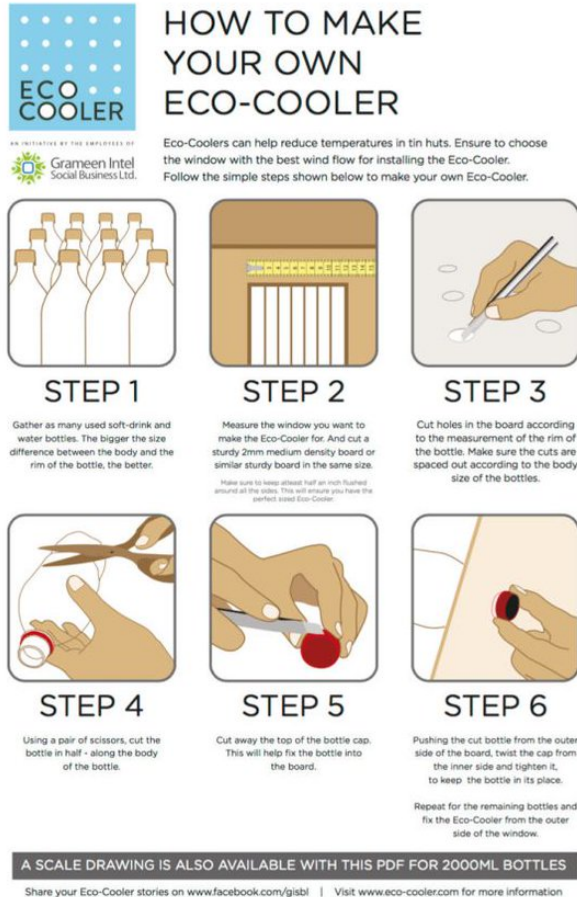



# Household cooling device is designed to run without electricity

10 June 2016, by Nancy Owano



**HOW TO MAKE YOUR OWN ECO-COOLER**

AN INITIATIVE BY THE EMPLOYEES OF  
 Grameen Intel Social Business Ltd.

Eco-Coolers can help reduce temperatures in tin huts. Ensure to choose the window with the best wind flow for installing the Eco-Cooler. Follow the simple steps shown below to make your own Eco-Cooler.

**STEP 1**  
 Gather as many used soft-drink and water bottles. The bigger the size difference between the body and the rim of the bottle, the better.

**STEP 2**  
 Measure the window you want to make the Eco-Cooler for. And cut a sturdy 2mm medium density board or similar sturdy board in the same size.  
Make sure to keep atleast half an inch flush around all the sides. This will ensure you have the perfect sized Eco-Cooler.

**STEP 3**  
 Cut holes in the board according to the measurement of the rim of the bottle. Make sure the cuts are spaced out according to the body size of the bottles.

**STEP 4**  
 Using a pair of scissors, cut the bottle in half - along the body of the bottle.

**STEP 5**  
 Cut away the top of the bottle cap. This will help fix the bottle into the board.

**STEP 6**  
 Pushing the cut bottle from the outer side of the board, twist the cap from the inner side and tighten it, to keep the bottle in its place.  
Repeat for the remaining bottles and fix the Eco-Cooler from the outer side of the window.

A SCALE DRAWING IS ALSO AVAILABLE WITH THIS PDF FOR 2000ML BOTTLES  
 Share your Eco-Cooler stories on [www.facebook.com/gisbl](http://www.facebook.com/gisbl) | Visit [www.eco-cooler.com](http://www.eco-cooler.com) for more information

company), the Eco-Cooler project.

(For those not sure if "Intel" has any connection with *the* Intel, the answer is yes. Grameen Intel describes itself as a social business information technology company, formed as a collaboration between Intel Corporation and Grameen Trust. Intel Capital and Grameen Trust made investments to create Grameen Intel Social [Business](#) and they are the shareholders of the company.)

The video opens in Daulatdia, Rajbari. where many people live without any electricity at all. Many rural homes in Bangladesh are made with corrugated tin.

"We are a flood-prone nation, so in rural Bangladesh, most people build their homes out of tin, instead of mud," said Jaiyyanul Huq in *The Observers*.

In the summer temps reach 45 Celsius. Staying inside homes cannot beat the heat. The heat beats the residents. People find greater comfort resting just outside their homes. Huq in *The Observers* described the heat as like being in a sauna in the Sahara.

The video shows a man walking and collecting soda and water bottles. Those are a key component for the Eco-Cooler. The bottles are cut in half and put into a grid.

"As hot air passes through, the bottle neck compresses and cools the air."

The cooler is said to drop temperatures by up to 5° Celsius. (Not a lot in numbers but for a mother fanning a baby in the indoor heat, that drop may feel better.)

Jaiyyanul Huq wrote how Ashis Paul came up with the idea. "Paul started thinking about ways to bring relief to these people. He was turning it over in his

Credit: eco-cooler.com

(Tech Xplore)—Nice. A cooler that runs without electricity. It is not a gadget targeted at hiking professionals or vacationers roosting in pods in the States and Europe; this one is a device designed for people who have no electricity at all in their homes.

A video was posted last month telling the story of the Eco-Cooler. Grameen Intel employees volunteered and teamed up with Grey Dhaka (Bangladesh wing of Grey, communications

mind when one day, he overheard his daughter's physics tutor explaining to her how gas cools when it expands quickly. Ashis has an 'inventor' mentality and he's always been fascinated by science. So, he started experimenting. He told us about his idea of making an air-conditioner out of plastic [bottles](#)." drill holes in the board big enough to push a plastic neck through. Gather some old plastic bottles and cut the bottoms off, then slide the neck of each bottle through the holes and secure them with the cap. Do this until the board is full. Hang the board on the window..."

The video said the idea was being adopted in villages across the country. According to Grey, "With the help of the Grameen Intel employees, the Eco-Coolers have been installed in villages in Nilphamari, Daulatdia, Paturia, Modonhati and Khaleya across Bangladesh."

**More information:** [www.eco-cooler.com/](http://www.eco-cooler.com/)

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India TV said according to reports the coolers have been installed in almost 25,000 [homes](#).

"After initial tests, blueprints of the Eco-Cooler were put up online for everyone to download for free," said Syed Gousul Alam Shaon, Managing Partner and Chief Creative Officer at Grey [Dhaka](#).

Is there a copyright involved? "We urge everyone to download the [how-to](#) guide, made available on this website and make their own version of the Eco-Cooler. There are no copyrights," stated the web site for EcoCooler.

In response to seeing the video on YouTube, numerous reader comments included remarks that said the idea was not effective.

Comments ranged from saying the concept sounded like nonsense to those who expressed doubt and one reader suggested a placebo effect may have been at work making the residents feel better. Some comments were from those who tried out the idea and said it worked for them.

Matthew Humphries, senior editor, *Geek.com*, weighed in: "It sounds too good to be true, but it exists and is in growing use across the country of its origin: Bangladesh, where 70% of residents live in tin huts without [power](#)."

Humphries provided an explanation of how this [cooler](#) is constructed:

"To make an Eco-Cooler you take a piece of board cut to the size of a window on your house. Then

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