How to Create an Energy-Efficient Yurt

Many eco-conscious homeowners are turning to yurts for their small environmental footprint and energy-efficient circular shape. Find out how to customize your yurt for maximum sustainability and comfort.

What is a Yurt?

As far back as 3,000 years ago, nomads in the steppes of Central Asia made round portable tent-like structures out of felt stretched over a wooden frame. Today's modern yurt designs have evolved for comfort and tend to be more permanent structures.

WHAT'S IN A NAME?

The original word "yurt" doesn't actually refer to a round tent—it's simply Turkic for "dwelling." The Mongolian equivalent is "ger."

FIRST YURT IN HISTORY

THE GREEK HISTORIAN HERODOTUS PENNED THE FIRST WRITTEN DESCRIPTION OF A YURT. WHEN: 484-424 B.C. WHERE: Northern Black Sea region WHO: Scythians, a horse-riding nomadic people

Anatomy of a Modern Yurt



- **DOME** allows natural light in while keeping rain out.
- ROOF (TOP COVER) consists of durable architectural fabric with welded seams stretched over wood rafters with an insulation option available.
- **CENTER RING** connects the radial rafters at the top of the yurt and serves as a visual focal point, framing the dome skylight.
- **RAFTERS** provide structural support and a frame for the roof, made from dimensional lumber.

TENSION CABLE is comprised of an aircraft-quality steel cable that secures the rafters in place at the top of the lattice wall to prevent the rafters from spreading beyond the circumference.

- LATTICE WALL serves as an accordion-like wall structure spanning the yurt's circumference.
- WINDOWS can be built into the exterior wall fabric or directly into the wood frame to provide light and ventilation.
- DOORS are pre-hung in a structural frame and include weather seals—size and number available depend on the yurt model.
- WALL (SIDE COVER) is made of durable architectural fabric that wraps around the lattice wall with an insulation option available.
- FLOOR consists of tongue and groove 2x6 or plywood that can be covered with custom flooring. Not included (plans available).
- PLATFORM SUPPORT raises the yurt off the ground using concrete piers and wooden posts and can be insulated. It provides a secure base for anchoring the yurt.

Traditional vs. Modern Yurt



Traditional: Radial rafters and lattice frame are tied together with rope or leather thongs and covered with felt—designed for quick and easy setup and takedown.



Modern: Frame is made of dimensional kiln-dried lumber and covered with durable architectural fabrics—set on a platform and often built for more permanence and modern conveniences.

What Makes an Energy-Efficient Yurt?

With the right features, environmentally conscious yurt owners can save money on monthly bills while protecting the environment.

Renewable Energy









The average U.S. household uses 10,656 kWh of electricity per year.

A home wind turbine can generate as much as 16,000 kWh a year.



A 4 kW solar panel system can provide 5,200 kWh annually.

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A single solar panel can produce enough power to run 84 light bulbs for 1 hour a day. (This varies by location and solar exposure)

Window & Door Placement

- South-facing windows and doors maximize solar heat and light.
- Locating windows opposite each other provides for good cross-ventilation.
- Choosing our Low-E insulated glass windows helps to minimize heat loss.

Insulation

- Reflective insulation in the wall and roof takes up minimal space.
- Insulation liners work by reflecting up to 97% of radiant heat in both directions, keeping the yurt warmer in the winter and cooler in the summer.
- Adding insulation to your platform will increase efficiency, as will choosing a site that offers afternoon shade.



Composting Toilet

- Toilet flushing accounts for 45% of indoor water use—up to 32,000 gallons per year for a family of 4.
- A composting or low flush toilet can reduce water use by 20-50%.
- US Residents can save up to \$500 a year in water and sewer bills with a composting toilet.

Propane System

 More than 9 million US families use propane in their homes for heat, cooking and other appliances. We recommend using vented propane systems that are professionally installed.



A tinted dome reduced heat gain

Other Options to Consider



Window awning frames create shade



A ceiling fan circulates warm air



An opening dome allows cooling

through the dome skylight by approximately 60%. over fabric windows and allow them to be left open for ventilation. in winter and helps exhaust hot air in summer. through natural convection.

A Look at Pacific Yurts' Environmental Initiatives

With an eco-friendly yurt from Pacific Yurts, owners can save money while supporting environmentally responsible business practices.



Sustainable Lumber

We incorporate lumber harvested from sustainably managed second growth forests.



Minimal Waste

Our second growth lumber is handpicked at the mill. By carefully choosing boards of the appropriate length and grade for each yurt component, we minimize waste.



Green Energy

At least 25% of the electricity we use in our manufacturing facilities comes from wind power.



Recycled Wood

We recycle our leftover sawdust and small wood trim pieces to local gardeners and crafters.



Other initiatives include printing with soy inks and recycled content paper whenever possible and actively participating in recycling programs. Even our fabric remnants are recycled or repurposed into secondary products such as duffel bags or shopping totes.



Pacific Yurts has maintained a steadfast commitment to environmentally responsible business practices since 1978. The yurts we make are very resource efficient, providing a maximum amount of enclosed space while using a minimal amount of material as compared to standard construction.

www.yurts.com

SOURCES: en.wikipedia.org/wiki/Yurt, culturechange.org, weknowsolar.com, homeenergy.org, npga.org, yurtspecialists.com Infographic designed by Mad Fish Digital