

October 18, 2017

The Panel

BCUC – Inquiry Respecting Site C

Comments on *Key Assumptions* (11, 21 in the **Key Assumption Table**)

11. Energy efficiency DSM

BC Hydro has been running a successful campaign for some years to have customers switch to more efficient lighting. Many businesses and homeowners have done so.

This energy saving is now being offset by the increasing popularity of electric fireplaces. Placed in condominiums, in apartments and in homes (perhaps two or three in larger homes). Add to this a plethora of other electronic devices.

21. Greenhouse gas emissions

GHG emissions from an **operating** wind farm are very similar to that of an **operating** hydro electric facility of equal capacity.

However, 'cradle to grave' emissions must be factored into the equation. This includes mining, refining, manufacturing, transport, installation, maintenance and replacement (or decommissioning).

With cradle to grave factored in, construction of a **wind farm has significantly more GHG emissions** compared to the construction of a hydro facility of equal capacity. A photovoltaic facility 2-3x of a wind facility.

Add to this battery replacement and disposal within 8-10 years and replacement and disposal of the major components of a wind turbine (or decommissioning) within 20-25 years. GHG emissions are now more significant. Hydro turbines have a life span of 60-80 years.

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https://www.iaea.org/inis/collection/NCLCollectionStore/_Public/36/002/36002859.pdf

<https://www.omicsonline.org/open-access/life-cycle-analysis-of-the-embodied-carbon-emissions-from-14-wind-turbines-with-rated-powers-between-50-kw-and-34-mw-2090-4541-1000211.php?aid=74577&view=mobile>