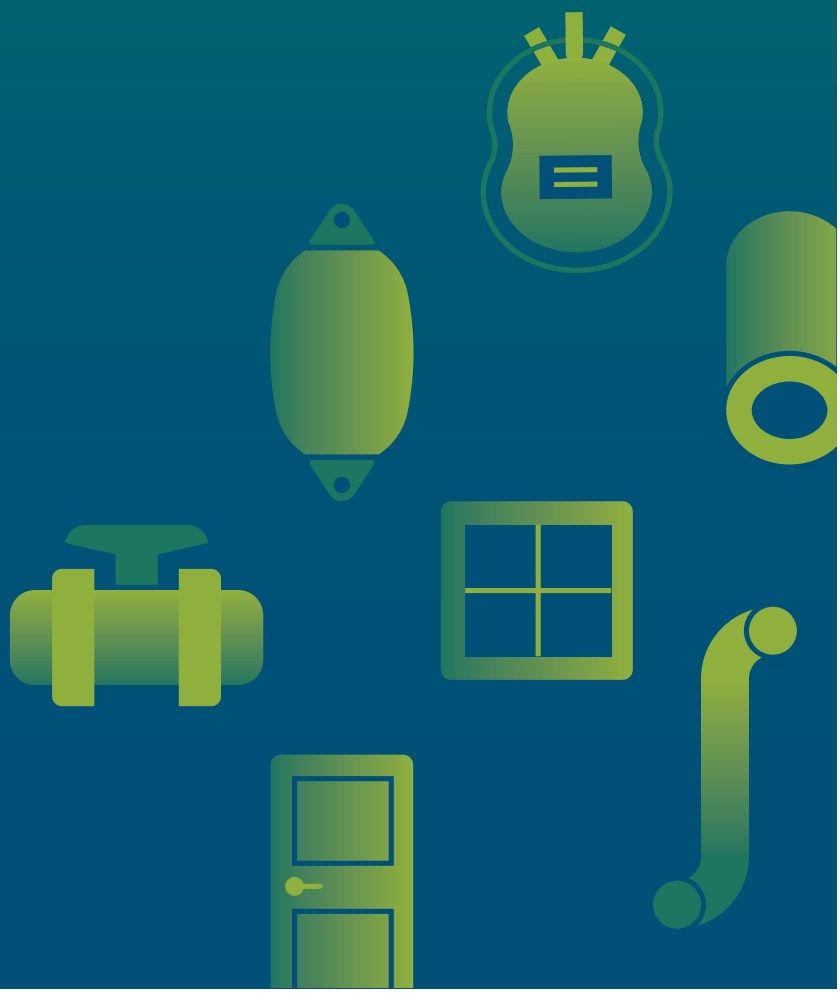
PVC TODAY

During the last 20 years, the European PVC industry has undergone a positive environmental transformation, and today bodies of the UN and the EU are crediting the PVC industry as a front runner for circular economy and a role model for other industries.



