PROGRESS REPORT
2018
REPORTING ON 2017 ACTIVITIES
VENYLPLUS CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS

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- Recycling Achievement
- Industry-Sector Projects for PVC Waste Management
- Other Recycling Projects
- Legacy Additives

CHALLENGE 2
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- Safe Transport
- Organochlorine Emissions

CHALLENGE 3
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- Plasticisers
- Criteria for the Sustainable Use of Additives

CHALLENGE 4
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THE EUROPEAN PVC INDUSTRY

VINYLPLUS VOLUNTARY COMMITMENT TARGETS

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Launched in 2011, VinylPlus® is the renewed 10-year Voluntary Commitment to sustainable development by the European PVC industry. The VinylPlus programme was developed through open dialogue with stakeholders, including industry, NGOs, regulators, civil society representatives and PVC users.

The regional scope of the programme is the EU-28 plus Norway and Switzerland.

This report summarises VinylPlus’ progress and achievements in 2017 in each of the five key sustainability challenges identified for PVC on the basis of The Natural Step System Conditions for a Sustainable Society.
VinylPlus Contribution to the SDGs

The **Sustainable Development Goals (SDGs)** define global sustainable development priorities and aspirations for 2030 and seek to mobilise global efforts around a common set of goals and targets.

Following the adoption of the SDGs in September 2015, VinylPlus assessed its contribution on the basis on the **SDG Compass** approach and started to report it in its Progress Report last year.
CHALLENGE 1

CONTROLLED-LOOP MANAGEMENT:

“We will work towards the more efficient use and control of PVC throughout its life cycle.”

VINYLPLUS’ CHALLENGE 1 CONTRIBUTES TO SDGs:

<table>
<thead>
<tr>
<th>SDG</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9.5</td>
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<tr>
<td>12</td>
<td>12.5</td>
</tr>
<tr>
<td>13</td>
<td>13.1</td>
</tr>
</tbody>
</table>
Thanks to a moderate but continuous increase in volumes in nearly all European countries, PVC waste recycling within the VinylPlus framework reached 639,648 tonnes in 2017.

PVC RECYCLED WITHIN THE VINYL 2010 AND VINYLPLUS FRAMEWORKS

- Cables
- Pipes & fittings
- Flexible PVC and films (including roofing and waterproofing membranes, flooring, coated fabrics, flexible and rigid films)
- Window profiles & related products

639,648 tonnes in 2017
## RECYCLING ACHIEVEMENT

### RECYCLED PVC TONNAGES

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>TYPE OF PVC</th>
<th>TONNAGE RECYCLED IN 2016</th>
<th>TONNAGE RECYCLED IN 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EP Coating</strong> (incl. Recovinyl)**</td>
<td>Coated fabrics</td>
<td>8,187*</td>
<td>9,034*</td>
</tr>
<tr>
<td><strong>Post-consumer Flooring Recycling initiative (formerly EPFLOOR)</strong></td>
<td>Flooring</td>
<td>3,811*</td>
<td>3,051*</td>
</tr>
<tr>
<td><strong>EPPA</strong> (incl. Recovinyl)**</td>
<td>Window profiles &amp; related profiles</td>
<td>256,607**</td>
<td>302,824**</td>
</tr>
<tr>
<td><strong>TEPPFA</strong> (incl. Recovinyl)**</td>
<td>Pipes &amp; fittings</td>
<td>57,005**</td>
<td>80,925**</td>
</tr>
<tr>
<td><strong>Eswa – Roofcollect</strong> and Recovinyl**</td>
<td>Flexible PVC and films (for 2017)</td>
<td>91,811 which consists of:</td>
<td>117,905 which consists of:</td>
</tr>
<tr>
<td><strong>Eswa – Roofcollect</strong> Recovinyl**</td>
<td>Flexible PVC</td>
<td>5,082*</td>
<td>4,281*</td>
</tr>
<tr>
<td><strong>ERPA via Recovinyl (incl. CIFRA and Pack-Upgrade Project)</strong></td>
<td>Flexible PVC applications</td>
<td>86,729**</td>
<td>113,625**</td>
</tr>
<tr>
<td><strong>Recovinyl</strong> (incl. VinyLoop Ferrara)**</td>
<td>Rigid PVC films</td>
<td>24,061**</td>
<td>125,909</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>Cables</td>
<td>127,214</td>
<td>125,909</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>568,696</strong></td>
<td><strong>639,648</strong></td>
</tr>
</tbody>
</table>

* Tonnage including Norway and Switzerland
** Tonnage including Switzerland
Recovinyl remained the main contributor, with a registered volume of 633,127 tonnes of recycled PVC waste. In 2017, Recovinyl underwent a significant reorganisation, both in its management structure and its data collection and reporting systems. The systematisation, particularly of audit protocols, will continue in 2018.

### RECOVINYl REGISTERED RECYCLED VOLUMES PER APPLICATION IN 2017

- **Pipes & Fittings**: 12.8%
- **Windows & Profiles**: 47.8%
- **Flexible PVC and Films**: 18.1%
- **Cables**: 19.9%
- **Coated Fabrics**: 1.4%
Recycled PVC’s primary energy demand is up to 90% lower than virgin PVC production.

