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Energy, the Environment and the Bottom Line

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Cutting Water Use in the Textile Industry

By **SARA PETERS**

AirDye technology uses air rather than water to infuse fabrics with color. Above, athletic shirts are dyed and logos are printed in one pass through AirDye's system.

The process of making textiles [can require several dozen gallons of water](#) for each pound of clothing, especially during the dyeing process. Amid tightening environmental regulations and a push to save money, companies are working to reduce the waste.

One such company working to cut its water use is [Colorep](#), which is based in California. Its [AirDye](#) technology, used for the occasional [window shade](#) or [T-shirt](#), employs air instead of water to help the dye penetrate the fiber, a process that Colorep claims uses no water and requires less energy.

The technology works only on synthetic materials and is currently available only in the United States (where only a small fraction of the world's clothing is made, of course). But Colorep says it plans to extend its use to Europe by the end of summer, and to Central America by late this year.

Todd Copeland, who monitors the environmental impact of materials for the outdoor clothing manufacturer [Patagonia](#), said that one of the sewing factories in the United States that does contract work for the company is currently installing AirDye. One limitation: "It does not work on cotton or wool or the other fiber types that we use to make our products," Mr. Copeland said — though he noted it does work on polyester.

Other companies are also working on new ways to slash their water use, according to Susan Keane, a senior environmental analyst at the [Natural Resources Defense Council](#), which is [working with Gap and a handful of other companies](#) to cut the waste and pollution associated with the textile industry in China.

Typically, Ms. Keane said, the clothes get dyed using water that goes from a dye vat to a rinse vat to another rinse vat and so on until the fabric is completely rinsed. Before this process begins, each vat is filled with clean water.

But a process called [counter-current rinsing](#) can save substantial amounts of water, she said. Here, only the last vat is filled with clean water and then, once it is slightly dirty, it is used to

fill the previous vat (and that slightly-dirtier water goes to fill the prior vat, and so on) — so some of the water gets reused.

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