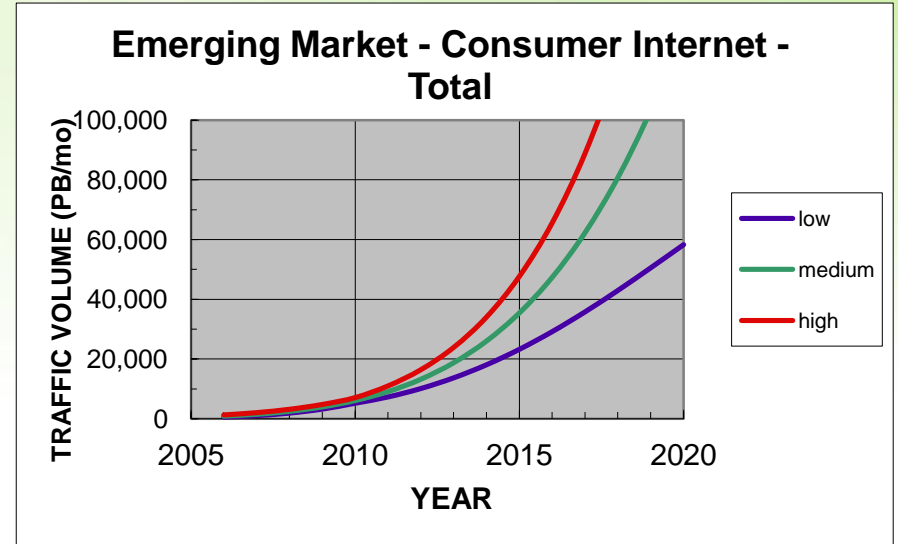
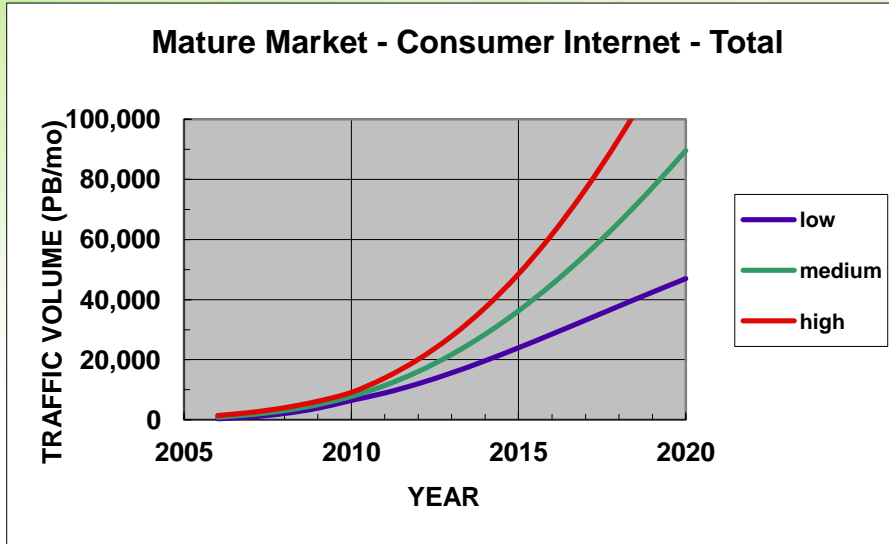
- **Bell Labs Initiated Global Research Consortium** representing industry, government and academic organizations
- **New Innovation Model for sustainability**
- Launched in May 2010
- Focus on **energy efficiency, sustainability** and growth
- **Holistic and ambitious**: Goal of 1000x
- **55 member organizations with 350+ leading scientists**
- Recognized by the **World Economic Forum** as an industry-led best practice toward sustainability
- Moving from fundamental research into the **pre-competitive area** through standardization
- Leading **Green ICT**: cooperation with other organizations such as GeSI, ITU-T, GreenGrid, Carbon Trust, ITRS

Deliver by 2015 Architectures, Specifications and Solutions and Demonstrate Key Technologies to Increase Network Energy Efficiency by a Factor 1000 Compared to 2010