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

640,000 tonnes of PVC recycled

-1.2 million tonnes of CO₂

Energy

CO₂

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

**RECYCLING ACHIEVEMENT**

640,000 tonnes of PVC recycled

+1.2 thousand direct jobs in recycling plants

Energy

CO₂

Direct jobs
INDUSTRY-SECTOR PROJECTS FOR PVC WASTE MANAGEMENT

Converters’ sectoral associations continued to develop and implement PVC waste collection and recycling schemes for building and construction applications.

A detailed description of the projects and initiatives undertaken by converters’ sectoral associations can be found on the VinylPlus’ website.

With regard to EPPA, around 300,000 tonnes of window profiles and related building products were recycled in 2017. The Hybrid Project, launched by EPPA in 2016, assessed that while post-industrial hybrid waste is easily recognised, it is often quite complex to identify hybrid materials in post-consumer waste. EPPA’s main activities in 2017 also included support to member companies applying for the VinylPlus® Product Label.
INDUSTRY-SECTOR PROJECTS FOR PVC WASTE MANAGEMENT

Converters’ sectoral associations continued to develop and implement PVC waste collection and recycling schemes for building and construction applications.

A detailed description of the projects and initiatives undertaken by converters’ sectoral associations can be found on the VinylPlus’ website.

In 2017, TEPPFA continued its advocacy and communication activities. These promoted the use of U-PVC recyclates, as well as cooperation with recycling companies and quality certification institutes, focusing on the quality and longevity of pipe systems. The first indications from the 2017 annual report by VITO showed an increase in consumption of recycled rigid PVC by TEPPFA’s members over the previous year. Nevertheless, reaching the sector targets will depend on the regulatory environment for legacy additives.
INDUSTRY-SECTOR PROJECTS FOR PVC WASTE MANAGEMENT

Converters’ sectoral associations continued to develop and implement PVC waste collection and recycling schemes for building and construction applications.

A detailed description of the projects and initiatives undertaken by converters’ sectoral associations can be found on the VinylPlus’ website.

ReVinylFloor is the new organisation set up to stimulate sustainable controlled-loop solutions for the recycling and recovery of post-consumer PVC flooring in Europe. It was established following the dissolution of EPFLOOR. ReVinylFloor collaborates with a network of partners active in fields including the production, collection, sorting, recycling, reprocessing and reuse of recycled materials in various applications. In 2017, 3,051 tonnes of post-consumer flooring were recycled.
INDUSTRY-SECTOR PROJECTS FOR PVC WASTE MANAGEMENT

Converters’ sectoral associations continued to develop and implement PVC waste collection and recycling schemes for building and construction applications.

A detailed description of the projects and initiatives undertaken by converters’ sectoral associations can be found on the VinylPlus’ website.

ESWA recycled 4,281 tonnes of roofing and waterproofing membranes in 2017 through its project Roofcollect®, in line with its targets.
INDUSTRY-SECTOR PROJECTS FOR PVC WASTE MANAGEMENT

Converters’ sectoral associations continued to develop and implement PVC waste collection and recycling schemes for building and construction applications.

A detailed description of the projects and initiatives undertaken by converters’ sectoral associations can be found on the VinylPlus’ website.

9,034 tonnes of coated fabrics were recycled in 2017 within the operation of EPCOAT, the coated fabrics recycling project of IVK Europe, and Recovinyl.
In 2017, the recycling consortium Resysta® increased its number of members as well as its production volumes. The consortium produces a wood-like material based on rice husks and PVC, which is recyclable after use. Trials are now ongoing to test modified and new formulations (foamed materials).
RecoMed aims to collect and recycle non-contaminated PVC medical products from UK hospitals, such as IV solution bags, oxygen masks, oxygen tubing and anaesthetic masks. In 2017 RecoMed collected and recycled 5,556 kg of PVC waste (including 3,000 kg just in 2017), equal to 177,910 sets of oxygen masks and tubing. Feasibility analysis is ongoing to expand the project to Germany and, potentially, Italy and Spain.
OTHER RECYCLING PROJECTS

