



Advisory Report

Eco-Sustainability Tracker: Green Market Developments (Q4 2008-Q1 2009)



Jason Marcheck
Principal Analyst, Optical Infrastructure

April 20, 2009

■ Summary

There is perhaps no trend within telecom more topical than environmental sustainability (i.e., “green”). However, while nearly every equipment vendor and service provider will claim to be green, the extent of the various players’ sustainability efforts varies tremendously. Worse yet, at present, there is little in the way of framework to judge uniformly claims of environmental consciousness or a concerted focus on carbon footprint reductions.

To be fair, this is somewhat typical in the early stages of any market movement. And, while several decades old, the eco-sustainability movement has only just begun to garner widespread attention on a global scale over the past few years – much less widespread attention within the telecom industry. With that in mind, steps such as the ITU’s recent efforts are clearly being taken to apply some structure to data gathering around sustainability, steps which should result in increased uniformity in green marketing claims. By extension, this should also result in a better ability to evaluate claims objectively. In addition, another manner of increasing objectivity through which to judge such activities is by observing these activities over a period of time, thus building a frame of reference.

It is against this backdrop that Current Analysis publishes its inaugural “Eco-Sustainability Tracker” report. The intention behind this and subsequent reports is to build a timeline that tracks significant green marketing programs/initiatives. In doing so, this should help to establish some context through which ongoing environmental sustainability initiatives can be more consistently evaluated.

Continued

Current Analysis
Outsmart your competitors

Report:

■ Current Perspective

Eco-Sustainability Tracker: Green Market Developments (Q4 2008-Q1 2009)

First, a disclaimer: This report is not meant to be a comprehensive survey of every telecom company’s – vendor or service provider – green marketing claims, programs, and/or initiatives. Instead, what this report does aim to accomplish is to survey the major eco-sustainability announcements made by equipment vendors and service providers over the past six months, and to provide some perspective by commenting on the extent to which its rivals make similar claims. Of course, the definition of “major” is a subjective one. Here, however, we have chosen to focus on events that serve to move the market forward, thanks to the companies involved or the event itself.

To this end, the table below summarizes several of the most high-profile green announcements made over the past half year. Following the table, then, we go on to comment about some of the more widespread activities related to environmental sustainability, such as the introduction of green vehicles into carrier service fleets and webinars that companies hold to highlight their green corporate practices.

The table on the following page details carrier initiatives in the previous six months relating to the areas outlined above.

Eco-Sustainability Tracker: Green Market Developments (Q4 2008-Q1 2009)

Description	Rating	Company Importance	Market Impact
<p>Qwest Joins Climate Change Registry</p> <p>The group, made up predominantly of non-ICT companies, seeks to drive agreement on carbon footprint reporting; however, Qwest is one of the few ICT companies in the group.</p>	<p>Neutral/Positive</p> <p>Having members from a range of industry sectors makes reaching consensus a challenge. However, it could yield best practices lessons that help Qwest’s sustainability efforts.</p>	<p>Moderate</p> <p>This shows Qwest is participating in initiatives aimed at improving the environment. However, minimal ties to ICT industry argue that Qwest’s efforts could be easily overshadowed.</p>	<p>Low</p> <p>Since the Climate Change Registry is focused on other sectors, it is doubtful that efforts will have a meaningful impact on the ICT industry; especially in light of recent activities by groups such as ITU-T.</p>
<p>NSN Joins WWF’s Climate Changers Program</p> <p>Program aimed at securing commitments from companies to set carbon emission reduction goals in terms of both percentage reduction and timeframe</p>	<p>Neutral</p> <p>Commitment to reducing carbon footprint is altruistic; however, most companies have such goals in place regardless of Climate Changers registry.</p>	<p>Moderate</p> <p>Participation in the group provides NSN with a structure through which to set benchmarks, and it provides access to group activities that could result in best practices information.</p>	<p>Low</p> <p>Since most companies have internal benchmarks, membership in the group does not necessarily indicate a company’s level of commitment to carbon footprint reduction.</p>
<p>Ixia Opens Testing Facility Using IxiaGreen Program</p> <p>Test and measurement company partnered with Lawrence Berkeley Livermore Labs to develop energy consumption rating (ECR) test methodology; announced Juniper Networks T1600 platform as first test subject</p>	<p>Positive</p> <p>Power consumption claims have always been subject to wide interpretation; ECR test offers vendors an “apples-to-apples” way of testing power efficiency; however, buy-in is far from widespread, and ITU’s work is more “official.”</p>	<p>High</p> <p>Both Ixia and Juniper stand to benefit by working to standardize power consumption testing. Ixia gets to sell its IxiaGreen kit, while Juniper can claim to be a leader in submitting its gear for unbiased testing.</p>	<p>Moderate/High</p> <p>This has the potential to have a significant impact on the ICT market, because it marks a step toward standardizing the way telecom equipment is measured in terms of its overall energy efficiency.</p>

