



Green to go for fiber

FTTH Council Europe claims fiber is environmentally friendly

by Kendrick Struthers-Watson



THE RESULTS of a unique research exercise evaluating the sustainability and environmental impact of fiber networks were announced at the FTTH Council Europe event held in Paris last month.

Joeri Van Bogaert, president of the Council, said, "The results clearly demonstrate the overall service and environmental benefits of FTTH. The findings stand as testament that fiber is a sustainable and future-proof technology for the 21st century."

The research compared the environmental impact of a typical FTTH network to its associated benefits and will provide the foundation for further research on the subject by the Council. Information and communication technologies are providing new answers for heavy energy consumption sectors such as transportation and construction. FTTH networks can bring environmental benefits to many different areas and the Price Waterhouse Coopers (PWC) study focuses specifically on teleworking, telemedicine and home assistance. Life Cycle Assessment was used to generate the necessary quantitative data and the work was conducted in accordance with ISO 14040 standard.

This important study considered three scenarios for the calculation: urban dense areas, urban wide areas and rural areas. It also covered four types of FTTH deployment: existing ducts or urban sewers, traditional trenches, micro-trenches and aerial hanging.

Maximizing the opportunity for new services while minimizing the materials and maintenance required, FTTH contributes to reduced road travel, less transport infrastructure, and the introduction of innovative social and government services. The study took into account the total impact of network implementation and the full lifecycle of a typical fiber infrastructure from production of passive equipment, transport, implementation of all active equipment and power consumption to end of life.

Christian Ollivry, chair of the SUDEFIB Committee (the Council's Sustainable Development and FTTH Committee) comments, "Broadband usage is an opportunity for sustainable development and our mission was to qualify the sustainable development impact of FTTH solutions, looking at various European cases. Beyond a 15-year timescale, which is quite conservative, the research shows that FTTH provides only positives for Europe. The results are based on calculations from teleworking and tele-assistance applications only, although FTTH solutions offer extensive social and economical benefits over and above these, with the capability to change societies for the better because of the access to new services it brings."



Is your journey really necessary?

From an environmental perspective, fiber brings with it a huge portfolio of socio-economic benefits when translated into teleworking, telemedicine and home assistance. With all the relevant services over fiber, company personnel can work remotely from the city-center office complex, thereby relieving pressure on the demand for greater office space and reducing the company's annual rental and maintenance costs.

Of course, remote tele-workers can be deprived of human interaction with colleagues. To counteract this, a small village community was envisaged, for example, having a separate office area where village teleworkers would conduct their business activities for say, three days a week. While each teleworker would be working for a different company, they would become office colleagues. An additional upswing to this scenario is fewer vehicle journeys resulting in reduced CO₂ emissions, less wear and tear on the road system and an improved quality of life through greatly reduced travel time each day.

From the current trends (2010 to 2011) in FTTH networks, the report indicated that up to 10 percent of the working population could telework three days per week and 20 percent of the senior population (75 years of age and over) could benefit from home assistance.

Using INDATE's projection of FTTH users (20 million for 2015), the research found that for the first 15 years of network implementa-

tion, greenhouse gas emission savings per user were 330 kg, the equivalent of a car traveling 2,000 kilometers. For the next 15 years, the savings are 780 kg eq. CO₂ or the equivalent (e.g.) of the emissions caused by a car traveling 4,600 kilometers. This is due to the fact that the network is depreciated and only part of the infrastructure needs to be renewed.

Self-cleaning technology

Moving forward, the sustainability of FTTH solutions will be increased significantly as user experience grows and other fields not assessed in this study such as supply-chain management and energy demand are considered.

Over the full network lifecycle, the use of the network (power consumption) represents only 6 percent of the total environmental impact, while the production and deployment of the equipment totals more than 80 percent. However, with continuing innovations taking place in the industry these processes are becoming cheaper, quicker

and less disruptive, henceforth reducing the environmental impact and further increasing the sustainability of fiber networks over time.

Main outcomes

- As a main quantitative finding, the environmental impact of the deployment of a typical FTTH network will be positive within less than 15 years on average considering only the three selected services.
- Further existing or developing applications will emphasize these results.
- Beyond their environmental-friendly aspects, FTTH solutions can offer considerable additional social and economical benefits.
- If it is admitted we are now in the middle of a new industrial era, FTTH solutions are a key sustainable utility driver in this context.
- Further research into the subject of sustainable development is planned for the near future. This could also include the adoption of similar sustainable development methodologies for a defined network project by the FTTH Councils of APAC and North America. ●

Merrill Lynch bucks 'bearish consensus' on FTTH investment

Green issues aside, the FTTH Council Europe is keen to win over the financial community on more traditional business case arguments. And help was at hand from Jakob Bluestone, a telecom analyst in the equity research department of Merrill Lynch. Speaking at the FTTH Council Europe's annual conference in Paris last month, he said he took a "more benign view" on the risks of high FTTH capex from Tier 1 operators compared with the majority of analysts in the investment community.

"There is a lot of nervousness about high capex [projects]," he admits. "Telcos haven't got a good capex track record and there is an economic slowdown with the prospect of higher inflation this year."

Despite the prospect of a softening economy, at least in the short term, Bluestone points out the telecom industry is still generally more attractive to investors compared to many other industry sectors.

"It is a hugely cash-generative sector and is reasonably resilient to economic slowdowns," he says. "[Telcos are concerned] about anything that could undermine that, such as extensive fiber access rollout, which requires a lot of capital. There is a deep innate skepticism about high capex projects."

Bluestone used his presentation at the conference, however, to challenge what he believes are commonly held bearish assumptions among financial analysts on FTTH investment.

One of these, Bluestone says, is that IPTV will generate low returns (around 3 percent), which is off-putting for FTTH investors as it is much lower than the cost of capital. "Even if we accept that the IPTV return is low, there are still other factors to consider," Bluestone says. "FTTH can help operators keep their customers and protect other revenue streams."

He also thinks analysts have overplayed the point that telcos can't take full advantage of freeing up their real estate through fiber investment in the last mile (FTTH requires fewer local exchanges than the PSTN) as they have already sold much of their real estate assets and now use them on a leaseback basis. "It is about 50/50 among telcos that have sold and not sold their real estate," he says.

Despite regulatory uncertainty and ongoing technological debate surrounding FTTH in Europe, Bluestone is cautiously upbeat. "It can make sense to invest in FTTH, subject to being realistic about the returns that can be made," he says.