PVC
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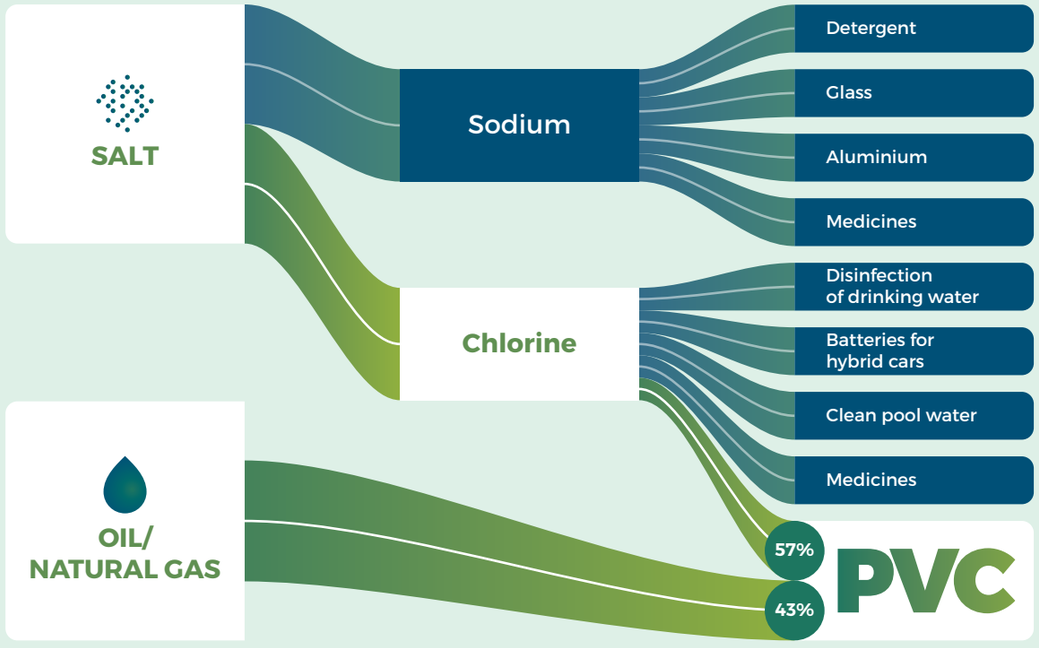
What is PVC?

PVC stands for polyvinylchloride and is made from salt and oil or natural gas. PVC is also known as vinyl and is one of the most widely used plastics in the world with a wide range of applications such as window frames, water pipes, flooring, cables, credit cards, and a whole range of lifesaving medical applications.



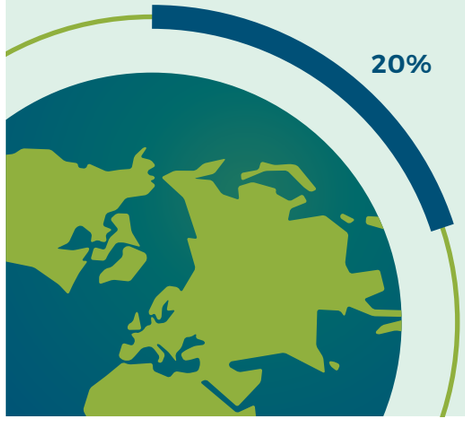
SALT IS THE CORNER STONE IN PVC AND IS AN INEXHAUSTIBLE RESOURCE

PVC is the only material which is made of both salt and oil or natural gas, making it a unique product. Salt is an inexhaustible resource, obtained from underground mines. In a chemical process, the salt is split into sodium and chlorine.

The sodium is used for things like producing detergents, glass, aluminum, and cholesterol-lowering medications.

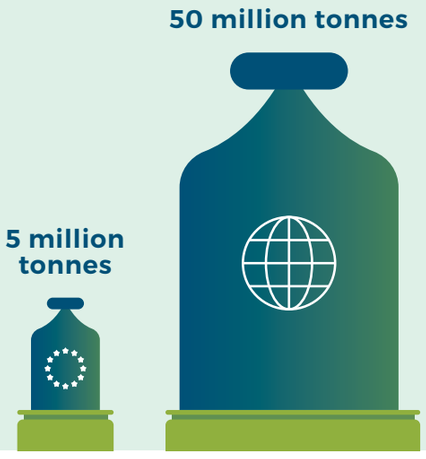
Aside from being used in PVC production, potable water and pool water is disinfected with chlorine. Chlorine is also used to manufacture life-saving medicines, computers, batteries for hybrid cars, and a wide array of other products.

How much PVC is used globally?



PVC accounts for almost **20% of the global production** of plastics, making it the third most used plastic in the world.

50 million tonnes of PVC are produced globally each year — 5 million tonnes in Europe alone.

