

MANITOBA HYDRO

2012/13 & 2013/14 ELECTRIC GENERAL RATE APPLICATION

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Manitoba Hydro Undertaking #71

Manitoba Hydro to check on GAC/MH II- 3(d) and (e), the reasons for not disclosing material in the Excel spreadsheet form.

Response:

GAC/MH II-3(d)

In the table below, Manitoba Hydro has provided the formulas underlying the table “Potential Annual GHG Impacts (Attributed by Region due to Fuel Use by MB Residential Customer)” from page 21 of the Fuel Switching Report. Manitoba Hydro is not prepared to file live spreadsheets with formulas intact, but will consider providing data only spreadsheets upon request.

**Potential Annual GHG Impacts
 (Attributed by Region due to Fuel Use by MB Residential Customer)**

Function	Heating Fuel (Manitoba Residential Customer)	Manitoba (kg CO2e / year)	Us - MISO Region (kg CO2e / year)	Net Global Impact (kg CO2e / year)
Space Heating	Natural Gas	=1776*1.9	---	=1776*1.9
	Geothermal SCOP 2.5	---	=6556*0.75	=6556*0.75
	Geothermal SCOP 3.5	---	=4683*0.75	=4683*0.75
	Electricity	---	=16391*0.75	=16391*0.75
Water Heating	Natural Gas (Side Vent)	=474*1.9	---	=474*1.9
	Natural Gas (Conventional)	=491*1.9	---	=491*1.9
	Geothermal	---	=2925*0.75	=2925*0.75
	Electricity	---	=3489*0.75	=3489*0.75

The direct and indirect emissions factors are detailed on pages 20 and 21 of the Fuel Switching Report.

GAC/MH II-3e

The electronic spreadsheets used to calculate the values in the “Potential Annual GHG Impacts (Attributed by Region due to Energy Use)” on page 29 of the Fuel Switching Report are large and complex and contain significant metadata, and therefore cannot be provided as outlined in Manitoba Hydro’s response to GAC/MH I-3(a).