

# PVC helps bring fresh water to coastal areas

*Whilst collective imagination often depicts islands as paradisiac places with stunning beaches and palm trees, they also have some drawbacks. Water scarcity is one of these, and the EU funded project REFRESH set out to overcome it with new water containers made of PVC.*

Geographical isolation; fresh water scarcity due to urbanisation, extensive irrigation and tourism; as well as wind-caused salt intrusion in available water sources, are some of the most common issues in islands and coastal areas. The lack of fresh water is of particular concern, as it makes these regions highly dependent on expensive importations.

By bringing together river, lake and wetlands scientists with expertise in hydrology, hydrochemistry, ecology, aquatic modelling and social science, the EU-Funded REFRESH project aims to overcome this issue. And to this end, it has designed — and will bring to market — PVC and polyester containers that can be used to transport fresh drinking water to islands or coastal areas.

The newly-invented container consists of waterbags which are transported using a tugboat. According to Aimplas, the Spanish technology institute involved in the project, the system is 50-75% cheaper than transporting water with tanker ships and is also more environmentally friendly.

*"The modular design system of the REFRESH containers allows us to vary the capacity, make multiple downloads and maintain the integrity of the rest of the load if one of the modules gets damaged,"* project manager Vicent Martínez told European Plastics News.

A prototype container measuring 20m in length and 4m in diameter and capable of containing 200m<sup>3</sup> of water is currently being tested. In November 2012, it was successfully used to transport fresh water from Crete to the Gulf of Souda, a trip that was notably followed by Euronews.

Aimplas says the successful trial demonstrates the technical viability of floating flexible containers and is now asking the European Commission for a second project - REFFRESH XXL. The new project would develop a container ten times bigger to exploit this transport system on a commercial scale.

**Project:** REFRESH

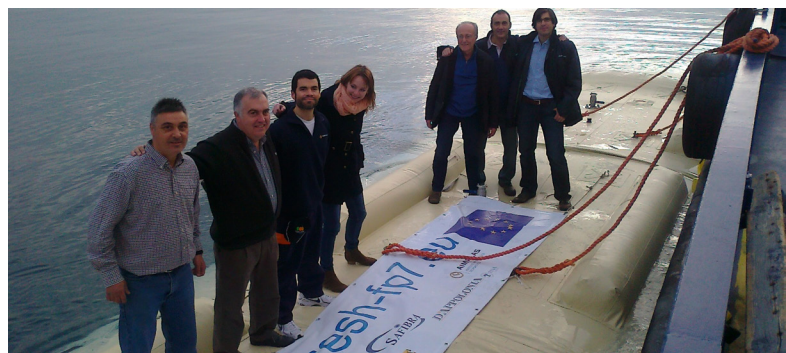
**Coordinator:** Spanopoulos Group

**Location:** Mediterranean

**Technical info:** PVC, Polyester

**Function:** Water containment

**Picture Credits:** REFRESH



# Over 360,000 tonnes of PVC recycled in Europe in 2012

*VinylPlus is on track to meet the challenge of recycling 800,000 tonnes per year by 2020.*

VinylPlus, the European PVC industry sustainable development programme, had a record 362,076 tonnes of PVC recycled last year, keeping it on track to meet the challenge of recycling 800,000 tonnes per year by 2020. A more comprehensive and wider scope for what constitutes 'recycled PVC' has been adopted to include post-consumer and limited types of post-industrial PVC, as well as some of

the regulated waste streams in the EU.

