SIR for Clients



UNWASTED OPPORTUNITY

In recent years, finding new ways to collect waste for recycling has evolved into a global trend. Discover some of the most interesting examples below.

Underground tickets for used bottles

In October 2018, metro stations in Istanbul were equipped with exotic "reverse vending machines". They took in plastic bottles and, instead of dispensing cash or coins, added credit to the passenger's underground card in exchange. With a metro journey available at TRY 2.6 (around EUR 0.4), one bottle was equivalent to TRY 0.2–0.6, depending on the size. Passengers had to bring over a lot of bottles to afford a ride.

FURNITURE MADE FROM TYRES HAS BEEN GAINING TRACTION. THE UNCONVENTIONALITY IS ONE REASON, BUT IT IS ALSO ABOUT THE QUALITIES OF THE MATERIAL ITSELF, WHICH IS STRONG, WATERPROOF, AND HANDY.

Although the inconvenience was obvious, citizens welcomed the idea to reduce the environmental footprint. The Turkish is enthusiastic as well, planning to deploy more than 100 machines by the end of 2018.

All this has been part of the global quest for efficient recycling techniques, which is now a hot topic. Other examples are Columbia and Finland, where recycled tyres are used to make bags, accessories and even furniture. According to experts, it is not only about the unconventionality or the feeling that you care about the environment – it is also about the qualities of the material itself, which is strong, waterproof, and handy.

Kenya, too, has come up with brilliant environmental initiatives. Every year, many tourists leave their rubber slides and flip-flops on Kenyan beaches. Local designers have invented a way to recycle that footwear to make sculptures of African animals and put them on beaches, resulting in a loop where flip-flops are recycled into sculptures that attract tourists that will likely leave their gear behind again. As funny as it might seem, Kenya's case has shown that waste management issues are not restricted to industrial operations and can be dealt with to a positive effect even when addressed individually.



Kenyan designers make quirky sculptures fr om slides and flip-flops lost by tourists. Source: facebook.com/OceanSole

THE US HAS BEEN ACTIVELY EXPERIMENTING TO INCREASE THE SHARE OF RECYCLED PLASTICS AS A MATERIAL FOR NEW PRODUCTS. SOON, IT WILL BE POSSIBLE TO PRINT ALMOST ANYTHING FROM PLASTIC.

Recycling of plastics is thriving in the United States, where a 3D printer was created to use them as inputs. Its cartridges are made of recycled plastics as well. In fact, the country has been actively experimenting to increase the share of recycled plastics as a material for new products. Soon, it will be possible to print almost anything from plastic, experts say.

Plastics in construction

Using recycled plastic waste to construct small buildings or even full-fledged houses has been another trend.

In Nigeria, people have come up with a smart way to use plastic bottles without having to pay for recycling. The bottles are filled with sand and put in rows, and mortar is placed between them.

Obviously, such housing would be inadequate for a cold climate, but it well suits areas with a lot of sunny days throughout the year. It can even withstand a slight earthquake, not to mention heavy rain or wind. These buildings are great at keeping the heat inside.



In Nigeria, plastic bottles are used to build houses. Source: facebook.com/Ecotecafrica

WHETHER YOU ARE GOING TO CREATE BESPOKE STRUCTURES OR RECYCLE THINGS TO MAKE HOUSE ROOFS, THE IDEA TO USE WASTE AS A BUILDING MATERIAL PROVES ITS WORTH.

In the Netherlands, a project focused on building plastic roads is in progress. The first ones may appear as soon as 2019. Plastic road modules are sturdy enough to withstand heavy loads and are lightweight and easy-to-use. They can host utility mains and be recycled when their useful life ends.

Whether you are going to create bespoke structures or recycle things to make house roofs, the idea to use waste as a building material proves its worth. And it is cost-effective, which means that the number of such projects may well grow in the coming years.

Another trend is biodegradable products, especially bags. For example, bags recently invented by Chilean researchers degrade completely when placed in water – and it remains drinkable. However, mass production has yet to become financially attractive.

As regards Russia, the country has been lacking recycling capacities, laws prohibiting disposal of used tyres, and established waste sorting processes. It is still unclear when the nation will follow the global trend.



Furniture made of used tyres has been gaining traction in many countries. Source: tutto-arredamento

How to make asphalt from manure and building materials from hulls

In the United States, a process for making asphalt from pig manure has been invented. The organic matter has been discovered to contain oils that are similar to crude oil and can prove useful. While it is too expensive and impractical to process them into gasoline, they can be used to obtain high-quality bitumen instead. The inventors insist that the end product has no smell, as the manure is purged of specific fatty acids.

Ivan Shorstkii, a PhD student of the Kuban State Technological University, offers another interesting technique: it helps make building blocks from rice hulls, which do not degrade in soil and emit toxic gases when burnt. Shorstkii has come up with a process to convert hulls into granules and use them to manufacture building materials. GenerationS, a European startup accelerator, provided a grant to the inventor, who now plans to create mobile processing facilities and place them near rice hull sources.

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