The energy and material recovery trials for PVC flooring waste undertaken by Oreade-Suez in France continued in 2017. Oreade uses the SOLVAir® treatment system for the control of air emissions. The NaCl (salt) recovered through Flue Gas Treatment (FGT) is purified by Resolest and used in a Solvay plant to produce soda ash, thus replacing virgin NaCl. The process of Purification and Recycling of FGT wastes is being recognised as a Best Available Technique (BAT) in the BAT Reference Document for Waste Treatment.
After the completion of the analytical phase, in 2017 the WREP project led by PVC Forum Italia focused on identifying companies interested in taking part in pilot projects. Veritas, the major municipal multi-utility operating in the Venice area, and its subsidiary Eco-Ricicli confirmed their availability to start a pilot project with PVC Forum Italia in the Venice area in 2018. A pilot project for the recycling of PVC flooring was also initiated, involving a member of PVC Forum Italia that is active in recycling.
In the framework of the Turquoise project, Novafloor and its exclusive distributor I.đeel developed 100%-recycled PVC products for indoor, outdoor and agricultural applications.
In the framework of the VinylPlus joint technical projects, AGPU contributed to the project Plastic Recycling under REACH and End of Waste Regulations developed with the German consulting company Ökopol in collaboration with several industry partners and the German Environment Agency (UBA). The objective was to produce in 2018 guidelines and a position paper on the correct recycling of waste that contains legacy additives.
Legacy additives are substances that are no longer used in new PVC products but that can be present in recycled PVC. Since the use of legacy additives may be restricted by legislation, VinylPlus is committed to addressing the issue in cooperation with regulatory authorities.

Over the years, VinylPlus has contributed to discussions on legacy additives by supporting research and a considerable number of studies. In 2017, studies commissioned by VinylPlus focused particularly on lead, in relation to ECHA’s proposal to restrict the use of recyclates containing it.

They covered modelling (by FABES) and risk assessments (by ARCHE Consulting) of lead migration, as well as a cost-benefit analysis of recycling PVC applications containing lead (by RDC Environment).
CHALLENGE 2

ORGANOCHLORINE EMISSIONS:

“We will help to ensure that persistent organic compounds do not accumulate in nature and that other emissions are reduced.”

VINYLPLUS’ CHALLENGE 2 CONTRIBUTES TO SDGs:

TARGET 1.5
TARGET 3.9
TARGET 8.8
TARGET 9.4
TARGET 12.4
ORGANOCHLORINE EMISSIONS:

“We will help to ensure that persistent organic compounds do not accumulate in nature and that other emissions are reduced.”

There were no transport accidents in Europe with VCM release in 2017.

The Industry Charters for suspension (VCM & S-PVC Charter) and emulsion (E-PVC Charter) PVC are aimed at reducing their environmental impact in the production phase. The resin industry is continuing to work on achieving full compliance by the end of 2020.
SUSTAINABLE USE OF ADDITIVES:

“We will review the use of PVC additives and move towards more sustainable additive systems.”
Pb (LEAD) REPLACEMENT

Sales by ESPA members of lead-based stabilisers in the EU-28 market ceased in December 2015. The recycling of rigid PVC articles produced after this date is thus no longer affected by lead legacy issues, and the average lead concentration in mixed streams of pre- and post-2015 recyclates is constantly decreasing.

**Pb STABILISERS CONSUMPTION IN THE EU-28**

Target Achieved!
European Plasticisers estimates confirm a positive trend in Europe for High Molecular Weight (HMW) orthophthalates, cyclohexanoates, terephthalates and other plasticisers, accompanied by a progressive decline in the use of Low Molecular Weight (LMW) orthophthalates.
A methodology named ASF (Additives Sustainability Footprint) has been worked out by the VinylPlus Additives Committee together with The Natural Step, to develop a systematic framework to evaluate the use of additives in PVC products from the perspective of sustainable development.

In 2017, the first ASF was completed for window profiles in joint work with EPPA, and it was included in the VinylPlus® Product Label scheme. ESPA continued working on a Life Cycle Assessment (LCA) for liquid mixed-metals stabilisers (used in flexible PVC applications), to be completed by mid-2018.
SUSTAINABLE USE OF ENERGY AND RAW MATERIALS:

“We will help to minimise climate impacts through reducing energy and raw material use, potentially endeavouring to switch to renewable sources and promoting sustainable innovation.”

VINYLPLUS’ CHALLENGE 4 CONTRIBUTES TO SDGs:

- TARGET 7.3
- TARGET 8.4
- TARGET 12.2
- TARGET 13.1
ENERGY EFFICIENCY

PVC resin producers are committed to diminishing their energy consumption, targeting a 20% reduction by 2020.

A new verification is currently ongoing with IFEU on ECVM members’ energy consumption data for 2016-2017, and a verification report is expected by mid-2018.

ENERGY DEMAND OF PVC RESIN PRODUCTION

Source: ECVM  Data collection methodology validated by IFEU
ENERGY EFFICIENCY

The evaluation of the data available for each EuPC sector group to assess PVC converters’ energy consumption continued in 2017.

The analysis of the energy consumption data provided by about one third of IVK and ERPA member companies showed an average saving of 20.3% per tonne of PVC product over the period 2010-2016.

ERPA & IVK: ENERGY SAVING IN PVC FILMS PRODUCTION
SUSTAINABILITY AWARENESS:

“We will continue to build sustainability awareness across the value chain – including stakeholders inside and outside the industry – to accelerate resolving our sustainability challenges.”