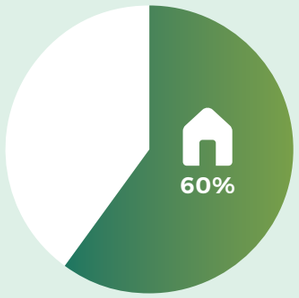


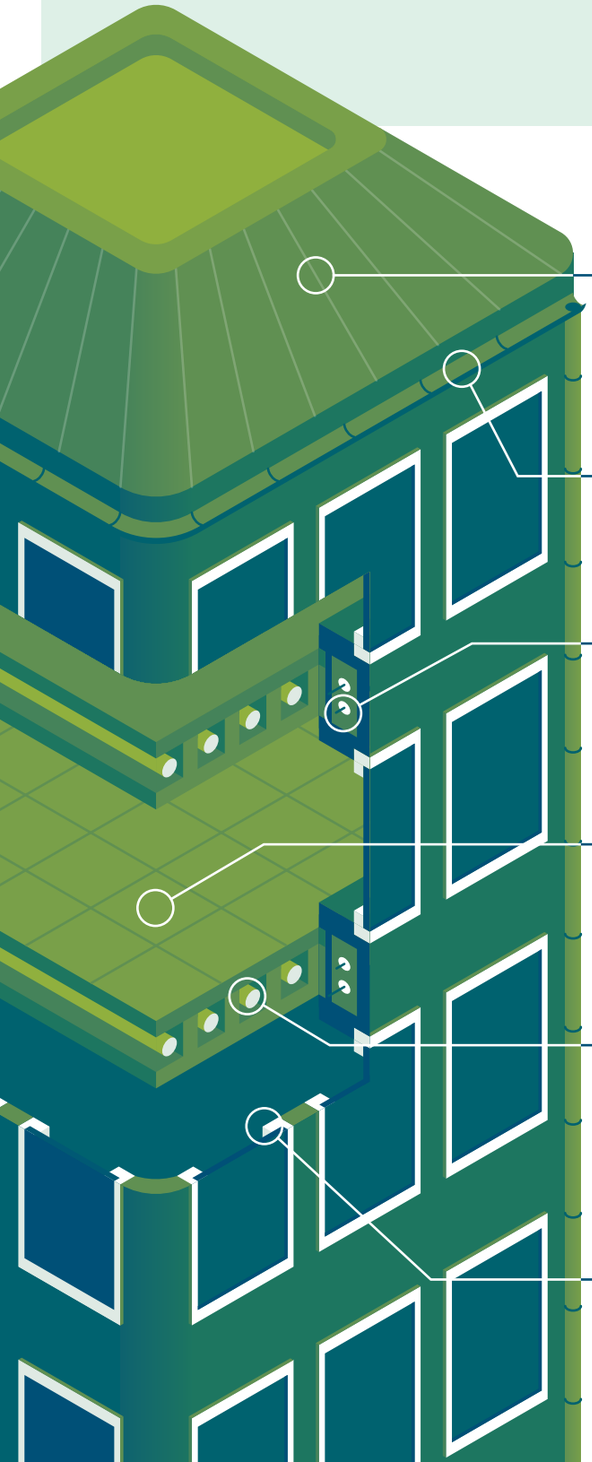
The consumption of PVC is increasing, particularly in countries with rapid growth, since it is primarily used in building and construction.

PVC IS THE PREFERRED PLASTIC MATERIAL IN THE BUILDING INDUSTRY

Almost 60% of the world's PVC is used for durable building products.

The remaining share is used for products in the healthcare sector, electronics, transportation, sports, and is also essential for wind power.





ROOFING

PVC roofing and membrane systems are durable, recyclable, and have a low environmental impact.

GUTTERS

PVC gutters are durable, inexpensive, and easy to recycle.

CABLES

PVC is a widely used material for cables, which are a prerequisite for our high-tech lifestyle.

FLOORING

Vinyl flooring offers architects endless possibilities and has a low total cost of ownership.

PIPES

PVC is used for pipes for potable water and a range of other piping applications. PVC pipes last 100 years and can be recycled many times.

WINDOWS

PVC windows are durable, maintenance-free, and easy to recycle.

New sustainability label for PVC building products

The **VinylPlus® Product Label** is a labelling scheme which makes it easy for customers and markets to identify the most sustainable and high-performance PVC products. Currently, the scheme covers the building and construction sectors.