Traffic Data : Introduction

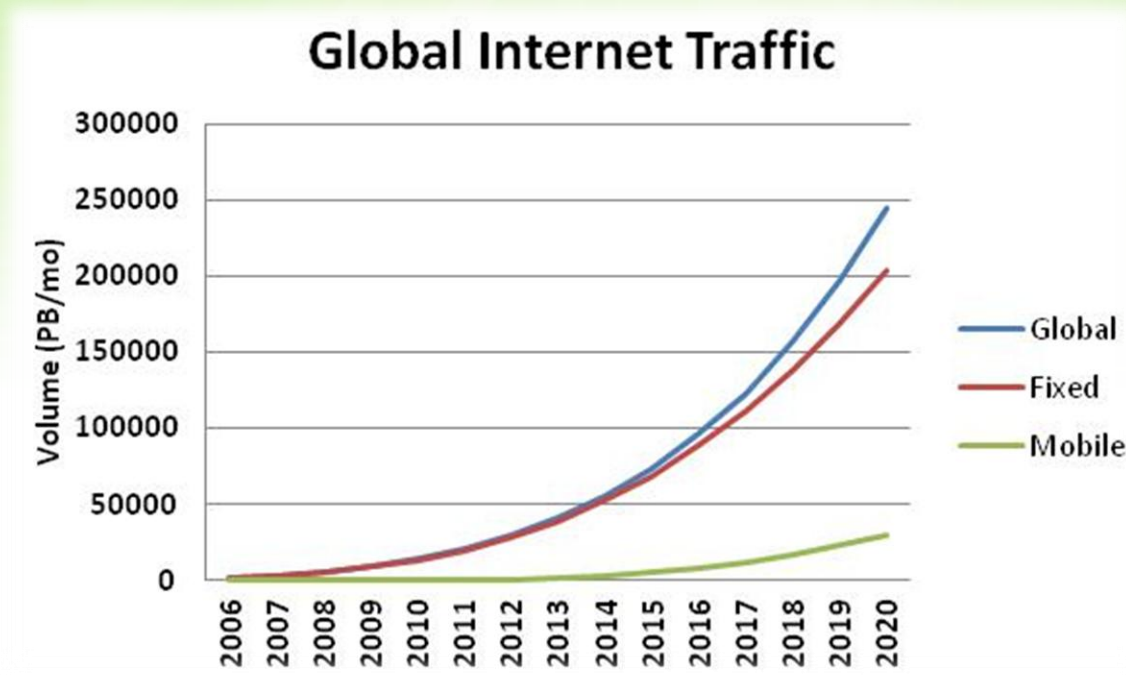
- To provide information to GreenTouch Members for them to assess the energy saved by using the GreenTouch technologies:
 - Analysis global internet traffic volumes for 1994 to the present,
 - Based on wide range of historical data.
 - Project internet traffic to 2020 for several regions, market segments and application categories:
 - Regression analysis,
 - Two types of regions,
 - Mature Market : North America + Western Europe + Japan
 - » Growth of number of internet video users $\leq 10\%$ over the 2010-15 period
 - Emerging Market : RoW
 - Fixed and Mobile.

Data Traffic Evolution (Mature vs Emerging Markets)



Traffic is still growing,
Emerging Market traffic is projected to cross the Mature Market around 2017.

Data Traffic Evolution (Fixed vs Mobile Networks)



- the internet traffic over fixed networks still dominates:
 - Today the total volume of fixed IP traffic is ~25 times larger than the volume of mobile IP traffic