VINYLPLUS’ CHALLENGE 5 CONTRIBUTES TO SDGs:

TARGET 3.9
TARGET 5.1
TARGET 12.6
TARGET 12.7
TARGET 12.8
TARGET 12.a
TARGET 4.4
TARGET 4.7
TARGET 8.8
TARGET 17.7
TARGET 17.16
TARGET 17.17
VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

In February, VinylPlus attended IdentiPlast 2017, the 13th International Conference on the Recycling and Recovery of Plastics. VinylPlus information materials, including brochures and an advertorial, were made available to participants. The conference was held in Vienna, Austria.
STAKEHOLDER DIALOGUE AND COMMUNICATIONS

VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

In March, VinylPlus participated in the Circular Economy Stakeholder Conference 2017, co-organised by the European Commission and the European Economic and Social Committee, in Brussels, Belgium. At the conference, the European Commission introduced the EU Plastics Strategy and discussed key deliverables in the implementation of the EU Circular Economy Action Plan with stakeholders.
STAKEHOLDER DIALOGUE AND COMMUNICATIONS

VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

VinylPlus also took part in the Plastics Recycling Show (PRS) Europe 2017, in Amsterdam, The Netherlands. PRS is the annual exhibition and conference for plastics recycling professionals organised by PRE.
STAKEHOLDER DIALOGUE AND COMMUNICATIONS

VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

In April, more than 530 delegates from 43 countries gathered in Brighton, UK, at PVC 2017, the triennial conference of the global vinyl industry. Brigitte Dero, General Manager of VinylPlus, gave the opening keynote speech focused on how a united PVC industry, involving the entire value chain, is showing the way for the wider plastics industry. VinylPlus also contributed to the technical sessions with two presentations, one on difficult PVC waste and the other on PVC resins Eco-Profiles and EPDs.
VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

With the theme *Towards Circular Economy*, the 5th VinylPlus Sustainability Forum in Berlin, Germany, in May, brought together over 150 stakeholders from academia, government bodies, the UN, the European Commission, NGOs, retailers, architects, designers and all sectors of the PVC industry. Discussion focused on policies for the Circular Economy, both regional and Europe-wide, and their potential impact on the plastics industry. The many growing opportunities for the PVC sector to contribute to this key objective of EU policy were also explored.
VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

In September, VinylPlus contributed to the PlasticsEurope Innovation Conference – Innovation for a Circular and Resource Efficient Europe with Plastics, organised in Brussels, Belgium, with a presentation on PVC recycling.
STAKEHOLDER DIALOGUE AND COMMUNICATIONS

VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

In November, VinylPlus participated in the International Conference on Circular Economy in Automotive Industries held in Bratislava, Slovakia, and contributed a presentation on *Cooperation through the Value Chain to enable the Circular Economy: The Case of PVC*. The conference was co-organised by the United Nations Industrial Development Organization (UNIDO) and the Ministries of Environment and Economy of the Slovak Republic, to promote the transition to a circular economy in the automotive industry.
STAKEHOLDER DIALOGUE AND COMMUNICATIONS

VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

VinylPlus also participated in EUROCITIES 2017, the annual conference of the network of major European cities, which took place in Ljubljana, Slovenia, in November. It focused on Circular Cities and provided an opportunity for VinylPlus to network and explore possibilities for cooperation.
STAKEHOLDER DIALOGUE AND COMMUNICATIONS

VinylPlus is committed to raising awareness of sustainability and to promote frank and open dialogue with all stakeholders, third parties, institutions and organisations in different communities.

Twitter was confirmed to be an effective tool to position VinylPlus on social media and to promote VinylPlus events, publications, press releases and achievements. It is also effective at driving traffic to the website.

By the end of 2017, the VinylPlus twitter account – @VinylPlus_EU reached 1,000 followers and the number continues to increase.
Following the formal signature of the agreement on 24 February 2017 between VinylPlus and the European Chemical Sectoral Social Partners (SPs, made of ECEG and industriAll Europe) under the umbrella of the EU Commission Decision 98/500/EC promoting the dialogue between the SPs in the sectors at European level, the signatories developed a concept note identifying priority actions in the areas of health and safety, education and training, knowledge transfer and sector evolution.

The agreed concept was presented by Brigitte Dero, General Manager of VinylPlus, at the Social Partners’ plenary meeting on 8 December 2017 which brought together representatives from ECEG, industriAll Europe, national associations in the chemical sector, DG EMPL, DG GROW and DG ENV.
The VinylPlus® Product Label (productlabel.vinylplus.eu) is a sustainability labelling scheme for PVC products. It has been developed by VinylPlus in cooperation with two external stakeholders, BRE Global and The Natural Step. The Product Label focuses on PVC applications for the building and construction sector.

In 2017, EPPA supported and promoted the implementation of the VinylPlus® Product Label for the window profile sector, considering it an effective tool to assess the sustainability performance of PVC window profiles and to highlight their contribution to a circular economy.

Four EPPA member companies have already completed certification audits and received the VinylPlus® Product Label certificate at the FENSTERBAU FRONTALE exhibition in March 2018.
ENGAGING GLOBALLY

VinylPlus actively shares experience, knowledge and best practices with the other regional PVC associations at a global level.

