Solarpunk Building Materials

As we've said elsewhere, solarpunk buildings should use materials appropriate to their surroundings. Climate, weather (including rainy seasons, severe heat, long winters, etc), threats to the structure (such as insects and mold), and available materials should all be a factor, as should the needs of the community - perhaps importing an advanced material from further away will allow a structure to last and cause less harm than rebuilding it regularly.

The following is a far-from-exhaustive list of materials and building styles you may want to include depending on your setting:

Geopolymers

If you're looking for a drop-in replacement for CO2-producing Portland Cement then you probably want Geopolymers.

Geopolymer is almost carbon-neutral, repurposes industrial waste, covers all the uses of concrete, and is much better performing overall. The only reason it hasn't replaced Portland cement already is the broad hegemony of the established industry –which won't matter as industry localizes. Ideally, we want a carbon-negative alternative to allow our built habitat to become a carbon sink, but that's going to take a while. In the meantime, geopolymers are probably the best we can do. So where concrete construction can't be replaced, that seems more likely to become the cement alternative of choice.

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