The VinylPlus® Product Label has been developed by VinylPlus, in collaboration with Building Research Establishment (BRE Global) and The Natural Step (TNS).

PVC in the greenest games in history

That the PVC industry has undergone a tremendous transformation was proved by the 2012 London Olympics. The organisers wanted the Games to be the greenest in history and thus specified strict sustainability requirements for materials used. As a result, many tonnes of PVC manufactured in accordance with VinylPlus' principles were used for membranes, flooring, cabling, and piping.

DESIGN FOR REUSE

Many of the PVC applications manufactured for the Games were designed with reuse in mind. For instance, the PVC membrane from the Shooting Venue was reused in Glasgow for the 2014 Commonwealth Games.

The PVC industry is a role model

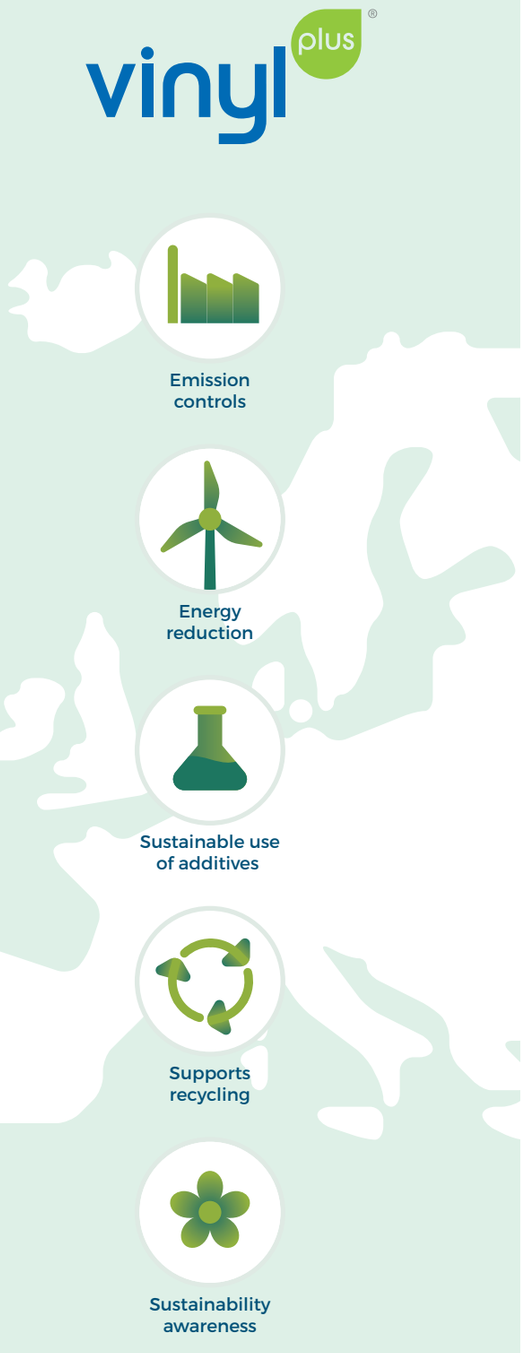
Today, the European Commission and the UN are considering the European PVC industry a frontrunner in the circular economy and a role model for other industries. This is the result of a decades-long focused effort and significant investments in sustainable development. Through VinylPlus®, which unites the PVC value chain in Europe, the industry has achieved great results — and the journey towards sustainability will continue in the coming years. As an example, more than 4.2 million tonnes of PVC have been recycled since 2000, and the amount increases every year.

Christophe Yvetot from the UN's Industrial Development Organization (UNIDO) says:

"VinylPlus shows that industry can change, industry can contribute. VinylPlus is a good role model and we are ready to work more closely with them."

THROUGH THE VINYLPLUS INITIATIVE, THE EUROPEAN PVC INDUSTRY AIMS TO:

- recycle 900,000 tonnes of PVC per year by 2025.
- promote a sustainable use of additives.
- improve PVC products' sustainability and their contribution to sustainable development.
- progressively reduce GHG (greenhouse gas) emissions as well as energy and resource consumption along the entire production chain.
- move towards a low-carbon circular economy.
- build sustainability awareness along the value chain and among stakeholders.