VinylPlus participated in Vinyl India 2017 in April, the 7th International PVC & Chlor-Alkali Conference in Mumbai. It also participated in the bi-annual meetings of the GVC (Global Vinyl Council), in Berlin, Germany, in May and in Florida, USA, in November.
The European PVC industry’s Voluntary Commitment was included in the Rio+20 Registry of Commitments in 2012 and VinylPlus is now registered as a SMART partnership on the UN Partnerships for Sustainable Development Goals Platform. Following the adoption of the SDGs in September 2015, VinylPlus assessed its contribution on the basis on the SDG Compass approach and started to report it in its Progress Report last year. In 2017, VinylPlus continued to engage in a proactive dialogue with UN bodies and organisations.

“I’m happy to see that in its Progress Report 2017 VinylPlus is already reporting and classifying its contribution to the SDGs, having identified for each of its five Challenges to which Goal they relate. I’d like to congratulate VinylPlus, we know how difficult it is to bring a whole value chain together to achieve more sustainability with clear objectives and targets, and you should continue the ambition, the effort. On our side we are ready to work more closely, maybe also to promote this model to other countries around the world. VinylPlus shows that there’s a way industry can change, there’s a way industry can contribute, and it is a good role model.”

CHRISTOPHE YVETOT
UNIDO Representative to the European Union
Media Field Trip: exploring the PVC value chain

The commitment of VinylPlus and European Plasticisers to sustainability was promoted through a media trip in Barcelona, Spain. Thirteen journalists from six European countries were shown production and recycling plants, and they had the opportunity to see the plants in operation and get to know people that work in the industry.
Roadshow Plus: European Plasticisers meets the Polish chemical industry

With Roadshow Plus, dedicated to Polish regulators, industry associations and brand holders, European Plasticisers concluded its biennial programme aiming to promote a dialogue on PVC plasticisers’ sustainability among industry and government stakeholders of European countries. More than 25 representatives of the Polish chemical industry, PVC converters and competent authorities, as well as government representatives and academics, gathered in Warsaw for a workshop organised by European Plasticisers in collaboration with VinylPlus and PIPC, the Polish Chamber of Chemical Industry.

PROJECT LED BY EUROPEAN PLASTICISERS

Geographic scope: EU
The SMART project – from the acronym of the Italian words for sanitation, maintenance, environment, recycling and TCO (total cost of ownership) – aims to promote a new design approach for hospital buildings using PVC applications. Rooms are designed with sustainable elements, including PVC flooring and wall coverings, window frames, pipes, cables and furniture. These facilitate cleaning and disinfection and increase patients’ comfort and safety.

SMART Hospital

PROJECT LED BY PVC FORUM ITALIA

Geographic scope: Italy
Every year VinylPlus co-funds a range of projects with the aim of expanding the scope of its communications activities. **Ten projects** were implemented in 2017, by three European industry sector organisations and five national PVC associations.

### Roadshows, e-magazine, outreach to national associations

VinylPlus and its achievements were actively promoted through social media, participation in conferences and exhibitions, and TEPPFA’s e-magazine and roadshows. Regular presentations on the progress and achievements of VinylPlus were made to national associations. The targets were: pipe producers, the pipes sector, associated stakeholders and European policy makers; stakeholders from the plastic pipes industry; and members of national associations that are not in TEPPFA.

**PROJECT LED BY TEPPFA**

*Geographic scope: EU*
Every year VinylPlus co-funds a range of projects with the aim of expanding the scope of its communications activities. **Ten projects** were implemented in 2017, by three European industry sector organisations and five national PVC associations.

**TURQUOISE**

The TURQUOISE project is aimed at increasing the use of recycled soft PVC in France, both through the development of new markets and applications, and through communications and promotion. In November 2017, the I.deel’s 100%-recycled PVC indoor product Carrelag.i® won the Innovation Awards of the Maison&Travaux magazine in the *Coup de Coeur* category.

**PROJECT LED BY SFEC**

*Geographic scope: France*
Building a new European vinyl films & sheets organisation

VFSE is a new organisation representing European suppliers of plastics sheets, films and foils. It is concerned with European business and recycling activities in the packaging, automotive and decoration markets. The organisation was launched in 2017 with a media relations campaign, and a website was developed to promote its activities and its partnership with VinylPlus.

PROJECT LED BY VFSE

Geographic scope: EU
In the UK, one million old PVC store gift cards were reprocessed and recycled in a pioneering trial. They provided material for use in new products such as irrigation pipes, thus saving 10 tonnes of plastics from being landfilled. Managed by Axion Consulting and BPF, the RecoCard trial involved Jellyfish Livewire, Recovinyl partner RPCS (Rubber Plastic Collection Service) and the retailer B&Q which provided the old cards. In 2017, the RecoCard take-back and recycling scheme was promoted in the UK with a media relations campaign. The scheme could be extended to other types of cards, such as loyalty cards and hotel key cards. In the UK around two billion PVC gift and store cards, equivalent to 2,500 tonnes, are produced every year.
Operation PVC Recycling: PVC recyclers meet PVC converters

This project aimed to raise awareness of existing PVC recycling activities and to stimulate demand for recycling. The recycling activities and achievements of VinylPlus and its national project partners – such as AgPR, Rewindo and Roofcollect® – were presented at the 22nd Demolition Conference (Fachtagung Abbruch) in Berlin.

