

post-petroleum design
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current plastic life cycle. But what will be the environmental impacts and unanticipated consequences of the alternatives? They will present both new challenges and new possibilities of their own in the post-petroleum era.

Upcycling

WE don't have to wait for plastic products to reach the landfill before we find creative new uses for them. There are billions of plastic products rolling out of factories every year, and post-petroleum designers are already finding imaginative applications for many of them after their typically brief life of service. Upcycling gives new life to disused products, converting them into everything from jewelry to light fixtures.

Bottle Lights are plastic waste recycled into solar bulbs. Amy Smith at MIT's D-Lab is credited with creating the bulbs, made by simply filling an ordinary used plastic bottle with a mix of water and a few drops of chlorine bleach. The neck of the bottle is then inserted through a small hole cut into the roof of a dwelling. Each Bottle Light emits the same amount of light as a 55-watt bulb, providing light for families who cannot afford electricity. Even families with electric service can save about \$6 per month by using Bottle Lights, said Illac Diaz. His MyShelter Foundation, based in the Philippines, sells the bulbs for \$1 apiece, including installation. In its first year, the foundation lit over 15,000 homes, with the aim to light one million homes by 2015.¹²

And if you use cans more than bottles, don't despair; those plastic six-pack rings that usually end up clogging our landfills and waterways are also finding creative uses thanks to post-petroleum designers. Bao-Khang Luu, the designer behind Relevé Design, makes his livelihood by upcycling such ordinary objects into unique furnishings like the Allium pendant lamp. This lamp's shade, like a series of others made by Relevé with different shapes, is made entirely from upcycled six-pack rings. "Using a technique developed over a year and a half, the six-pack rings are hand-woven into strands and onto metal lamp rings," Luu explained. "This eliminates the use of new materials or adhesives to connect the six-pack rings together," he added, "and at the end of its lifecycle, each light can be deconstructed easily for upcycling or recycling."¹³

Even the lowly plastic phone card can become high fashion in the hands of an innovative designer. Brazilian designer Mana Bernardes creates products and artworks from plastic cards and bottles, toothpicks, bobby pins, and other everyday items that would otherwise be discarded. Her Colar Espacial Telefônico reveals the potential for the billions of "waste" plastic materials to be creatively reimagined. And Bernardes is helping others learn to do the same, working with the Museum of Rio de Janeiro, the European Design Institute, and other organizations to promote creative and environmentally sensitive upcycling.¹⁴



Figure 17.4 Allium Pendant Lamp

Bao-Khang Luu's firm, Relevé Design, "transforms commonly discarded materials into new useful lighting, home accessories, and furniture by injecting a hefty dose of art and design into upcycling." Image courtesy of Bao-Khang Luu.

Figure 17.5 Mana Bernardes Colar Espacial Telefônico

Brazilian designer Mana Bernardes uses plastic cards and bottles, toothpicks, and other everyday items that would otherwise be discarded to create products and artworks such as her Colar Espacial Telefônico. Image courtesy of Mana Bernardes; photo by Mauro Kury.



Notes

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