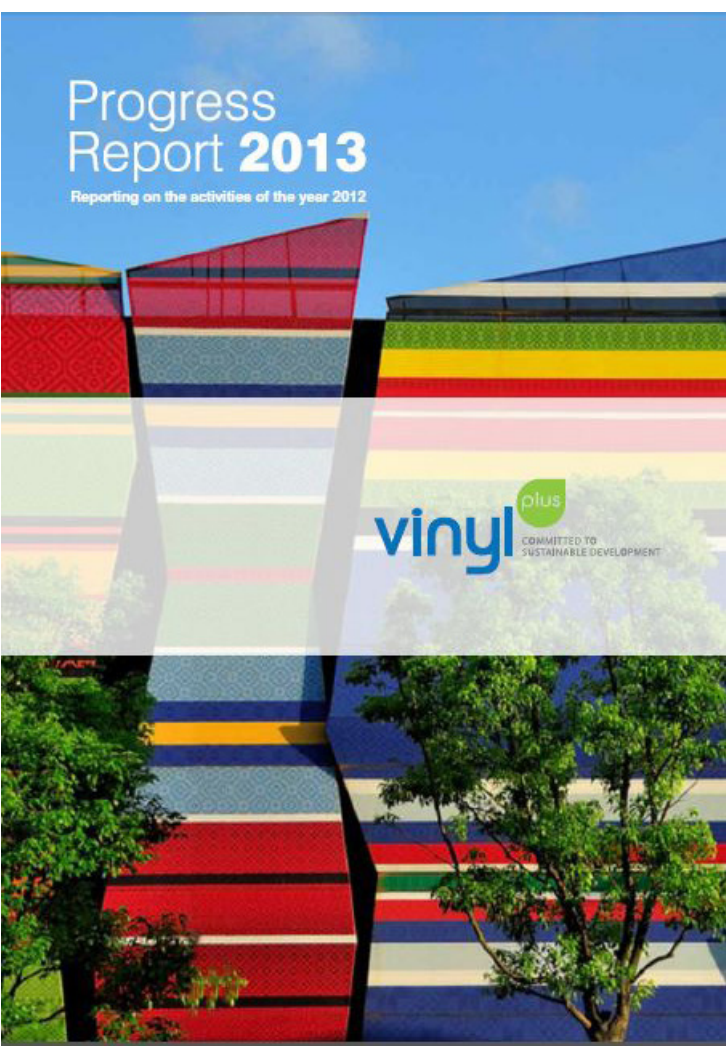
Innovative technologies to recycle difficult-to-treat PVC waste are currently under evaluation and significant efforts were made to address the 'legacy additives' issue related to the presence of restricted chemicals in recycled PVC.

The 2012 results were presented at the Vinyl Sustainability Forum 2013 in Istanbul. Echoing words from the EU Environment Commissioner, VinylPlus Chairman Filipe Constant said the industry *"is effectively moving from a model of resource consumption that follows a 'take-make-use-throw away' linear pattern into a truly circular economy model which puts end-of-life materials back into the production stream extending the added-value of PVC's inherent durability and versatility."*

In 2012 VinylPlus registered a decrease of 76.37% in lead stabiliser consumption in the EU-27 compared to 2007 levels, well on track to complete the substitution by the end of 2015. The new audit on the 'PVC Industry Charters' showed a 96% full compliance.

VinylPlus is very active on various fronts, with taskforces studying how to incorporate renewable energy and raw materials, a VinylPlus product label concept for PVC products having been developed in collaboration with The Natural Step NGO, and a number of communication projects being supported to reinforce the Voluntary Commitment messages along the value chain.

Speaking at the Forum in Istanbul, Ambassador Tomas Anker Christensen, Senior Advisor at the United Nations Office for Partnerships noted: *"partnerships are a key enabler for achieving progress on agreed development goals, including sustainable development. VinylPlus has demonstrated success and we are keen to see how the European industry challenges itself to be more ambitious and concrete in addressing identified challenges. Industry has a critical role to play in accelerating change, greening the economy and driving sustainable progress around the world"*.







# Transparent PVC reveals 'invisible people'

*Showcasing a cast of semi-invisible sculpted characters, Korean artist Jin Young Yu explores the disparity between the outward and inward self.*

While her work depicts a large panel of situations — a meek-faced outcast wishing to be invisible to others, a family overtly flamboyant in its attempt to appear “normal” as it entertains guests, or the hidden scars we all carry with and within us — Yu’s conceptual impetus is consistently clear: to acknowledge the anxiety arising from social interactions, and to expose the implicit acts of cover-up one engages in as he or she adheres to social convention.