Events were organised at the sites of two converters and one recycler to connect recycling companies with converters, so that they could learn about existing and new recycling processes and products.

PROJECT LED BY AGPU
Geographic scope: Germany
Acknowledgment for the environmental performance of recycled PVC

The project aimed to reduce resistance to the use of rigid PVC in building products for public procurement, raising awareness of PVC’s environmental performance and of VinylPlus. An intense communications campaign focused on the WUPPI scheme, using an integrated mix of public relations, social media, sign-up campaigns and newsletters. WUPPI handles 60-65% of the post-consumer rigid PVC waste available in Denmark.

PROJECT LED BY WUPPI

Geographic scope: Denmark
Energy- and resource-efficient building products for public procurement

This project focused on PVC products providing sustainable solutions in public procurement, thanks to their energy- and resource-efficiency, and their low whole-life cost. The magazine KBD was selected again in 2017 as the media for advertorials and technical articles, due to its special relevance for decision makers, local authorities and public procurement operators.

PROJECT LED BY AGPU

Geographic scope: Germany
Industry expenditure remained stable or only slightly increased in 2017. While the majority of technical projects slightly decreased their level of expenses or remained stable, cost for the flooring projects and for studies fostering scientific knowledge on safety of recycled PVC applications and regulatory compliance increased.

Expenditure by VinylPlus, including EuPC and its members, and national and sectoral co-funding, amounted to €5.64 million in 2017.

<table>
<thead>
<tr>
<th>WASTE MANAGEMENT AND TECHNICAL PROJECTS</th>
<th>TOTAL EXPENDITURE INCLUDING EUPC AND ITS MEMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2016</td>
</tr>
<tr>
<td>Films and coated fabrics related projects</td>
<td>206</td>
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<tr>
<td>Flooring related projects</td>
<td>570</td>
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<tr>
<td>EPPA</td>
<td>377</td>
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<tr>
<td>ESWA/Roofcollect®</td>
<td>107</td>
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<tr>
<td>Recovinyl</td>
<td>1,700</td>
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<tr>
<td>Studies, start-up &amp; pull concept</td>
<td>175</td>
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<tr>
<td>TEPPFA</td>
<td>547</td>
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<tr>
<td>Ebene (furniture recycling)</td>
<td>26</td>
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<tr>
<td>Medical applications recycling</td>
<td>44</td>
</tr>
<tr>
<td>Resysta® consortium</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL PROJECTS</td>
<td>3,762</td>
</tr>
</tbody>
</table>

VinylPlus total expenditure in 2017: €5.64 million

- Waste management and technical projects, including national and sectoral co-funding amounting to 26.4% of total industry funding
- Communications, including national and sectoral co-funding amounting to 4% of total industry funding
- Overheads and Voluntary Commitment development amounting to 15.7%
The Progress Report 2018 has been independently verified by SGS, while tonnages of PVC waste recycled and expenditures have been audited and certified by KPMG. The Natural Step made a commentary on the overall work and progress of VinylPlus.

VERIFICATION STATEMENTS

1  2  3  4

TNS COMMENTARY
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KPMG CERTIFICATION OF EXPENDITURE

Independent Accountants’ Report on Applying Agreed-Upon Procedures

To the Management of VinylPlus

We have performed the procedures agreed with you and enumerated below with respect to the costs of the supported charges for the different projects of VinylPlus, as included in the VinylPlus Progress Report for the period from January 1, 2017 to December 31, 2017 prepared by the management of VinylPlus.

Scope of Work

Our engagement was carried out in accordance with:

- International Standard on Related Services (“ISRS”) 4400: Engagements to perform Agreed-Upon Procedures regarding Financial Information as promulgated by the International Federation of Accountants (IFAC);
- the Code of Ethics for Professional Accountants issued by the IFAC. Although ISRS 4400 provides that independence is not a requirement for agreed-upon procedures engagements, you have asked that we also comply with the independence requirements of the Code of Ethics for Professional Accountants. We confirm that we belong to an internationally-recognized supervisory body for statutory auditing. VinylPlus’ management is responsible for the overview, analytical accounting and supporting documents. The scope of these agreed upon procedures has been determined solely by the management of VinylPlus. We are not responsible for the suitability and appropriateness of these procedures.

Because the procedures performed do not constitute either an audit or a review in accordance with International Standards on Auditing or International Standards on Review Engagements, we do not express any assurance on the cost statement. VinylPlus’ management is responsible for the overview, analytical accounting and supporting documents. The scope of these agreed upon procedures has been determined solely by the management of VinylPlus. We are not responsible for the suitability and appropriateness of these procedures. Because the procedures performed do not constitute either an audit or a review in accordance with International Standards on Auditing or International Standards on Review Engagements, we do not express any assurance on the cost statement. VinylPlus’ management is responsible for the overview, analytical accounting and supporting documents. The scope of these agreed upon procedures has been determined solely by the management of VinylPlus. We are not responsible for the suitability and appropriateness of these procedures.

