

THE ZERO ELECTRICITY AIR-COOLER CREATED IN BANGLADESH

In Bangladesh, a team of the Dhaka office of the New York based [Grey Group Company](#) created the eco-friendly Air Cooler working without electricity.

The Eco-Cooler, using recycled plastic bottles to produce cool air, is one of the most cost-effective and environmentally friendly solution that has the capacity to reduce the temperature by up to 5 degree-Celsius as soon as it starts to work.

The Eco-cooler is built using re-purposed plastic bottles, which are cut into half and fitted in a grid that is designed in accordance to the size of the window. The change in the pressure that will take place as soon as the air enters the wider part of the bottle and then passing through the bottleneck makes the air cooler. Placing the Eco-Cooler in the window with the wide part of the bottles facing outside, hot air will rush into each bottle, which is pushed to the rim where it starts to expand and this expansion is what cools the air before it enters the room. The steps to build an Eco-cooler are described in the [observers.france24.com website](#).

Approximately 70 percent of Bangladesh population lives in villages where electricity is not an option and temperatures can reach 45 degrees Celsius in the summer. To address this issue, the Dhaka Office of Grey Group and in particular the creative supervisor Ashis Paul conceived the innovative idea of the Eco-Cooler that makes the houses livable during the summer season.

After initial tests, blueprints of the Eco-Cooler were put up online for everyone to download for free. The Eco-cooler is easy to make by anyone and raw materials are easily available, making Eco-Coolers a cost effective environment friendly solution that can be easily implemented in rural areas. Since February 2016, working in collaboration with volunteers of Grameen Intel Social Business Ltd. the cooler has been installed in many villages and teams are teaching people how to make the Eco-coolers.

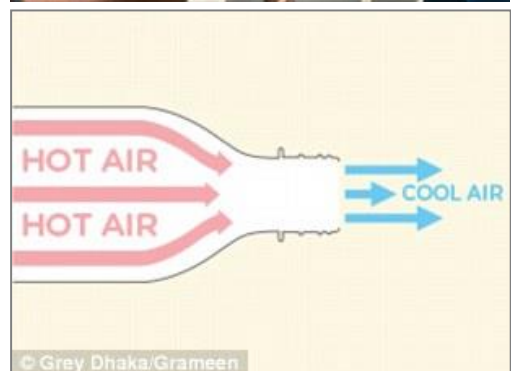
Ideal for other countries and territories facing similar conditions, the Eco-Cooler not only helps people struggling with scorching heat, but is an example of upcycling old plastic material and building something constructive with urban waste.

To know more

[Grey.com website](#)

[Graameen-intel.com website](#)

[Article in observers.france24.com](#)



[Article in gleejar.com](#)

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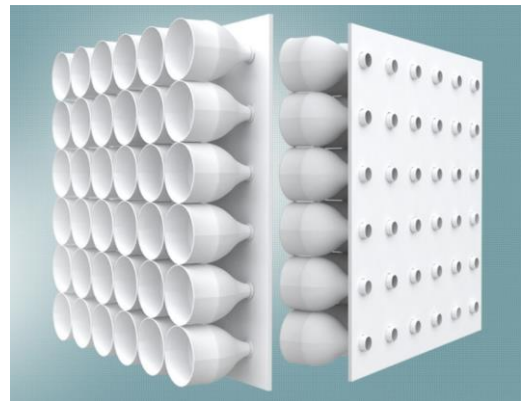
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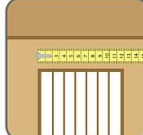




[Article in homecrux.com](#)

[Article in dnest-inventors.eu](#)

[Article in inhabitat.com](#)

[How to make an eco-cooler in Youtube](#)



 <p>STEP 1</p> <p>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.</p>	 <p>STEP 2</p> <p>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.</p> <p><small>Make sure to keep offset half an inch (flush) around all the sides. This will ensure you have the perfect sized Eco-Cooler.</small></p>	 <p>STEP 3</p> <p>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.</p>
 <p>STEP 4</p> <p>Using a pair of scissors, cut the bottle in half - along the body of the bottle.</p>	 <p>STEP 5</p> <p>Cut away the top of the bottle cap. This will help fix the bottle into the board.</p>	 <p>STEP 6</p> <p>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.</p> <p>Repeat for the remaining bottles and fix the Eco-Cooler from the outer side of the window.</p>

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