

A Quaker Case for Green Building

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“We are going to make it as green as we can afford.”

I hear this a lot from Friends who are contemplating renovations to their meetinghouse or planning a new building. It reflects Friends growing consciousness that we must take responsibility for our part in global climate change and other environmental crises.

These Friends tell me of their plans because I have been a spokesperson for the green renovation of the Friends Center in Philadelphia. There is a growing fellowship among Friends for sharing ideas and encouragement for building green. With the renovation of the FCNL building, Friends Center, and several Friends schools and meetinghouses, Friends are becoming part of a movement to change the way Americans think about our buildings. We are helping to show the way.

But the statement “as green as we can afford” began to trouble me. Would we say, “I’m only going to be as faithful as I can afford?” or “We’ll divest of as much stock in weapons manufacturing as we can afford?” I’ve heard of projects that ended up barely green at all because an uninformed architect said that green building strategies would be “too expensive.” What would happen if we turned the statement on its head and said, “We’re going to make it green and we’re working out how to do it affordably”?

Living our testimonies

As I consider the testimony of integrity, it is clear to me that integrity demands that our own lives demonstrate the concerns we carry. How can we work for peace if we are not reducing our contributions to the major causes of war? How can we talk of equality if we are consuming four

times our share of the earth's resources? How can we with any integrity ask others to change their behavior unless we are changing our own?

Some years ago a Quaker magazine had an articleⁱ admonishing readers that the environment isn't *another* concern, it is a part of many, perhaps all, of the concerns Friends already carry. Given the nature of global warming and other environmental crises, it is impossible to effectively address concerns for peace, equality, or simplicity without taking the earth into consideration.

The wars of the 21st century are predicted to be over energy and water resources. Indeed wars now raging—in the Middle East, parts of Africa, and elsewhere have energy and/or water among the roots of the conflict. Loss of cropland, drought, and other environmental degradation are triggering mass migrations which in turn trigger conflicts between the migrants and the local people where they seek refuge. The Pentagon has published that they are working on scenarios for blocking migrations caused by global warming—and planning for a war with China in Central Asia over oil reserves. Americans', including Friends', overuse of resources contributes to these conflicts. If we want to prevent wars, we can start, as John Woolman challenged us, by removing the seeds of war from our possessions and way of living. If we want to prevent wars, we have to find ways to reduce our consumption of fossil fuels and our production of greenhouse gases.

In the U.S. there is a growing concern about environmental degradation falling most heavily on the poorest segments of the population. This is true in many other parts of the world as well. People, often women and children, walk for miles every day to gather sticks for fuel to cook their food. In some areas of Haiti and Nicaragua families have cut down their last shade tree for fuel. In poor countries people also travel long distances to collect water—often contaminated water—

for drinking, cooking, and washing in their homes. Much of the water contamination comes from mineral extraction, manufacturing, commercial agriculture. It has been estimated that if everyone on earth consumed resources and produced waste at the rate of the average person in the U.S., it would take four or five earths to sustain us all. If we care about equality, we need to find ways to take no more than our share of the world's resources.

Simplicity is more a testimony about our relationship with the Divine. Early Friends sought to live simply in order to remove distractions from the life of the Spirit. This also works in reverse: when we pay attention to our relationship with the earth it brings us the joy of noticing the beauties of the rhythms of nature, and draws us inexorably to awareness of our unity with all of God's creation.

Buildings: Our Blind Spot

Many, many Friends have been paying attention to our individual behavior regarding the environment—how much we drive our cars, how much we put into the trash stream, where and how our food is produced. But most of us are overlooking something important about our homes and meetinghouses.

I was shocked to learn that as much as half of everything in landfills is construction debris, and that runoff from roofs and paved surfaces is a major cause of stream and river pollution in the United States. We can't succeed in addressing these environmental issues, without paying attention to our buildings. What was more shocking for me is that in the U.S. *buildings put out twice as much CO₂ as cars*. To reduce our country's contribution to global climate change we must dramatically change how our buildings are lighted, heated, and cooled. Some other parts of the world are way ahead of us.

The good news is that we already know how to make our buildings sustainable. Feasible strategies are already in use for reducing energy usage and stormwater runoff. Through a combination of energy conservation and green strategies, Friends Center’s renovations resulted in buildings that are fossil-fuel free and carbon neutral. Stormwater runoff has been dramatically reduced. More than 90% of construction waste was recycled. Once the renovation was complete, we embarked on plans for paying attention to our energy use and recycling and composting as much waste as possible.