Sources of Information

This report sets out information provided to us by the management of VinylPlus in response to specific questions or as obtained and extracted from VinylPlus information and accounting systems.

Procedures and Factual Findings

a. Obtain the breakdown of costs declared in the table presenting the supported charges for the different projects of VinylPlus, as included in the VinylPlus Progress Report related to the activities of the year 2017 and verify the mathematical accuracy of this. The total expenses amount to KEUR 5,640. We found no exceptions as a result of applying this procedure.

b. Verify that these costs are recorded in the financial statements 2017 of VinylPlus AISBL. We found no exceptions as a result of applying this procedure.

c. For project ESWA, for all individual expenses greater than EUR 100, verify that these expenses are recorded in the financial statements of VinylPlus. We found no exceptions as a result of applying this procedure.

d. For project ESWA, for all individual expenses greater than EUR 100, verify that these expenses are recorded in the financial statements of VinylPlus AISBL. We found no exceptions as a result of applying this procedure.

e. For project Recovinyl, reconcile costs declared in the table presenting the supported charges for the different projects of VinylPlus with the income recognized in financial statements of Recovinyl AISBL. We found no exceptions as a result of applying this procedure.

f. For project not covered by the above procedures, obtain confirmation of costs from legal entity managing or contributing to the project. We found no exceptions as a result of applying this procedure.

Use of this Report

This report is intended solely for the information and use of the management of VinylPlus board, and is not intended to be and should not be used by anyone other than these specified parties.

KPMG Réviseurs d’Entreprises/Bedrijfsrevisoren

Statutory Auditor represented by

DOMINIC ROUSSELLE, Partner

Mont-Saint-Guibert, April 11, 2018

VERIFICATION STATEMENTS

1. 2. 3. 4.
The Progress Report 2018 has been independently verified by SGS, while tonnages of PVC waste recycled and expenditures have been audited and certified by KPMG. The Natural Step made a commentary on the overall work and progress of VinylPlus.

VERIFICATION STATEMENTS

1. Reports of Factual Findings regarding the Agreed-Upon Procedures (“AUP”) engagements performed by KPMG
2. Reports of Factual Findings regarding the Agreed-Upon Procedures (“AUP”) engagements performed by KPMG
3. Reports of Factual Findings regarding the Agreed-Upon Procedures (“AUP”) engagements performed by KPMG
4. Reports of Factual Findings regarding the Agreed-Upon Procedures (“AUP”) engagements performed by KPMG

KPMG RÉVISEURS D’ENTREPRISES/Bedrijfsrevisoren

VERIFICATION STATEMENTS

Domnic Rousseau, Partner
Mont-Saint-Guibert, April 11, 2018
The Progress Report 2018 has been independently verified by SGS, while tonnages of PVC waste recycled and expenditures have been audited and certified by KPMG. The Natural Step made a commentary on the overall work and progress of VinylPlus.

SGS INDEPENDENT VERIFICATION STATEMENT ABOUT THIS VINYLPLUS PROGRESS REPORT 2018

SGS is the world’s leading inspection, verification, testing and certification company. We are recognized as the global benchmark for quality and integrity. With more than 95,000 employees, we operate a network of more than 2,400 offices and laboratories around the world.

SGS was commissioned by VinylPlus to provide an independent verification of the “Progress Report 2018”. This report presents the commitments and achievements made by the VinylPlus project in 2017. The purpose of the verification was to check the statements made in the report. SGS was not involved in the preparation of any part of this report or the collection of information on which it is based. This verification statement represents our independent opinion.

Verification Process

The verification consisted of checking whether the statements in this report give a true and fair representation of VinylPlus’ performance and achievements. This included a critical review of the scope of the Progress Report and the balance and the unambiguity of the statements presented.

The verification process included the following activities:

- Desktop review of project-related material and documentation made available by VinylPlus such as plans, agreements, minutes of meetings, presentations, technical reports and more;
- Communication with VinylPlus personnel responsible for collecting data and writing various parts of the report, in order to discuss and substantiate selected statements;
- Communication with some members of the Monitoring Committee.

The verification did not cover the following:

- The underlying data and information on which the desk-top review documentation is based;
- The tonnage of PVC waste recycled (verified by KPMG);
- The chapter Financial Report (verified by KPMG);
- The chapter KPMG Certification of Expenditure;
- The chapter KPMG Certification of Tonnages.

Verification Results

Within the scope of our verification, VinylPlus has provided objective evidence of its performance in relation with its commitments in the VinylPlus programme. It is our opinion that this “Progress Report 2018” represents VinylPlus’ performance in 2017 in a reliable way; this report reflects the effort of VinylPlus to comply with its new Voluntary Commitments of June 2011.

