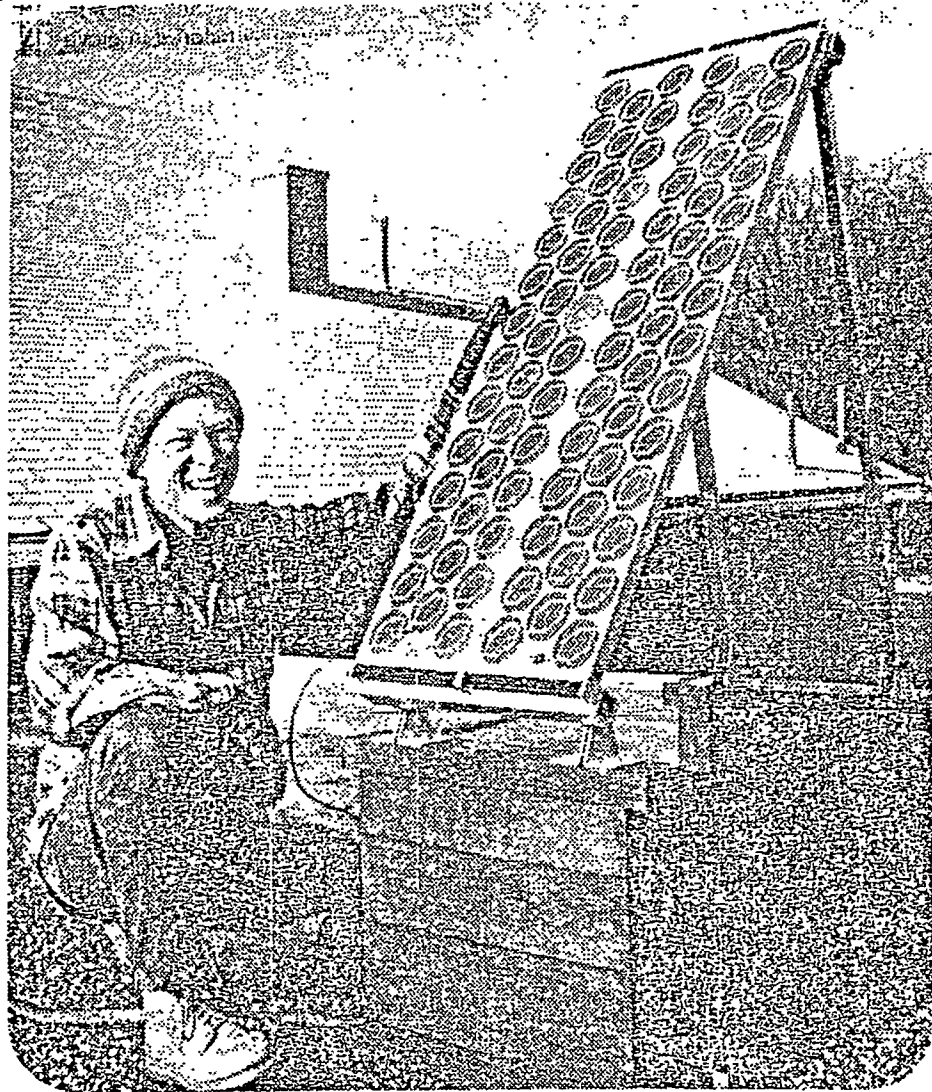




LIFE

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Sun Staff photo by Arthur Pollock

A 'first' in solar power

...is celebrated by Rabbi Everett Gendler of Lowell's Temple Emanuel, which now has silicon

solar panels generating power for its "eternal light."

New use of solar power

By FRANCES BERG

Sun Staff

LOWELL. — In a move believed to be among the first of its kind in the nation, Lowell's Temple Emanuel, 101 West Forest St., has installed solar panels solely to supply energy to the tiny "eternal light" burning in the Temple's sanctuary.

"In this era of energy conservation, we felt we no longer wished to take anything away from the earth for a light which would be in use all the time," explained Rabbi Everett Gendler.

Enthusiastic about now a full month's successful operation, Rabbi Gendler especially recalls a final chill night's work, prior to the following sabbath's dedication, when numerous members of the congregation helped complete the rooftop installation.

"There were five or six of the congregation there at 7 p.m. to help," said Rabbi Gendler. "And three or four were still up there at 1:30 a.m. — in a 14-degree temperature with a ferocious wind, bitter cold.

"Nobody dared calculate the wind chill factor!" he exclaimed.

"I remember one of the men asked me, if it had to coincide with a solstice, why couldn't we have picked the summer one?" recalled Rabbi Gendler. "And at that moment," he added, "I wholeheartedly agreed with him."

GLOWING brightly in the center of a striking "Star of David" metal sculpture (by Andover's Gerald Shertzer) which hangs in the sanctuary above the traditional "ark" holding the Torah scrolls — the first five books of Moses of the Old Testament — Temple Emanuel's "eternal light" symbolically was first powered by solar energy at the winter solstice, the day of shortest daylight.

The winter solstice this year also coincided with the Jewish sabbath preceding the beginning of Hanukkah, the eight-day Festival of Lights commemorating the rededication of the Temple of Jerusalem after its defilement by the Syrians under King Antiochus in 165 B.C.