Evolution of Power Consumption in Networks

Video: 70% of Internet Traffic In 2014

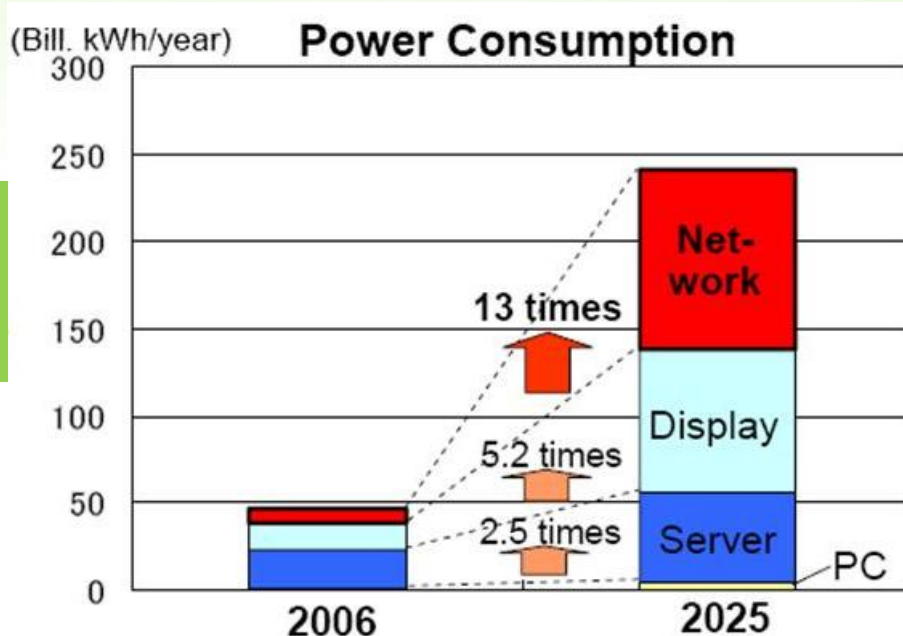


Smartphones: 2.5 billion devices by 2015 32x increase per km2

Mobile Internet : ~ 70% of mobile traffic by 2014



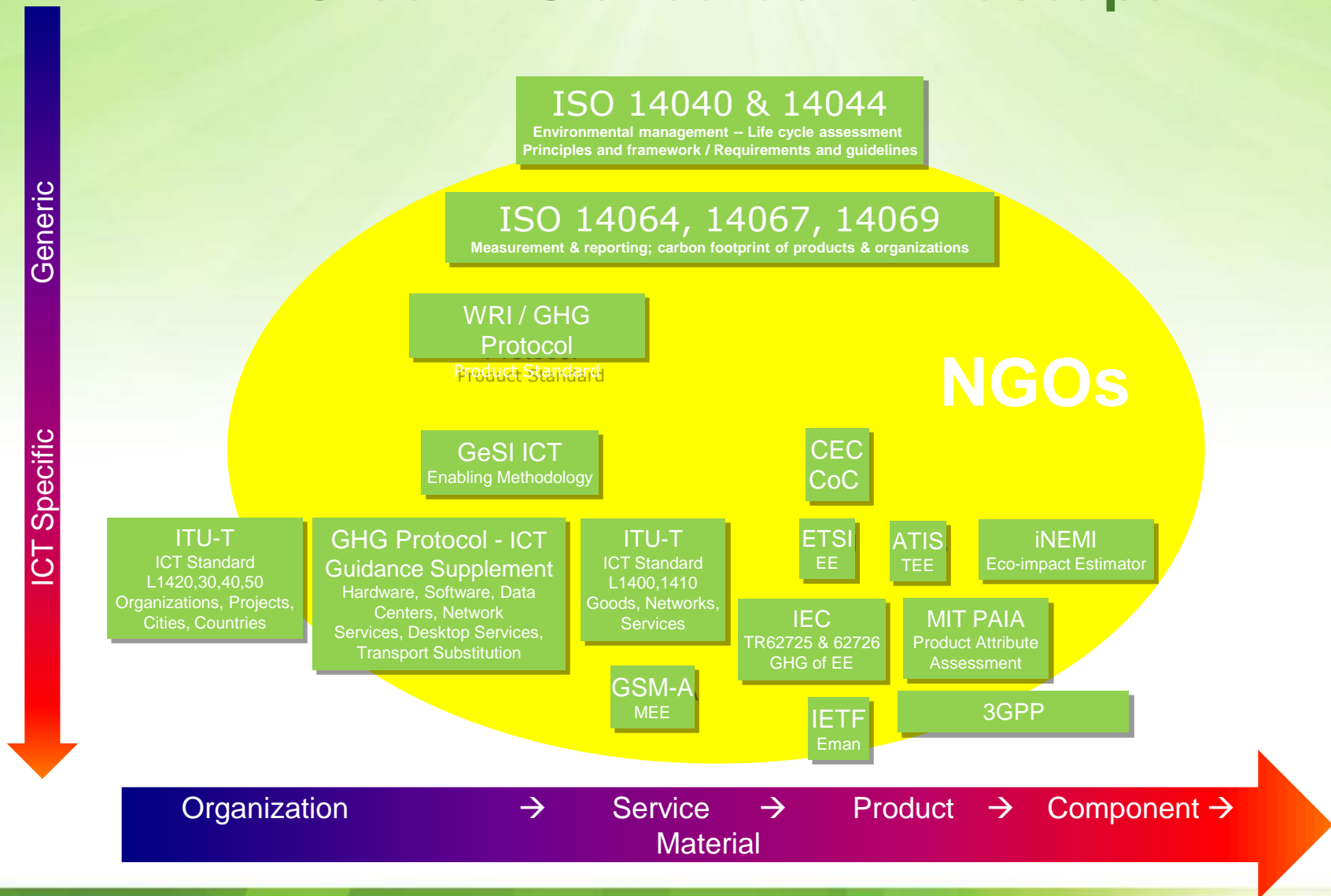
- Network Consumption represents ~75% of the energy bill of an operator
- Between 7 to 20% of its OPEX



