How "Sustainability" is Changing, How We Make and Choose Products

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What does sustainability mean, and why should people in the thermophysical properties business care? This paper will describe sustainability in the context of product development which is where much of the interest is currently being generated. Once described, it will discuss how expectations for sustainability are changing product lines, and then discuss the controversial issues now emerging from trying to measure sustainability.

One of the most organized efforts in the US is the US Green Building Council revolutionizing how the built environment is conceptualized, designed, built, used, and disposed - and born again. The appeal of the US Green Building Council is that it has managed to checklist how to "do" sustainability. By following this checklist, a more sustainable product should be achieved. That is, a product that uses less energy, less water, is less noxious to the user, and depletes less resources. We care because these sustainable products are viewed as preferable by a growing number of consumers, and consequently, more valuable.

One of the most interesting aspects of the sustainability movement is a quantitative assessment of how sustainable a product is. Life Cycle Assessment techniques (not to be confused with life cycle economic costs) developed since the early 1990s are gaining ground as a less biased method to measure the ultimate "bad" consequences of creating a product (depletion of natural resources, nutrification, acid rain, air borne particulates, solid waste, etc.). One of the most interesting assertions is that these studies have shown that recycling can sometimes do more environmental harm than good.