Continued

Eco-Sustainability Tracker: Green Market Developments (Q4 2008-Q1 2009) - *Continued*

Description	Rating	Company Importance	Market Impact
<p>Alcatel-Lucent Touts “Sustainable Power” Services</p> <p>Putting a green spin on professional services, ALU branded a service aimed at helping companies to minimize network power consumption and carbon footprint.</p>	<p>Positive/Neutral</p> <p>At first blush, this looks like ultimate marketing spin – branding services that have existed for some time; however, give ALU credit for highlighting expertise that should be top of mind for most operators.</p>	<p>Moderate/High</p> <p>ALU already boasts one of the most robust professional services businesses in the market; highlighting the green aspect – even if it is not necessarily “new” – provides more evidence that ALU is tapped into market needs.</p>	<p>Moderate</p> <p>Green service meets new and current demand while beating key competitors to market; though the revenue opportunity may be relatively modest, ALU is establishing mindshare leadership in a still rather nebulous space, and it can shape service according to customer needs.</p>
<p>BT Debuts Carbon Footprint Assessment Service in Germany</p> <p>Aimed at BT’s enterprise customers, the service calculates CO2 footprint and helps design IT infrastructure, and other corporate policies, to minimize CO2 emissions going forward.</p>	<p>Positive</p> <p>Formalizes service aimed at delivering on oft-heard mantra that ICT can play major role in helping companies reduce their carbon emissions</p>	<p>Moderate/High</p> <p>Annually heralded as the greenest telco in Dow Jones sustainability index, the service should help BT monetize its own experiences in reducing company carbon footprint.</p>	<p>Moderate/High</p> <p>While it should not be hard for competitors to launch “me too” green services, BT has instant credibility resulting from its own carbon footprint reduction program.</p>
<p>Orange and WWF Establish Eco-Rating for Phones</p> <p>French operator outlines five criteria to provide “scorecard” for environmentally friendly devices.</p>	<p>Very Positive</p> <p>Establishes clear, comprehensive guidelines that can be used to judge the eco-responsibility of devices, millions of which go into service – and are retired – each year</p>	<p>High</p> <p>As one of the world’s best known mobile operators, taking the lead on assigning an eco-score to handsets demonstrates that Orange is taking the lead on formalizing the movement to minimize the impact of fixed and mobile devices on the environment.</p>	<p>Moderate/High</p> <p>While developing criteria to assign an environmental-friendliness quotient to handsets is an important step forward, it gives the consumer a gauge, but does little to ensure the adoption of “greener” devices.</p>
<p>Verizon Establishes Energy Efficiency Benchmarks</p> <p>U.S. giant sets target of 20% power consumption reduction for all new equipment put in service starting 1/1/2009; it published testing methodology in 9/2008.</p>	<p>Positive</p> <p>Creating power efficiency requirements effectively gives its suppliers aggressive marching orders; public testing methodology establishes roadmap that others can follow.</p>	<p>High</p> <p>Demonstrates leadership on Verizon’s part in voluntarily reducing power consumption; shows that Verizon is willing to make CapEx investment in new generation of power-efficient equipment</p>	<p>High</p> <p>Due to Verizon’s size, its mandates hold the force of law among its suppliers; in turn, power efficiency improvements should flow through to the rest of the industry.</p>
<p>Cisco Unveils “EnergyWise” Program</p> <p>New network control initiative aimed at monitoring and controlling power consumption initially in Cisco equipment, eventually throughout IT infrastructure and even building controls</p>	<p>Positive/Neutral</p> <p>Attempts to take green IT consulting to a higher, much more comprehensive level; however, pulling it off will be complex, requiring comprehensive proof of concept exercises.</p>	<p>Moderate/High</p> <p>By taking power optimization from network planning (static) stage to real-time, ongoing exercise, Cisco is taking green IT consulting to another level, setting Cisco up to position EnergyWise as comprehensive “smart building” control suite.</p>	<p>High</p> <p>If Cisco, and its stable of partners, can prove EnergyWise delivers on what it touts, the routing giant could corner the market on an advanced breed of IT consulting.</p>
<p>AT&T Touts First EnergyStar Set Top Box for U-Verse Deployment</p> <p>Per EnergyStar’s Web site, three providers offer EnergyStar set tops (i.e., AT&T, DirecTV, and EPB), each in one state only.</p>	<p>Positive/Neutral</p> <p>Achieving designation could bear fruit with environmentally conscious consumers; key will be widespread availability, which, to date, seems very limited</p>	<p>Moderate/High</p> <p>When widespread availability occurs, it will provide a nice marketing opportunity for AT&T. However, it will likely be a short-lived advantage.</p>	<p>Moderate/Low</p> <p>Cable and satellite companies are following suit, and widespread availability should be relatively uniform among various competitors.</p>