Yu’s work centres on the use of two opposing media, and the tropes their usage represents: the disguise — faces and clothing rendered in vibrantly painted plaster; and a yearning for invisibility — bodies moulded of ultra-transparent PVC, a material Yu prefers for its weightless, distortion-free quality.

*“My works are about the ‘invisible people.’ Yu explains. “It was too simple to define them as ‘the alienated people’ or ‘the depressed people.’ Instead, I thought that I, or we, could easily be*

*one of them. My works are about people who, instead of getting along with others, choose to keep a distance from them, be invisible or be left alone unconcerned. Instead of trying to fit into the world, they climb into a space of their own and reject other people’s intrusions.”*

**Project:** Transparent Sculptures  
**Location:** London, United Kingdom  
**Artist:** Jin Young Yu  
**Technical info:** Transparent PVC  
**Picture credits:** Jin Young Yu





# Colours that move you

*London's Lisson Gallery has been revisited by Daniel Buren. "A Perimeter for a Room" alters our perception of space by using panels covered with coloured vinyl.*

Throughout the course of his 45-year career, French artist Daniel Buren has bagged many of the finest locations in the world for his site-specific artworks: Versailles, New York's Guggenheim and the likes Tokyo's Odaiba Bay, to name just a few.

His latest venue was London's Lisson Gallery which, over the course of a week, he transformed with works that display his trademark colourful, geometric shapes and signature stripes.

Buren is known for creating often large-scale, site-specific works that play on architectural, spatial and social elements, and this is exactly what he has done in the Lisson Gallery.

Discovering 'A Perimeter for a Room', situated in the main gallery space, is like stepping into another world. Horizontal panels covered with self-adhesive coloured vinyl are used to alter the perception of space by creating an internal division, introducing a new height within the room. The walls are washed with coloured shadows, warming the visitor with a

glowing light.

The artwork is designed to change our outlook and heighten our sensitivity as our vision is altered by a new, dynamic colour palette.

While the project uses a familiar vocabulary in Buren's oeuvre — colour, light and black and white 8.7 cm stripes — "A Perimeter for a Room" defines an entirely new system in its treatment of interior space that opens the way for new developments.

Buren is constantly re-asserting himself and pushing the boundaries of his well-established visual language.

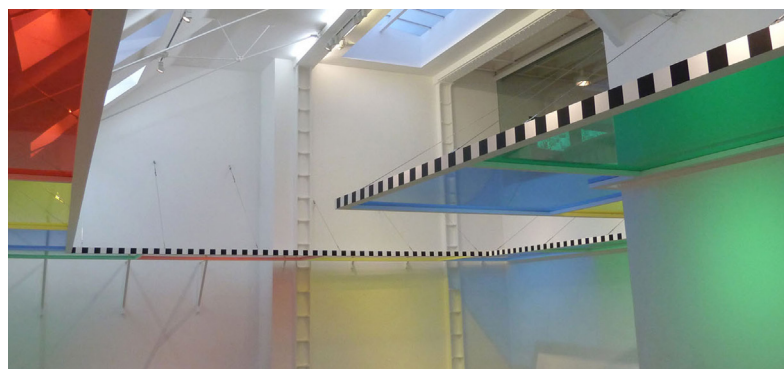
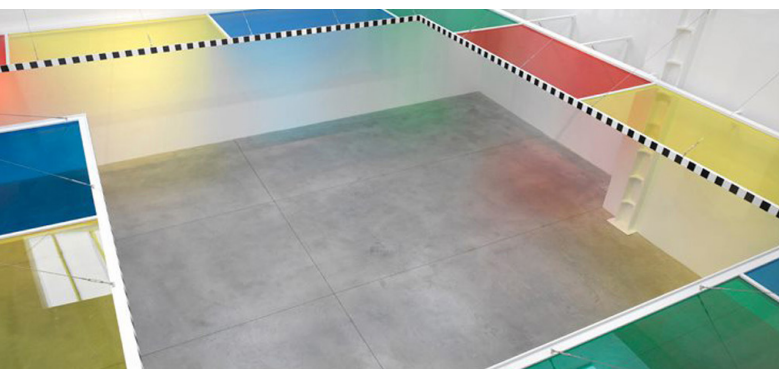
**Project:** A Perimeter for a Room

