Press Release

Energy and carbon prints effects of ICTs on energy consumption round the world: a clearly positive net balance

What is the impact of ICTs (Information and Communication Technologies) on the energy consumption levels of Society today and what are the Greenhouse Gas emissions from the ICT domain as a whole? The National Academy of Technologies of France (NATF) conducted hearings of numerous French and non-French experts to assess the energy and environmental balance 'well-to-wheel' due to the sole ICT sector, taking into consideration the impacts of operating the various apparatus and infrastructures and the energy and carbon print savings generated in other associate sectors. The net energy and carbon balance, concludes the Academic Report* turns out be clearly positive.

For year 2012, ICTs represented 4.7% of the electricity consumed in the world and left a carbon print estimated to be 1.7% world total (for an ICT domain comprising computers and ancillary equipment, telecommunications end-user devices, equipment and infrastructures and *data centres*. Data here can be seen as following a regular, non-negligible, upwards trend, but proportionately less than that of user and use trends. **Thanks to technological innovations** developed by the sector's industrialists, the energy efficiency of the products and associate equipment is improving and **the growth rate for electricity consumption is lower than that for user-consumer uses**.

The contribution of ICTs to lowering the overall energy bill and the carbon print impact of other sectors of activity are clear and should become increasingly evident in the future. Certain areas seem to be especially advantageous, such as transportation, building energy savings optimization, industrial applications and dematerialized procedures.

The Academic Report [*cf.* link below] focused on the special case of transportation, which benefits from new digital technological progress in vehicles (on-board electronics and improved engine efficiency ratings) and then investigated the overall picture with the reduced need for travel. From this point of view (reduced travel) the USA provide an interesting case study.

The Report ends on a listing of today's main research thrusts that aim at obtaining better computer science performance levels *i.e.,* calling for less energy consumption.

The observed net energy and carbon-print balance for ICTs - subsequent to the NATF findings - **is clearly positive**. The positive contribution of ICTs to the efforts=deployed to reduce energy consumption of other associate sectors of activity is largely superior to the negative impacts due to ICT use.