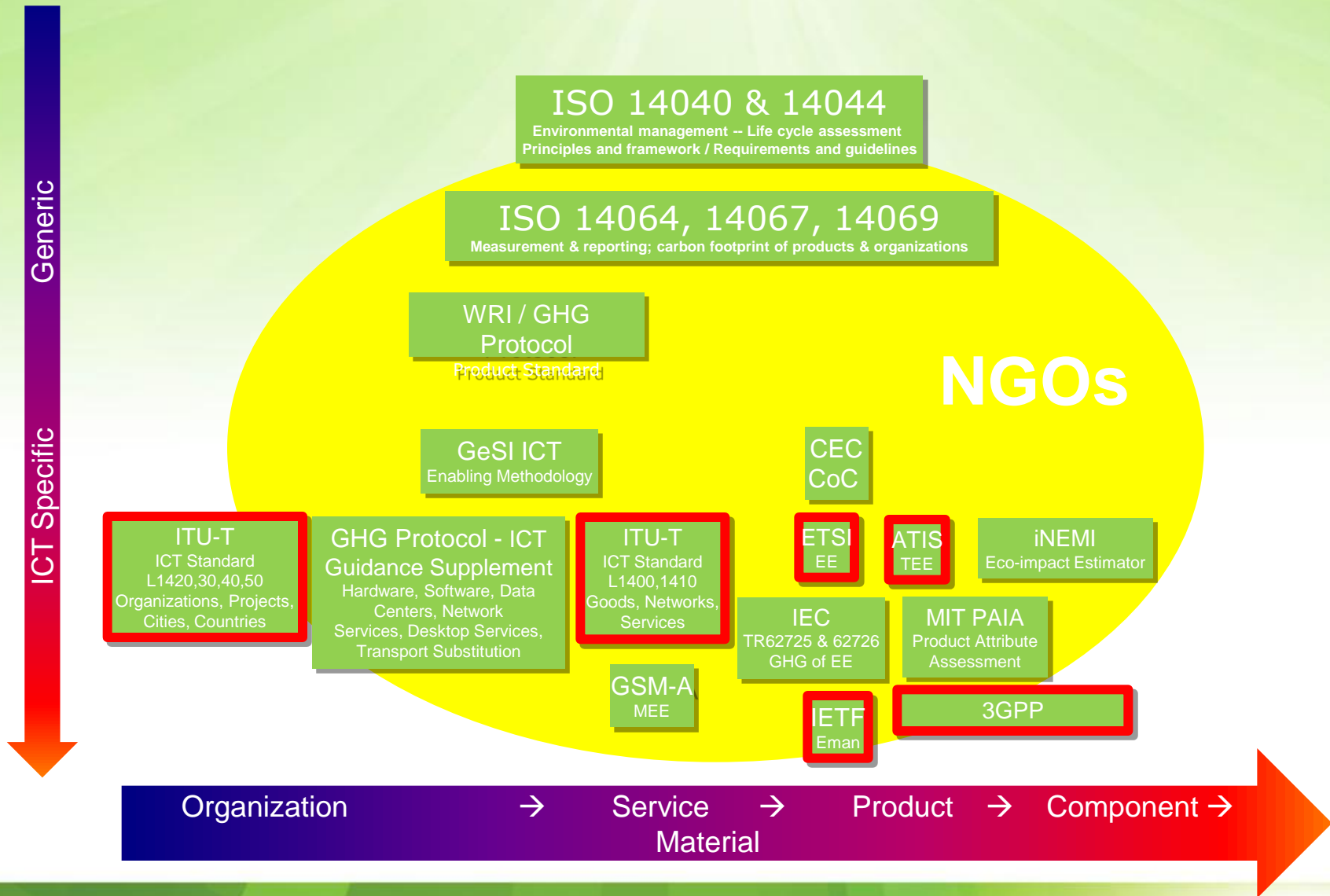
GreenTouch and Standardization

- Services, Policies and Standards (SPS) WG created one year ago and co-chaired by CMCC and Alcatel Lucent:
 - To host projects not directly addressing technical developments (e.g. assessment methodologies, eco-rating),
 - To extract GreenTouch key results from the GreenTouch projects and promote them in SDOs and Forums.