How do we make it affordable?

The most important “greening” is to green our thinking. Once we have made a commitment to responsible, sustainable building we bring a different set of resources to solving the questions of what building strategies to employ and how to make them cost effective.

Some strategies add little or nothing to the costs of a building: orienting a new building to capture the sun in winter, shading windows in summer, choosing paint colors that maximize the available light. With good advice from an architect or builder who is experienced in green building, these strategies and others can be planned from the very beginning and not add to the cost of the building. One key in designing a sustainable building is to make it as small as you can and still meet the purposes for which you are building: smaller means fewer building materials, probably less labor in building, less heating and cooling over the life of the building.

Some strategies—particularly those that reduce energy consumption—may cost more up-front, but pay for themselves in a moderate length of time. Many of us have replaced our light bulbs with compact fluorescents. We know that they cost more than incandescent bulbs, but the EPA tells us that we will save upwards of \$30 in energy costs over the life of the bulb.ⁱⁱ The

same is true of high-efficiency heating systems and high levels of insulation—they cost more at the beginning, but the payback is measurable and generally well within the lifecycle of the heating system. Geothermal systems, the most efficient and environmentally friendly heating and cooling available, can be quite expensive to install, but even these systems pay for themselves in five to ten years, often more quickly than expected, and then are a source of savings and environmental protection for years to come.

Strategies for protecting the watershed may or may not be cost effective for the homeowner or building owner because water and sewer rates tend to be subsidized by the public water utility in many parts of the country. But some strategies are low cost and well worth it. If you are doing landscaping anyway, it may merely be a matter of getting a knowledgeable person to help you think about your landscaping in new ways: using pervious paving materials that allow water to soak into the ground, using native plants that require little or no irrigation and fertilizer, contouring to capture runoff. At my house we catch rainwater in a barrel and use it for watering our vegetable garden; at Friends Center we capture it in cisterns and use it to flush toilets. In some areas stormwater runoff mitigation is a requirement for new building projects, so the costs are not optional.

Reducing the amount of building material that goes to the landfill also is mostly a matter of planning differently. Concrete, drywall, steel, and other products can be reprocessed and reused. While it takes extra time and attention to sort the materials, much of the cost can be recovered by selling the material to a recycler.

Affordability Is Not the Only Issue

People ask me what the payback period is on the various green strategies we are employing at Friends Center. As it happens, the payback period on the energy strategies is predicted to be

10-15 years, but we don't ask, "what is the payback period for the electric wiring and running water?" We assume that our buildings have to have electricity, and running hot and cold water. Some even assume we need air conditioning, and we find a way to pay for it. We don't ask what the payback period is for those amenities.

We can start by assuming that our buildings will be green and figure out how to make it work financially. Perhaps we will come up with strategies that don't add significantly to the cost. Perhaps we will be able to borrow against the projected energy savings. Perhaps we will give up other amenities in order to lower the costs.

And maybe there are some additional costs that are rightly ordered. Our "affordable" projects generally don't quantify the cost of pollution, global warming, and environmentally caused health issues. Those costs are externalized to be borne by others. How much more should we be willing to pay for our buildings in order to take responsibility for our environmental impact?

Living with reverence

I have been helped by theologian Sallie McFague's idea that the earth is the body of God.ⁱⁱⁱ From that point of view, how could we treat the earth with anything but deep reverence? I like to think that Friends will never build another building that isn't green, that we'll gradually convert all of our homes and meetinghouses to sit lightly on the earth. Thus our buildings themselves will come to be a living witness to Friends deepest beliefs.

ⁱ "Ecological Integrity and Religious Faith," Keith Helmuth, Friends Journal, August 2001, p. 6.

ⁱⁱ For those concerned about the mercury in a compact fluorescent, it is generally less than the mercury in the emission for generating the additional electricity to operate an incandescent bulb, and various resources for safe recycling are becoming available. LED bulbs, while even more expensive, use less energy, last even longer, and do not have issues with lead.

ⁱⁱⁱ *The Body of God: an ecological theology.* Sallie McFague, Fortress Press, 1993.