Continued

Eco-Sustainability Tracker: Green Market Developments (Q4 2008-Q1 2009) - Continued

Description	Rating	Company Importance	Market Impact
<p>ITU-T Issues Recommendations to Standardize Carbon Footprint Reporting/ Calculation</p> <p>The standards body issued a set of recommendations that will form the basis of standards to be discussed – and possibly issued – later this year</p>	<p>Very Positive</p> <p>ITU standards could help create ability to make apples-to-apples comparisons, thereby removing a significant barrier to effective green programs.</p>	<p>High</p> <p>This ITU's role is to define standards that help the telecom industry deal with new issues/technologies as they arise; the recently released recommendations are a fundamental step in green standards development.</p>	<p>Very High</p> <p>Standards that make carbon footprint calculations comparable across the ICT sector provide the foundation for effectively evaluating green marketing claims and the true impact of ICT on reducing CO2 emissions.</p>
<p>Wipro Technologies Announces Green Network Engineering Services</p> <p>Solution to include a "Green Test Lab" service to effectively reduce the energy footprint in telecom test labs, especially in multi-site development.</p>	<p>Positive</p> <p>Wipro's approach should help support vendor initiatives to become more "green" in both their own operations and products as customers and government regulators apply pressure to demonstrate eco-sustainability.</p>	<p>High</p> <p>Every IT services firm should have a green story by now, but many do not – especially in Asia; Wipro's may be limited, but its efforts are clearly aligned with those of its largest customers, and with its own inherent strengths in efficient IT and R&D services delivery.</p>	<p>Low/Moderate</p> <p>While the move would seem to correspond to a growing market need, Wipro's approach will be inherently limited in scale to the efforts of companies such as IBM, et. al. on a global scale.</p>
<p>Glimmerglass Applies Verizon's TEEER Criteria to Its Products</p> <p>Claims its products scored 10 or better on the test Verizon applies to new equipment purchases</p>	<p>Positive/Neutral</p> <p>Using third-party criteria adds credibility to Glimmerglass' green product claims. At the same time, Verizon's TEEER program is an in-house initiative, meaning its guidelines might not be particularly relevant to the needs/requirements of the operator community beyond Verizon.</p>	<p>Moderate/High</p> <p>Using the TEEER guidelines to demonstrate its platform's energy efficiency helps substantiate the vendor's long standing claim that all-optical switches are more operationally efficient than traditional opto-electric switching solutions; however, carriers clearly still trust opto-electric switching more than all optical.</p>	<p>Low/Moderate</p> <p>Glimmerglass' announcement is more about putting a new spin on existing capabilities. However, the TEEER guidelines can serve as a benchmark for vendors looking to quantify the eco-sustainability of their products.</p>

