

## SITE C CLEAN ENERGY PROJECT

# GREENHOUSE GAS EMISSIONS

One of the central reasons BC Hydro chose Site C as the single best option for future hydroelectric generation is because it's renewable and clean. BC Hydro has a mandate to be at least 93 per cent clean and we continue to surpass this target.

All electricity generation resources emit some greenhouse gas (GHG) emissions associated with construction and operations. But as outlined in the chart below, Site C will produce the lowest GHG emissions compared to other electricity generation sources.

### How do we know this?

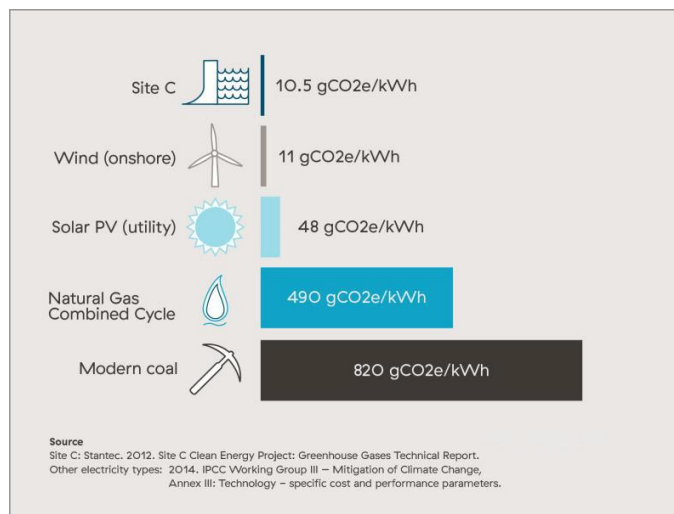
To estimate GHG emissions during construction, emissions associated with project-specific fuel and energy use, and construction materials were quantified. To estimate net emissions during operations, a project specific carbon model compared pre-flooding conditions with reservoir conditions over a 100-year period, taking into account processes such as vegetation clearing, biomass decomposition and reservoir emissions.

Stantec's GHG estimate methods and results were peer reviewed, and reviewed by B.C. Ministry of Environment and Environment Canada. Environment Canada concluded that BC Hydro's GHG emissions calculations are reasonable, and agreed with BC Hydro that the renewable electricity produced from Site C will have substantially lower GHG emission intensity in relation to most other electricity generation options.

The Joint Review Panel assessed GHGs as part of the environmental assessment process. In its report, the Panel stated: *"Consequently, the Panel is comfortable that the assessment conducted by BC Hydro with respect to the Project's contribution of GHGs is accurate and that the Project-related emissions would be considered low."*

Due to its relatively small reservoir size, high electricity output, and northern boreal location, Site C GHG emissions, per unit of energy produced, will be low compared to all other alternatives, including other renewables such as wind and solar, fossil fuel energy, and reservoirs around the world. Unlike reservoirs in tropical environments that release high levels of methane, hydroelectric reservoirs in northern environments emit much lower quantities of GHG emissions.

### Comparison Site C GHG emissions



***"Site C, after an initial burst of expenditure, would lock in low rates for many decades, and would produce fewer greenhouse gas emissions per unit of energy than any source save nuclear."***

- Report of the Joint Review Panel, page 308