

# T H E S U N

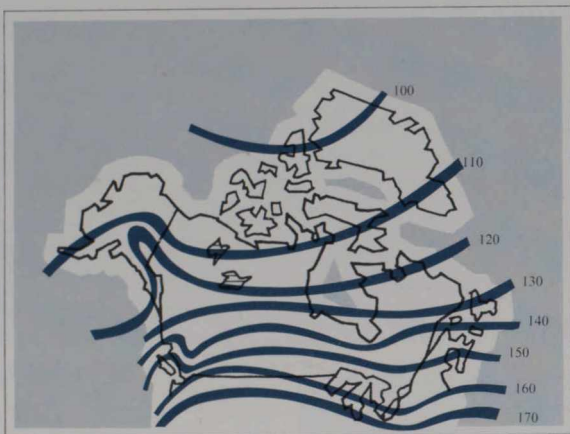
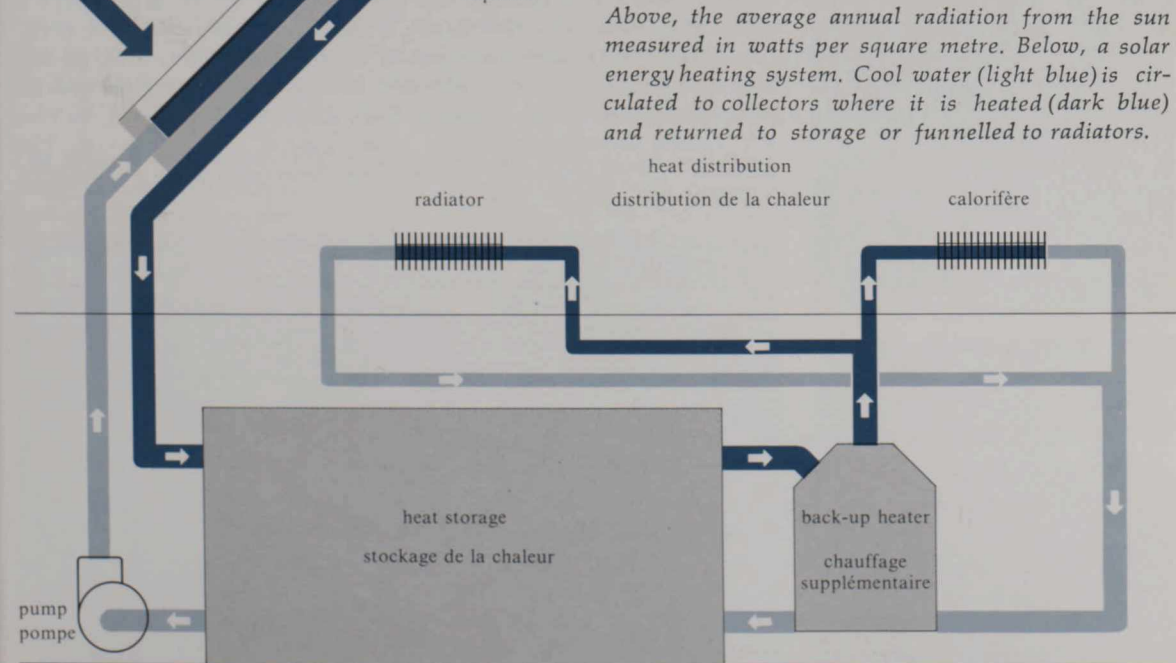
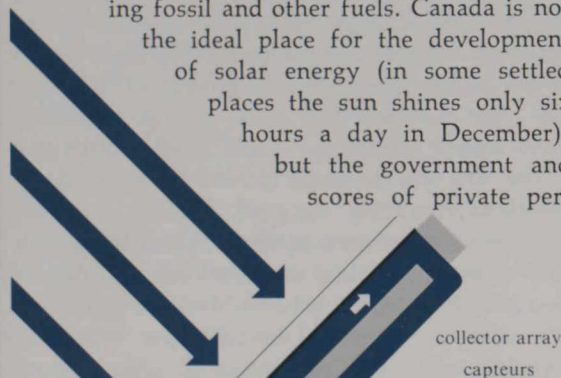
[ALL HOMES ARE HEATED BY THE SUN]

If the sun's heat were lost, the temperature, inside as well as out, would be absolute zero—minus 459.69°F—a chill that has been approached but never achieved in laboratories. The sun alone provides the heat that makes it possible for plants, animals and people to survive.

Fuel-burning stoves or furnaces add a small but vital margin that allows

us to survive in twentieth century comfort.

Even here, the sun can contribute by replacing fossil and other fuels. Canada is not the ideal place for the development of solar energy (in some settled places the sun shines only six hours a day in December); but the government and scores of private per-



sons have, nevertheless, built solar converters. On the right days in the right places with the right equipment, the winter sun can keep the indoors warm.

The least dramatic form of solar heat is passive—heat is captured and retained by the basic design of the building. In practical terms it is the most important form available

now. Solar heat can also be used in a number of more complicated ways to heat air and water, cool interiors and grow plants and fish; but in most cases, cost is high. Many systems that circulate water or air have costly problems: leaking joints, fogged or cracked glass panels, frozen pipes and corrosion.

The Ark, an imposing structure of glass, wood and concrete on the southeast coast of Prince Edward Island, is one of Canada's most spectacular solar projects. Begun as a joint effort by The New Alchemy Institute and the federal and provincial governments, it is now run by the Institute of Man and Resources. Its glassy front faces

*Above, the average annual radiation from the sun measured in watts per square metre. Below, a solar energy heating system. Cool water (light blue) is circulated to collectors where it is heated (dark blue) and returned to storage or funnelled to radiators.*