As mentioned at the top of the piece, while the table highlights the "major" sustainability initiatives announced by telecom vendors and service providers during the past six months, many companies have taken steps to demonstrate their commitment to increased environmental responsibility. Broadly speaking, there were three major thrusts in which several companies have participated.

Webcasts Highlighting Internal Sustainability Efforts: In this case, unfortunately, the list of companies would be too long to list. That being said, most recently, Orange, Ericsson, Nokia Siemens Networks, Cisco, and Verizon have held Web events where they laid out fairly comprehensive plans to reduce the carbon footprint(s) of their operations. While at this point such events have become somewhat routine, they are still worthwhile. Most obvious, it gets a company "on the record" as to the specific steps that it is taking to address eco-sustainability. In addition, it gives industry observers and company stakeholders the opportunity to ask questions, which, in turn, provides the presenting company with the opportunity to demonstrate its understanding of the issue(s) beyond the boilerplate language that is contained in most companies' corporate responsibility reports.

Service Providers Adopting "Clean Vehicles:" This should be a no-brainer for all large corporations, yet AT&T and Verizon were the only two major service providers that made

Report:

Eco-Sustainability Tracker: Green Market Developments
(Q4 2008-Q1 2009)

specific announcements about the adoption of hybrids and/or vehicles capable of operating on clean natural gas (CNG). For its part, AT&T seems to have made the most significant commitment to date, announcing its intention to put 15,000 CNG vehicles in service by 2020. Verizon, however, has also demonstrated a meaningful commitment to green vehicles, by announcing the addition of 150 hybrid vehicles to its fleet in the past six months. While in absolute numbers 150 seems to pale in comparison to 15,000, Verizon has clustered its vehicle rollout in specific markets (i.e., “greening up” its vehicle fleet in Pennsylvania, etc.). This concentrates the impact of hybrid vehicle adoption, and it will likely be implemented in an increasing number of Verizon markets over time.

Fostering Green Research: Again, this is a no brainer. Again, however, a fairly small number of companies seem to be providing details of funding aimed at fostering applied eco-sustainability research. Recently, AT&T announced a \$25,000 grant to Carnegie Mellon University to study the impact ICT can have on carbon footprint reduction. Activities such as this put money behind a common, but fairly generic and already well-worn claim (i.e., ICT can play a significant role in global carbon emissions reduction). Nevertheless, since the Mellon Institute’s founding as one of the first industrial applied sciences labs in the world, it has helped to establish the value proposition of scientific R&D to help solve business issues. In this case, for the ICT industry’s green enablement claims to move beyond the increasingly trite “It can help reduce air travel,” increased levels of general funding for applied research will be necessary. If more companies are not funding similar research, they should be.

■ Recommended Actions

Recommended Vendor Actions

- Cisco needs to be methodical in proving out the value proposition of its EnergyWise concept. Initially, implementing the solution via the Catalyst series platforms should be straight forward. Going further, implementing it across IT infrastructure, while daunting, is doable for Cisco. However, implementing controls for building security systems, HVAC systems, lights, elevators, and fire alarms is an enormous task that requires many partners and highly reliable technology. Rolling out the complete solution before proving it to be “bullet-proof” could kill interest before the project gets off the ground.
- Alcatel-Lucent should provide details on the new aspects of its Sustainable Power service. These details include the addition of renewable energy options such as wind and solar power as well as fuel cells. Integrating such products into multi-vendor network environments across vastly different types of customer sites is no simple task and requires new proof points in order to be credible.
- All vendors with professional services need to provide details on how they too offer services akin to Alcatel-Lucent’s Sustainable Power initiative. In fact, most vendor offerings engage in similar services already (i.e., OpEx reduction through power optimization). However, being the first to brand such activities gives Alcatel-Lucent some sense of “ownership” of the space, even if in name only. Competitors need to let the market know that their professional services are as green as Alcatel-Lucent’s.
- Huawei needs to be aggressive in its green marketing efforts. Justifiably or not, Huawei’s corporate identity is tied to China’s “growth at all costs” mentality – a mindset that is often times set at odds with environmental sustainability. As a company that competes vigorously for business in Western markets, Huawei needs to be deliberate in communicating its

