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## Powering the Internet in the International Year of Light<sup>1</sup>

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Recently, it has been realized that the exponential rise of data transmitted on The Internet is taking an increasingly significant amount of electrical power, as a result of the necessity to switch, distribute, and process all the data. Optical technology created this problem by enabling almost limitless transmission of high capacity data through optical fibers globally over ultralong distances. In the 2015 International Year of Light, we pause to ponder how this happened, where we are going, and consider the ironic proposal that Optics could also offer a solution to the problem. Is this really a problem ? We are all used to getting text messages like: "Warning – you have used more than 90% of your monthly data allowance..." Perhaps someday we will get a big text message from Planet Earth saying "Warning – you are using more than 90% of the global electrical power generation capacity to power your Internet." Of course, we will not stop using more and more data every month, and we won't take away all of the SmartPhones from our children, so clearly something needs to be done about this. But seriously, what good is having terabit per second access to our houses if we can't run our refrigerators anymore ?

<sup>1</sup>Powering the Internet in the 2015 International Year of Light