

Potential of heating South Slave Residential Units with Ground Source Heat Pumps
Draft - Jan 17 '09

	Total Household s	Owned	Rented	Band Housing	Residential heating requireme nt (MJ)	All houses (GJ)	Fuel cost (\$/litre)	Each house - litres	Each house - heating cost	All houses - litres	All houses - Heating Fuel cost	Each house - heat pump (kWh)	Electricity (\$/kWh)	Each house heating cost	Each house savings	All houses - heat pump (MWh)	Total savings	Peak Deamnd (kW)	GHG reductions (tonnes/year/ house)	Total GHG reductions (tonnes)
Northwest Territories	14,235	7,520	6,565	145																
South Slave	2,720	1,730	950	55		311,499				8,111,959	\$ 10,165,853					28,843	\$ 5,118,453	27,200		27,200
Enterprise	35	25	10	-	118995	4165	\$ 1.28	3,099	\$ 3,954	108459	\$ 138,394	8814	\$ 0.25	\$ 2,169	\$ 1,785	386	\$ 62,468	350	10	350
Fort Resolution	175	105	65	-	124833	21846	\$ 1.35	3,251	\$ 4,390	568898	\$ 768,297	9247	\$ 0.18	\$ 1,656	\$ 2,734	2023	\$ 478,477	1,750	10	1750
Fort Smith	865	530	335	10	114041	98645	\$ 1.21	2,970	\$ 3,605	2568884	\$ 3,118,625	8447	\$ 0.16	\$ 1,344	\$ 2,261	9134	\$ 1,956,074	8,650	10	8650
Hay River	1,320	880	435	10	112230	148143	\$ 1.24	2,923	\$ 3,621	3857889	\$ 4,779,925	8313	\$ 0.26	\$ 2,125	\$ 1,496	13717	\$ 1,974,747	13,200	10	13200
Hay River Reserve	85	60	-	25	112230	9540	\$ 1.24	2,923	\$ 3,621	248425	\$ 307,798	8313	\$ 0.25	\$ 2,046	\$ 1,575	883	\$ 133,892	850	10	850
Kakisa	10	15	-	-	119324	1193	\$ 1.35	3,107	\$ 4,197	31074	\$ 41,965	8839	\$ 0.25	\$ 2,210	\$ 1,987	110	\$ 19,868	100	10	100
Fort Providence	230	115	105	10	121599	27968	\$ 1.39	3,167	\$ 4,395	728330	\$ 1,010,849	9007	\$ 0.25	\$ 2,252	\$ 2,143	2590	\$ 492,926	2,300	10	2300

Housing stats - Source: Statistics Canada, 2006 Census

Prepared by: NWT Bureau of Statistics

Heating requirement from AEA Yardstick - 1200 square foot house adjusted for avg HDD @ 80% eff oil furnace

Housing numbers are "units" - some are apartments or row houses and many are bigger than 1200 square feet - so this is a rough estimate

GHG reduction per house -estimated from AEA yardstick

Assume Kakisa & Fort Providence are connect to Talston system @ \$0.25/kWh

Assume each unit has a 10kW Heat pump - could all be on in winter