The hard-won switch to solar power for Temple Emanuel's "eternal light" originated with Rabbi Gendler.

became more aware of the limited supply of petroleum and realized the pollution problems connected with nuclear fuel, it was ironic that this symbol of direct light should depend upon questionable energy sources," explained Rabbi Gendler.

"I'd heard about the photo-voltaics developed over the past 20 years and knew it was possible to construct solar panels which use silicon, an element found in certain kinds of desert sand, to convert sunlight into electrical current.

"We feel it's very appropriate that the sun, our major, basic energy source — and, as indicated in Psalm 19, the symbol of God's light and power — should be so directly responsible for the generation of the electric current which powers our 'eternal light,'" said Rabbi Gendler.

THE "ETERNAL light," the rabbi explained, "comes from our very ancient past, from the times of ancient temples, when a light or fire burned perpetually on the altar.

"At one time, the light was olive oil with a wick or sometimes a candle which would burn a week at a time. With the coming of electricity, most temples and synagogues converted, using long lasting bulbs."

To accomplish Temple Emanuel's late 20th Century nod toward solar power, Rabbi Gendler enlisted friends like Gil Roeder of the Northeast Solar Energy Center in Cambridge and his director of research and development, Sol Zwerdling, to help iron out the details.

"Gil and Sol got to work on the technicalities — the size of the panels, how many would be needed for the climate and latitude, especially during the dark of the year," illustrated Rabbi Gendler.

"ARCO Solar, which makes solar panels in Chatsworth, Calif., made available to us two fine quality panels at specially reduced cost. The ESB Wisco Co. in Raleigh, N.C., North Carolina supplied us with heavy duty batteries."

Two six-volt industrial storage batteries, similar to but more powerful than automobile batteries, are wired together to make one 12-volt battery, said Roeder, coordinator for the Temple Emanuel solar project.

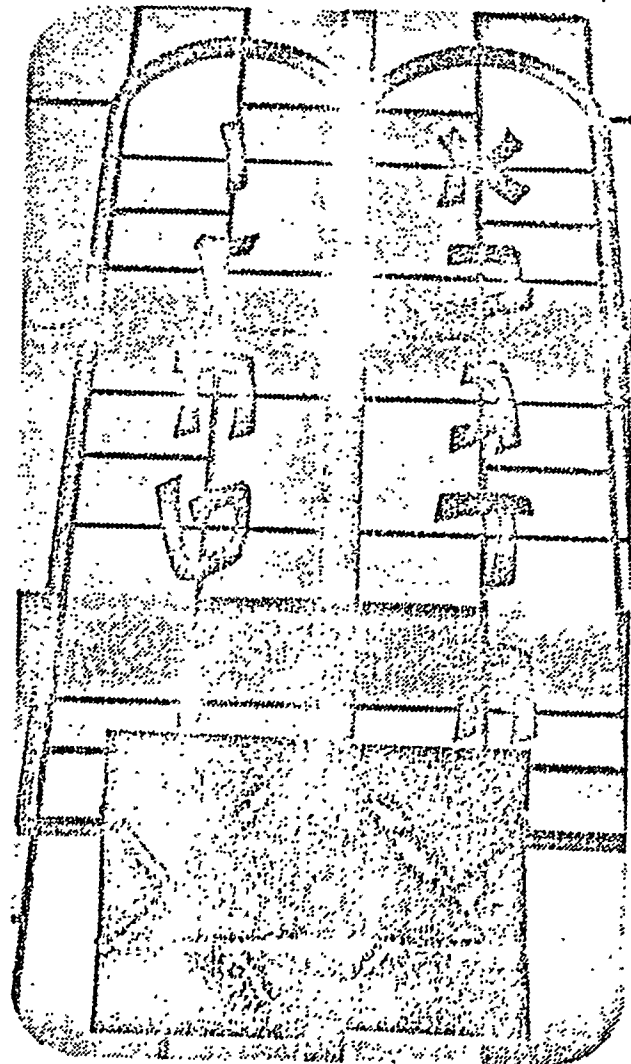
"WHEN THE SUN strikes the silicon in the solar panels, an electrical current is generated," Roeder explained.

Captured by the 9 by 43 inch panels, the solar energy travels through a voltage regulator to the batteries, supplying ample 12-volt direct current (DC) power for the "eternal light," rather than the 120 volts alternating current (AC) still in use throughout the rest of the Temple.

With a continual power flow necessary on cloudy days and at night Temple Emanuel's batteries can store enough energy to cover 10 consecutive sunless days during winter.

In summer, when more sunlight is available, Roeder believes, the batteries will also be able to power the light within the ark containing the Torah scrolls.

Temple Emanuel's "eternal light," meanwhile offers its perpetual glow, warmly reflected from the yellow-orange "Star of David" metal sculpture in which it is centrally placed, and illuminate overhead inscriptions forming the first 10 letters of the Hebrew alphabet, symbolizing the Ten Commandments, on two glass panels in the shape of tablets.



Sun Staff photo by Arthur Pollock

'Eternal light'

...powered by silicon solar panels at Lowell's Temple Emanuel glows in center of "Star of David" metal sculpture beneath panels symbolizing Ten Commandments in sanctuary.