

**From:** [Polyakov, Sergey V. \(Fed\)](#)  
**To:** [Battou, Abdella \(Fed\)](#); [Slattery, Oliver T. \(Fed\)](#); [Polyakov, Sergey V. \(Fed\)](#); [Ma, Lijun \(Fed\)](#); [Miller, Carl A. \(Fed\)](#); [Nam, Sae Woo \(Fed\)](#)  
**Subject:** Re: QuantumReceiver\_April3.docx  
**Date:** Wednesday, April 3, 2019 5:10:52 PM

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Oliver, as we discussed, here is a great nature reference

NATURE, Vol 561, 13 SEPTEMBER 2018, Page 163

It claims that telecommunication broadly defined is 2% of carbon emissions now, and it will substantially grow by 2030. Nice reference, superb graphics (page 164), but not all of it is optical.

Sergey.

On 4/3/2019 4:52 PM, Battou, Abdella (Fed) wrote:

Latest draft

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