

Low Tech Solarpunk Ideas for a Fantasy Setting

There will be some overlap between this page and others, because a tremendous amount of solarpunk involves reexamining old ways to see if they make sense in a new context, or when combined with another practice, or with modern updates. Because these techniques are old, and the fantasy genre has a rich history of anachronistically mixing historical elements to make a good setting or interesting story, it probably makes as much sense as ever to pluck these ideas from their location and time and mix them together.

Because solarpunk societies fit their climate and region, one of the best ways to find relevant technologies (including architecture, city planning) is to read the history of similar regions to what you're writing. (After all, there wasn't generally much choice but to adapt to the climate, weather, and available materials.) But it's also fair to say that some practices which flourished in one place and time could have worked in similar circumstances elsewhere but never did (such as the [Chinese wheelbarrow](#)).

Food Preservation

- **Root Cellars**
- **Spring Houses/Cold Houses** - Spring Houses are small single room structures built over a spring, to keep the water clean and sometimes to [channel some of it into an outflow pipe](#) to provide running water downhill. The chill from the spring could be used to preserve food, so some spring houses were built to keep animals out. A Cold House is a perhaps regional term for a [similar small stone building](#) built over a flowing stream instead of a spring, used for food preservation, usually milk. (a [couple examples](#)).
- **The Ice Harvest and Ice Houses** - Sometimes called the Winter Crop, blocks of ice cut from freshwater lakes and ponds were an important export from cold regions before refrigeration. Ice was cut and stored in Ice Houses (small sometimes-buried structures shaded by trees) where it was covered with sawdust to insulate it into the summer, or sold abroad, transported by wagon, train, and ship.
- For a much older, more permanent and insulated ice house design check out the [Yakhchāl](#) from Iran. The design seems to rely pretty heavily on evaporative cooling and the low humidity of the region and could even produce ice.
- Fermented foods

Moving and Using Water

- **Váltori** - Váltori are a sort of public outdoor washing machine made from a series of wooden flumes which divert water from mountain streams into wooden tubs with spaces between the slats. The flow of water creates a sort of whirlpool inside the tub, and is used to wash bulky items like blankets.
- **Levadas** - A levada is an irrigation channel or aqueduct often built along or carved into cliffsides to transport water from the Autonomous Region of Madeira southwest of Portugal.
- **Carp as Kitchen Scrap Disposal** - This is part of a traditional Japanese practice of running canals through villages for fresh water and feeding food scraps to carp who live in it.
- **Qanat** - the ancient qanat system provides water to agricultural and permanent settlements in arid regions of Iran, by tapping alluvial aquifers at the heads of valleys and running the water downhill through underground tunnels, often over many kilometres. This system includes rest

areas for workers, water reservoirs and watermills. It can also be paired with wind towers on buildings to regulate temperature like a giant swamp cooler, drawing cool air up from inside the tunnels.

- **Waterwheels and mills** are already more or less a staple of the genre but definitely fit here. They have been used for pretty much every task humans have that involved a spinning thing, from running machinery, to grinding grain, even lifting water out of a river up into a raised flume.

Wind

- **Windmills** - a surprisingly disruptive technology, early windmills upset the entrenched landowners who already owned all the good spots for mills on the rivers and put the capabilities of mills in the hands of regular people.
- **Vertical Windmills** - it appears this design is a little simpler to build, as it uses a straight shaft from the windsails down to grindstone, without the intermediary gears found on horizontal axis windmills. A clever curving wall funnels wind through in one direction so the mill spins - though modern savonius wind turbines use curved blades rather than flat sails to do the same thing and could probably be made in the past.
- Windmills aren't just useful for grinding grain, they also played an important role in pumping water for agriculture and [harvesting salt](#)!
- Sail ships
- [Land Sailing](#) and [Sail Barges](#) were various land vehicles that used sails as a motive force. There were also variations of the aforementioned [Chinese wheelbarrow](#) which used sails.

The Sun

Solar panels might be out but there are plenty of other interesting ways to use solar power.

Solar Concentrators - There's a ton of different designs (from parabolic mirrors to giant lenses) for use in all kinds of purposes, but the important thing for a fantasy setting is that they're generally pretty simple. Mirrors (which in this case would probably be polished metal because making big sheets of smooth glass is hard), a framework, and mathematical formulas for the overall shape, and you can produce incredible heat - up to 3,500 °C. In real life wood and coal met most of society's heat and metalworking needs, but a society that went all in on solar concentrators could find all kinds of clever configurations, layouts, and scales to use them at. [Small, concave, handheld mirrors for starting fires](#), [Scheffler reflectors bouncing light](#) into households, bakeries, or common kitchens to run ovens, [parabolic troughs on rooftops heating water in pipes](#), perhaps cities specifically built where the local rock formations allow for massive [solar furnaces](#) or even something like [fields of mirrors](#) being manually (or magically) aimed at the right furnace. A mix of some or all of these could give a fantasy region a visually distinctive character.

If you want to go a bit later in the timeline, solar concentrators were even used to generate steam which was then [used to drive water pumps for agriculture](#). And to [run a basic refrigerator](#).

If you want to get even fancier, [Caustic Soda Locomotives](#) and solar steam generators existed contemporaneously and though they never were IRL, they could be combined to set up [solar powered steam trains with 1800s technology](#).

Agriculture

Working with Trees

- **Pollarding and Coppicing** are a useful way to harvest wood from living trees, and even to shape the wood a bit (the long, straight branches produced were useful for fences, tool handles, firewood etc).
- **Hedgerows and living fences** - Hedgerows are a traditional practice of shaping suitable trees into living fences which provide [valuable habitats](#) and last generations. ([A version tailored to North American plants](#))
- **Living bridges** - This is a type of tree shaping mostly found in India and Indonesia, using the aerial roots of trees to bridge rivers and canyons. As long as the tree from which it is formed remains healthy, the roots in the bridge can naturally grow thick and strengthen.

Architecture

Solarpunk structures will generally be designed to fit local conditions and use local materials - especially in a lower tech setting where there's less choice. (Although a setting where an overuse of magic

* [Awnings](#)

etc from our past that emphasize working with nature and seasons. It also gives the writer more flexibility with people and places, holding up a fun house mirror to look at our own society with.

I wrote most of this for another question about mixing fantasy and solarpunk but here's my suggestion: I think it could work really well in a setting where magic is fading, where it serves as sort of stand-in for oil - a powerful resource which allows for a one-size-fits-all approach to lots of things. Perhaps paired well with a magic-reliant empire which is now crumbling.

Solarpunk should emphasize local communities, environments, and ways of doing things. A solarpunk community in the desert should look much different than one in a tundra, or one in a jungle. If the big society of the setting was using magic the way we use oil and concrete (build the same building in every location and if it's too cold or too hot, just burn more oil to heat or cool it) then we might see magic-reliant buildings becoming unusable or even unsafe in locations where their design isn't a good fit.

If we say magic allowed them to extend this one-size-fits-all approach to everything, from agriculture to transportation, then we might see a setting where the power of that empire is cracking and local cultures and practices are resurging. There's a lot of room for conflict there: disagreements on loyalties and old conflicts temporarily tamped down by the empire bubbling back to the surface, but also on the way forward, on how things should be done, which systems make sense to apply wherever the players are.

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Last update: **2025/11/29 20:23**