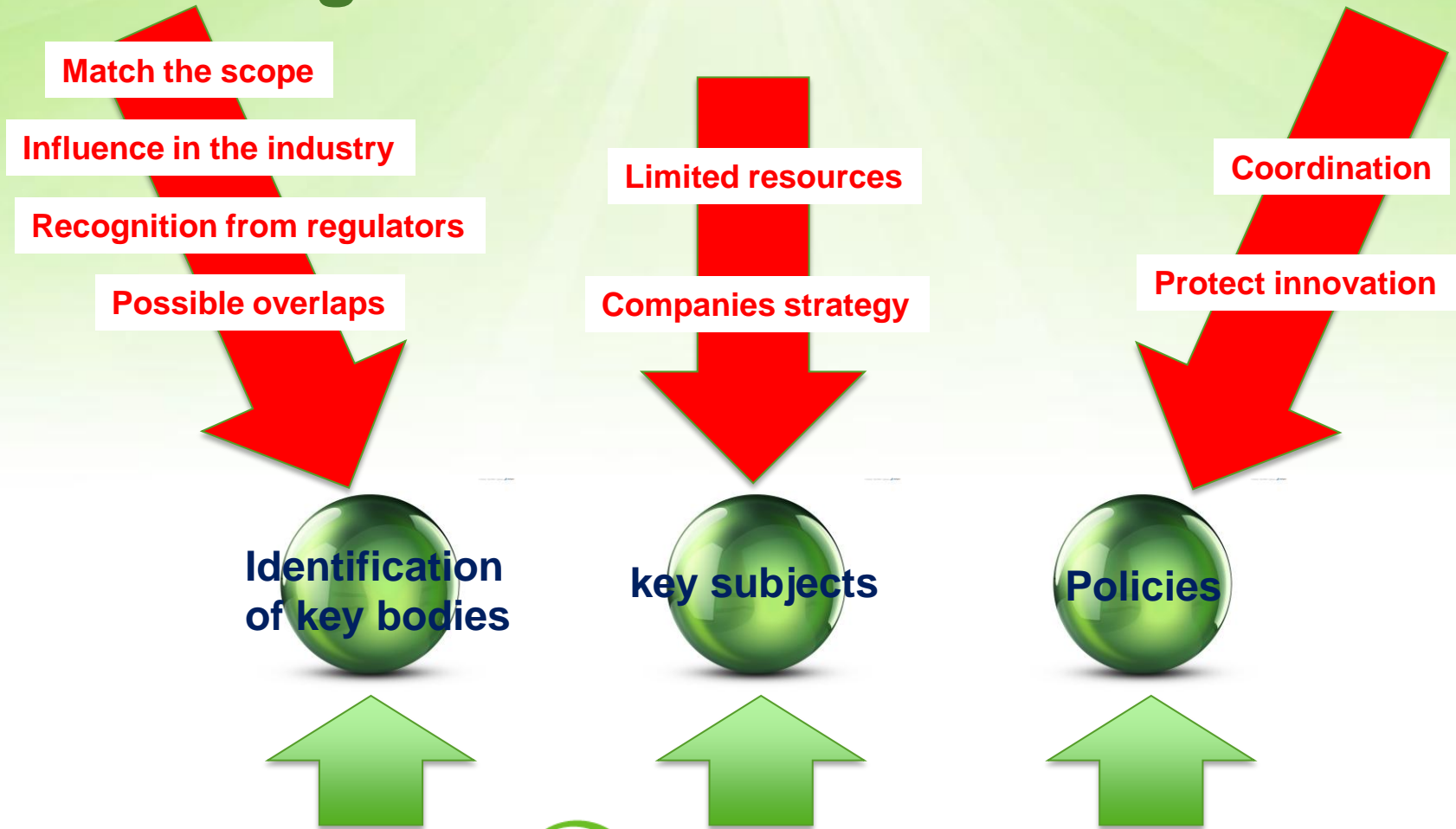
Green « Standards » landscape



Green « Standards » and GreenTouch



Challenges for GreenTouch in Standards



Thanks

www.greentouch.org