



An Extensive Solar Program in China

City

Rizhao, China

Population

3 million

Project Start Date

Early 1990s

Annual CO2 Reductions

52,860 tons from solar water heaters

Annual Financial Savings

9333 RMB Yuan equivalent to \$1,807 USD

Initial Investment

NA

Project Status

Ongoing

SUMMARY

Rizhao, a city of 3 million people in northern China, is using solar energy to provide energy, heating and lighting. An incredible 99% of Rizhao's households use solar water heaters, while almost all traffic signals, street lights and park illuminations are powered by photovoltaic solar cells. In total, the city has over a half-million square meters of solar water heating panels, the equivalent of about 0.5 megawatts of electric water heaters.

WHAT IS IT?

A municipal government retrofit program made it mandatory for all buildings to install solar water heaters. Consequently, 99 percent of households in the central district obtained solar water heaters. Most traffic signals and street and park lights are powered by solar cells, reducing the city's carbon emissions and local pollution. Using a solar water heater for 15 years costs about \$1,934 USD (15,000 Yuan) less than running a conventional electric heater, which equates to saving \$120 USD per year per household in an area where per capita incomes are lower than the national average.

HOW DOES IT WORK?

- Municipal government, the community and local solar panel industries had a strong political will to adopt this practice.
- Shandong provincial government provided subsidies and funded the research and development of the solar water heater industry.
- The cost of a solar water heater was brought down to the same level as an electric one: about \$190, which is about 4-5% of the annual income of an average household in Rizhao city and about 8-10% of a rural household's income.
- Panels are simply attached to the exterior of a building.

- City mandated that all new buildings incorporate solar panels and oversaw the construction process to ensure proper installations.

APPLICATION

- Provincial government works with local solar panel industries to lower cost of appliances.
- City sets regulations requiring that all new buildings incorporate solar panels.
- City assists in the installation of such panels on households.
- City can raise awareness through community campaigns and education: Rizhao held open seminars and ran public advertising on television.
- Government buildings and city leaders' homes should be the first to have panels installed.
- Government bodies/business can look into providing free installation for employees with users paying for repairs and replacements.

** The above information is from State of the World 2007: Our Urban Future. For more information visit: <http://www.worldwatch.org/node/4752>*

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The facts and figures in this case study have been provided by the highlighted city governments to the Clinton Climate Initiative.