

The key to a green internet lies beyond Amazon's data centres

April 7 2014, by Mark Skilton



Amazon data centres like these power the internet. Credit: Eric Hunsaker, CC BY

Environmental group Greenpeace has slammed Amazon for its environmental practices in its [latest report](#) on the green credentials of the technology industry.

Greenpeace is concerned that Amazon Web services, which provides infrastructure for much of the internet, continues to run its data centres with dirty fuel.

Amazon data centres power some of the most well-known services on the web, including Netflix, Vine, Pinterest and Spotify but has fallen behind [competitors](#) in the quest to build a green internet, according to Greenpeace.

Apple, Box, Facebook, Google, Rackspace, and Salesforce have committed to powering their data centres with 100% renewable energy in the future, but the campaign group reports that Amazon has failed to be transparent about its own intentions.

Now that tech businesses play such a significant role in the world economy and green issues carry enormous political weight, reports of this kind take on new importance. Greenpeace points out that electricity demand will increase in line with our hunger for digital services but at the same time, focusing on how data centres are run is a narrow approach.

As the internet moves away from being a service we access on personal computers alone, we'll need to think bigger about how to make it environmentally sound.

It is important that Greenpeace has focused on the policies of these tech companies rather than simply criticising the amount of energy they use. For Greenpeace to accuse Amazon of ignoring green issues is a strong assertion. Whether true or not, this is a core issue for measuring and defining corporate responsibility for the wider impact cloud providers can have in promoting efficient energy practices across all the industries they serve.

Video and media content accounts for [60% of the world's internet traffic at the moment](#) and demand for data centres and power is likely to increase dramatically, according to Greenpeace, because of the 25 billion objects that are set to be connected to the internet of things.

The [Smart 2020 report](#), published by the Global Sustainability Initiative in 2008 and updated in 2012, says that the ICT industry could make a significant difference if it helped to improve green practices across other industries.

The key issue is that cities, buildings, air and road transport are [significant users of energy and emissions](#). Better IT can help reduce the toll they take.

Data centres tend to be located where there are high populations and demand for their services as well as discount incentives for energy and tax reasons. So they are part of cities and as such, should be come part of smart cities.

Better IT systems can make it easier to use smart systems to control buildings, cities, cars and air transport. Instead of assessing performance on an industry by industry level, as Greenpeace does, it would be better to look at how cities perform, or buildings or transport.

What's more, we ought at least to use more nuanced measures if we are to highlight data centres in our environmental thinking. Data centres are sources of energy consumption for electricity and heat cooling but can also be used to regenerate energy with the by-products of heat removal.

The traditional metric for measuring a data centre's energy input to usage efficiency, the PUE, or power usage effectiveness is often the quoted number for a "sustainable data centre". But this is irresponsible and untrue as it does not reflect where the energy came from, the emissions

produced or how much energy it is using for example.

New metrics have been developed that focus on green issues specifically. [The Green Grid](#) is an international consortium of companies and individuals devoted to reducing power usage in data centres and have developed metrics that aim to expand the measurement of data centres to include green and renewable energy practices.

The Green grid has developed additional metrics: GEC, ERF and CUE. GEC measures the proportion of the facility's energy coming from green sources, ERF identifies the proportion of energy that is exported for re-use outside the data centre and CUE is a metric to enable assessment of the total greenhouse gas emissions of data centre relative to its IT [energy](#) consumption.

Focusing on the big cloud providers like Amazon is one way to raise awareness but I'm not sure this is the right approach holistically. "Dirty" data centre practices should be improved and companies must take responsibility for this ahead of their commercial competitiveness and legislating to introduce targets is a good way to do this. We should welcome the Greenpeace report but in a world of multi-connected industries, we need to focus on the bigger industry questions.

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