A Closer Look at Energy-Efficient Housing in Saskatchewan

	Saskatchewan Conservation House	The Dumont Residence	Saskatchewan Advanced House	AC Centennial Home	Factor 9 Home
Year	1977-78	1992	1992	2005	2007
Efficiency Performance	85% less energy consumed than an average 1970s home	75% less energy consumed than an average 1970s home	75% less energy consumed	35% less energy, 20% less water consumed compared to homes built to The Model National Energy Code for Buildings	90% less energy, 50% less water consumed than an average 1970s home
SRC's Role	Project Manager and Research Monitoring of building and systems	Monitoring of building and systems	Input into mechanical systems installed Monitoring of building and systems	Input into mechanical systems installed Monitoring of building and systems	Input into mechanical systems installed Monitoring of building and systems Instrumentation installation, programming, debugging
Super-insulated	Yes	Yes	Yes	Yes	Yes
Airtight	Yes	Yes	Yes	Yes	Yes
House Design	South-facing windows for passive solar heat gains Insulated window shutters No basement	South-facing windows for passive solar heat gains Has basement	Design minimized wood needed for structure Waste from brickwork and roofing tiles repurposed as fill under garage and driveway Has basement	South-facing windows for passive solar heat gains Has basement	South-facing windows for passive solar heat gains Has basement
Furnace	No	No	No	Yes	No
Space Heating Systems	Heat recovery ventilator Active solar power	Heat recovery ventilator Active solar power Three plug-in space heaters	Heat recovery ventilator Concrete subfloors on all three levels for improved heat retention and distribution	Heat recovery ventilator High-efficiency furnace	Heat recovery ventilator Active solar power
Space Cooling	A/C not necessary Insulated window shutters (to protect against passive solar gains)	A/C not necessary	A/C installed in 2003 Original cooling system circulates air that is cooled by the soil beneath the house	A/C not necessary	A/C not necessary Network of pipes in foundation extract cooling from the ground
Water Heating Systems	Grey water heat exchanger Active solar power	Drain-water heat exchanger Water heater wrapped in insulated thermal blanket	Active solar power	Drain-water heat exchanger Instant, tankless, natural gas water heater	Drain-water heat exchanger Active solar power Electric hot water heater
Solar Power Use	Space heating Water heating	Space heating	Space heating Water Heating Electricity and emergency power	N/A	Space heating Water heating
Interesting Fact	The home faces the opposite direction as all the other homes (on the same side of the street), to capture passive solar heat gains	The home contains approximately 16,000 pounds of cellulose insulation and the walls are 16-inches thick	The original cooling system consumed the same amount of energy as a 100-watt bulb	"It really heats up in winter when the sun is shining – it could be 30-below zero Celsius outside and if the sun is out, you won't hear the furnace running." – Homeowner	Rainwater and melted snow from the roof are stored in two 9,500-litre tanks, to be used for toilets and landscaping