



TNC 2012 Panel Discussion

How Industry can help European Researchers Be more Green



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**It's all about wasted
Power.**



Some interesting analogies

Have you replaced incandescent lights...



With these?...



Ciena is engaged in active replacement of components to reduce power consumption profiles across all product lines

Have you adopted Time of Day or Activity based shutdown?



Current R&D to develop idle channel hibernation difficult to engineer in highly reliable Optical systems as instabilities are introduced.

Instead, highly precise measurements, thermo-coupled monitors and detailed power management profile management is found in Ciena products and can be developed for Green ICT practitioners.

Big Brother is watching... with hands on the throttle



Highly sophisticated networked home thermostats allow outstanding monitoring and remote control, but power authorities can remotely adjust settings.

Analogy to Cloud computing and shared resources. New architectures that are moving away from owned individual resources.

Technical reality check

ISO 14062 analysis as measured in Tons of Coal

	<u>Capex</u>	<u>Opex 5 years</u>
Optical Switch	4 tons	20 tons
Router	16 tons	500 tons
Optical Amplifiers	2 tons	40 tons
Computer server	12 tons	40 tons
Ethernet switch	8 tons	20 tons
PC	20 tons	5 tons
Travel to install and repair		100 tons

Virtualized network can save 50% of your carbon emissions!

Optical layer technologies are more green. Ciena technology precisely designed for stringent telco central office (DC Power) environments and absolute load limits that are foreign to typical Router and Ethernet vendors.



Thank you