**Location:** London, United Kingdom

**Artist:** Daniel Buren

**Technical info:** Adhesive vinyl sheets

**Picture credits:** Lisson Gallery





# Trading in an igloo

*A new, temporary office structure near Moscow resembles a 1400sq-m inflatable igloo.*

Commissioned to construct a flexible and mobile office, Mossine Partners' Russian architects built its structure with an outer membrane made of white PVC fabric.

The unusual airy form of this structure, rounded as part of a cloud, definitely makes it stand out on a plain landscape. Vertical facets divide the domes into an undulating series of riveted balloons. The structure houses a showroom and office for the real estate company in charge of developing the site. The interior is organized into three zones, with the largest central 'bubble' housing an exhibition area with life-sized apartment models.

Branching off this central area are two smaller 'bubbles': one with a sales area for managers and the other with a relaxation area brightened up with a café and a playroom for children.

**Project:** Microcity Sales Office

**Location:** Moscow, Russia

**Architect:** Mossine Partners

**Technical info:** PVC fabric

**Picture credits:** Alexey Naroditskiy





# A cupboard you won't forget

*Dutch designer Dik Scheepers has created a cabinet made of oak and translucent green corrugated PVC.*

*"People tend to associate corrugated PVC with cheapness and poverty, which is a shame because you can really realise how nice it is when you see the light going through it" Scheepers explains. "By combining corrugated PVC with a material such as oak — a traditional material for quality furniture — people's feelings towards this material change."*

The use of corrugated PVC for the Sine Cabinet was inspired by flower-selling booths in the area near Amsterdam where Dik Scheepers grew up.

The frame extends behind the enclosed space of the cupboard because Scheepers wanted the furniture to be remembered

as its owner becomes used to its presence. *"I wanted to make a cabinet that you can't just put against a wall, but rather jumps off it,"* Scheepers explains.

*"The cabinet will change over time,"* he adds. *"The longer it stands, the fuller it gets, the less it will reveal because the corrugated PVC will lose its transparency."*

**Project:** Sine Cabinet

**Location:** Heerlen, the Netherlands

**Artist:** Dik Scheepers

**Technical info:** Corrugated PVC

**Picture credits:** Dik Scheepers





# Finding your style in a forest of images

*During the Milan Design Week, Zara showcased a temporary architecture created by Duccio Grassi Architects. It was unveiled in its flagship store on Corso Vittorio Emanuele.*

Zara and Duccio Grassi Architects architects share the same inspiration. With Zara, everyone can compose his or her own idea of fashion: definitive totems do not exist, neither do styles to be pursued or rules to be respected. The only rule is fragmentation, meaning that our style and our way of life results from many — mixed and re-composed — photograms.

It is “this forest of images” which, according to Duccio Grassi, “reflects the communication metropolis where we live and that we have to walk through, with courage, every day”.

The installation is composed by 14 white rigid PVC columns coming with an aluminum internal structure. The 4-meter-high totems are visible at the shop entrance. They consist of two white sides and two led or back-lighted screens-sides which display Zara SS campaign images. The base is a PVC and steel perforated structure, with three mannequins completing the installation.



**Project:** Forest of Images  
**Location:** Milan, Italy  
**Artist:** Duccio Grassi Architects  
**Technical info:** Rigid PVC panels  
**Picture credits:** Duccio Grassi Architects