Report:

Eco-Sustainability Tracker: Green Market Developments (Q4 2008-Q1 2009)

knowledge of environmentally responsible business practices, as well as the steps that it is taking to implement them throughout its internal operations and product designs.

- Vendors should comment on where they stand with regards to the ITU’s recent recommendations for carbon footprint calculation standards. Without question, the scope of equipment in the telecom industry makes standardized carbon footprint calculations a complex issue. This being the case, operators are going to want to know where their suppliers agree/disagree with the ITU’s approach and why.
- All vendors need to focus on explaining their own internal eco-sustainability initiatives – not just the green nature of their products. To be sure, green products will help their customers in a very real way, thus making it a key business imperative going forward. However, green corporate practices/operations on the part of suppliers are equally important as operators look to minimize their total contribution to sustainability by purchasing from vendors that help minimize “downstream” carbon emissions.

Recommended User Actions

- All network operators should evaluate Verizon’s methodology for certifying energy efficient equipment and then create their own initiatives. All networks are different, so what is right for Verizon might not be right for other network operators. However, the concept of quantifying energy efficiency gains in new equipment has merit that all operators should adopt in ways that are appropriate to them.
- AT&T needs to be aggressive in rolling out EnergyStar-certified set tops in all U-Verse markets. Per the EnergyStar Web site, today AT&T is only distributing these more sustainable set-tops in New Jersey. As environmental advocates seek to attack the problem of carbon emissions on a massive scale, the ability to promote energy savings in hundreds of thousands, if not millions of homes is marketing gold. With all content providers racing to rollout EnergyStar set tops in volume, AT&T needs to be aggressive if it wants to claim leadership on bringing EnergyStar standards to the content distribution market.
- All cable companies, satellite providers, and telcos in the content distribution business need to be as aggressive as AT&T in rolling out EnergyStar set tops. Again, per the EnergyStar Web site, only three companies – in one market each – are currently making EnergyStar-certified set tops available. Since the majority of all subscription television service users have set tops in their homes, making EnergyStar-certified equipment pervasive could have a significant positive impact on the ICT industry’s claims to be playing its part to make existing business practices more environmentally friendly.
- Service providers around the world should begin offering services similar to BT’s Carbon Footprint Assessment offering. As service providers increasingly look to differentiate their offerings, helping enterprise IT departments minimize their carbon footprint provides the opportunity to differentiate in a way that should resonate throughout many layers of an enterprise’s organization (e.g. IT department, finance, marketing, etc.). At the same time, enterprises around the world need to apply top-down pressure to make sure these services become increasingly available.
- Network operators should comment on where they stand with regards to the ITU’s recent recommendations for carbon footprint calculation standards. Since this is a complex issue, equipment suppliers need to know where their customers agree/disagree with the ITU and why. From a practical standpoint, comments from service providers will help to give vendors guidance on product development initiatives, which in turn could speed up the process of



Report:

Eco-Sustainability Tracker: Green Market Developments
(Q4 2008-Q1 2009)

introducing formalized carbon reduction initiatives.

- Service providers need to begin offering quantitative examples and/or guidance in their corporate responsibility reports on how they are helping customers reduce their carbon footprints. Already, the notion that ICT has the power to help reduce carbon emissions in all industry sectors has become well worn. Now is the time for those making these claims to move beyond high level generalizations and begin showing data that helps to validate these claims, and, in turn, incent additional companies to make green ICT solutions a priority in their operations.

