

# ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry



GREENHOUSE GASES

## EFFECTS OF DECREASED WATER USE ON GREENHOUSE GAS EMISSIONS

### GHG Emissions for Different Fuel Types

Greenhouse gas emissions are determined by the type of fuel used and the amount of fuel used. Water reuse can have a modest effect on the amounts of fuel used but will not affect the selection of fuel.

The effects of recycling on energy use are discussed in the Recycling section of this Tool.

The effects of fuel type are evident in comparing CO<sub>2</sub> emission factors.

### CO<sub>2</sub> Emission Factors

CO<sub>2</sub> emission factors vary depending upon the fossil fuel type. Table W16 displays emission factors for common fossil fuels used in the pulp and paper industry. Further information on GHG emissions due to fossil fuel use is included elsewhere in this tool under GHGs.

**Table W16. CO<sub>2</sub> Emission Factors for Various Fossil Fuels**

Fossil Fuel	CO <sub>2</sub> Emission Factor(kg CO <sub>2</sub> /GJ LHV)
Petroleum coke	99.8
Coal	92.7
Residual fuel oil	76.6
Distillate fuel oil	73.4
Kerosene	71.2
Gasoline	69.9
Liquefied propane gas	62.5
Natural gas	55.9
Biomass fuels	0.0*

\* Biomass fuels are "carbon neutral," but do release methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) when combusted. For more information on this topic, see the Greenhouse Gas section of this Tool.