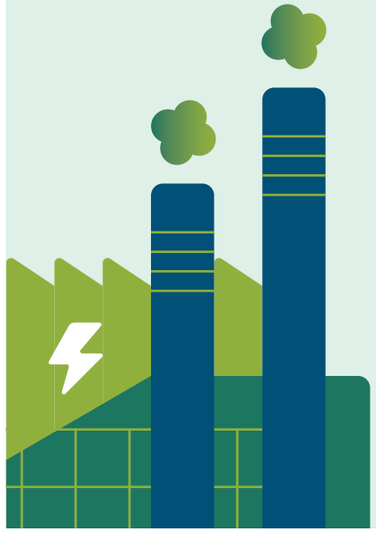
PVC recycling in practice

PVC is easily recyclable and keeps its technical properties through multiple recycling cycles. In the EU alone, about 640,000 tonnes of PVC are recycled annually through VinylPlus. The CO_2 savings are equivalent to removing 640,000 cars from the roads.

Using recycled PVC helps meet resource-efficiency targets and allows the preservation of natural resources:

- CO_2 savings of up to 92% are achieved when PVC is recycled.
- Recycled PVC's primary energy demand is typically between 45% to 90% lower than virgin PVC production.
- For each kg of PVC recycled, 2 kg of CO_2 are saved. On this basis, CO_2 savings from PVC recycling in Europe is exceeding 1.2 million tones.
- PVC recycling in Europe contributed to the creation of more than 1,200 direct jobs in recycling plants in 2017.

Emission controls during energy recovery



Regulation and industry innovation have eliminated dioxin emissions from PVC production and waste incineration. In a 2015 scientific study carried out under the direction of professor emeritus Alfons Buekens (Free University, Brussels) over 200 studies on PVC and dioxins in combustion and fires were reviewed. The overall conclusion was that PVC does not represent a problem in modern municipal solid waste incinerators. Likewise, the European PVC industry accounts for a negligible 0.1 % of the total dioxins emitted by human activities. The only remaining issue related to PVC and dioxins is uncontrolled burning of waste, a practice that should be eliminated anyway for reasons unrelated to PVC.

When sulphur- and chlorine-containing waste such as salted foods, plasterboard and PVC is incinerated, the acid gases that form during the combustion process must be neutralised. The neutralization residues are safely landfilled.

In Denmark, where waste-to-energy is the dominant waste management method, it is estimated by the Environmental Protection Agency that PVC accounts for less than 5% of the neutralization residues. Promising new technologies will in future limit the residues to be disposed of.

Why PVC is the building material of the future

As mentioned, PVC is used in a vast array of products that benefit society, but the most significant use is in building and construction. This sector accounts for a large share of the world's use of resources. Therefore, it is important that the building materials of the future are durable, lightweight, recyclable, and resource efficient. At the same time, the materials should preferably be inexpensive. PVC products meet all these demands.

PVC IS DURABLE

PVC building materials excel by being extremely durable. A PVC window will last for at least 40 years without maintenance, PVC roofing membranes for 35 years, and PVC pipes have a lifespan of at least 100 years.

PVC CAN BE RECYCLED AGAIN AND AGAIN

PVC is one of the most suitable materials for recycling. For instance, a PVC pipe can be recycled several times without losing its technical properties. In Europe, 640,000 tonnes of PVC are recycled annually. The CO_2 savings are equivalent to removing 640,000 cars from the road.

PVC IS LIGHTWEIGHT

PVC building products are light, which saves money during transportation. This means, for instance, that you can pack five times as many square meters of roofing membrane on a truck compared to alternative roofing materials.

PVC IS PRIMARILY MADE FROM SALT

Unlike other plastics, PVC is primarily made from chlorine derived from regular salt, which is an inexhaustible resource.

PVC IS INEXPENSIVE

Because PVC is primarily made from salt, the material is inexpensive.

PVC INFORMATION COUNCIL DK

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