IR PIETER WETERINGS
SGS Belgium NV
division Certification and Business Enhancement
Certification Manager

26 March 2018

TNS COMMENTARY

The Natural Step made a commentary on the overall work and progress of VinylPlus.
The Natural Step’s Commentary on VinylPlus Progress Report for 2017

The Natural Step acts as an external advisor, stakeholder intermediary and capacity builder to VinylPlus. Here we comment on some key themes that have emerged from our understanding of VinylPlus activities during 2017, our direct engagement supporting its roadmap, and our reflection on the increasingly sustainability-driven market context in which industry must operate.

Plastics in the Spotlight

Society’s agricultural use of plastics was in the spotlight in 2017—for example, plastics in the ocean, single-use plastic bans, calls for streamlining plastics recycling and design surrounding the forthcoming EU Strategy for Plastics in the Circular Economy. Even if PVC is commonly used in marine applications, this debate about getting plastics “under control” is also relevant for VinylPlus as an association of companies active from the plastics industry. For example, the VinylPlus recycling volume in 2017 have not reached more than 20% of the 2020 target. This should be seen as various steps toward the larger aspiration of a fully controlled-loop management regime for PVC. Overall, we think VinylPlus is engaging stakeholders constructively on issues around PVC and taking us considerably via the “sustainability commitment.”

Sharing Lessons on Roadmaps for Sustainably Managed Materials

VinyPlus gained further positive recognition for its achievements in 2017 and is increasingly seen as a model for other plastics and material value chains. If there is one area where we’d like to encourage VinylPlus to speak louder, it is on promoting its value for sustainable chemical and material management. Year-on-year improvement and activity is positive but it is a clear understanding of what ultimately needs to be achieved for PVC’s secure place in a sustainable society that defines the focus of the roadmap. This point should not be lost when sharing lessons as this is one of the key strengths of VinylPlus’ approach. All material value chains need to take consistent journeys to understand the scientific requirements for a sustainable society and then work together to overcome their own set of challenges.

Tackling Trade-offs in the Circular Economy—Legacy Additives

VinylPlus has been affected by the policy debate about legacy additives where different goals are pitted against each other—societal and economic efficiency, demand, and management of chemical substances on the others. The uncertainty on potential barriers to advancement is prompting infrastructure and the uptake of recycled materials. Thirsting issues in isolation from each other make the need to work toward a common vision of sustainability, taking all issues into account and working on mitigation fronts simultaneously to make genuine improvements over time. Pragmatic solutions are needed, and we believe it is important for VinylPlus to continue to advocate for the best outcomes to move toward its vision for a sustainable managed material flow for PVC. The “back-casting” mindset is essential when dealing holistically with the trade-offs in the circular economy.

Proposals for Recycling Rigid PVC Containing Legacy Additives

In light of the recognition above, particular trade-offs we were asked for the VinylPlus Controlled-Loop Committee to provide detail on developing science-based proposals for managing legacy additives in rigid PVC using the Natural Step Framework. We collaborated on an analysis using sustainability principles to evaluate the issue and to consider the best current waste management options for rigid PVC articles where “back-casting” from alignment with sustainability principles in the longer term. We have since published our statement and recommendations to VinylPlus.

These are informed by our wider discussion about PVC sustainability (available at www.thenaturalstep.org/PVC).

Walking and Talking the Talk

VinylPlus has been an influential speaker for industry sustainability, even beyond Europe. The VinylPlus Sustainability Forum was a great success and a good example of how VinylPlus is helping industry to the move toward sustainability training and ensuring the impact of a joint commitment. With increased “industry-level communication” there is greater clarity on the activity that part of VinylPlus is supporting the PVC window profile sector for being the first to take up the VinylPlus® Product Label. However, the vision for a sustainable society that defines the focus of the roadmap. This point should not be lost when sharing lessons as this is one of the key strengths of VinylPlus’ approach. All material value chains need to follow a similar journey to understand the scientific requirements for a sustainable society and then work together to overcome their own set of challenges.

Additive Sustainability Footprint

Greater evidence of individual company commitments is in fact beginning to show. The Natural Step wishes to acknowledge the PVC Window Profile sector for being the first to take up the VinylPlus® Product Label, and especially the front-runners undertaking certification. This is designed specifically to cover the key challenges for PVC in Europe and to stimulate progress in the VinylPlus vision. Furthermore, interesting work groups are taking steps to harmonise sustainable finance and to streamline regulations. This work also has benefits for the other segments to take up the challenge.

Sustainability Forum was a great success and a good example of how VinylPlus is helping industry to move toward sustainability training and ensuring the impact of a joint commitment. With increased “industry-level communication” there is greater clarity on the activity that part of VinylPlus is supporting the PVC window profile sector for being the first to take up the VinylPlus® Product Label. However, the vision for a sustainable society that defines the focus of the roadmap. This point should not be lost when sharing lessons as this is one of the key strengths of VinylPlus’ approach. All material value chains need to follow a similar journey to understand the scientific requirements for a sustainable society and then work together to overcome their own set of challenges.

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Final Thoughts

VinylPlus has made a number of years, initiated pilot projects and invested in new ways of collaborating and systems for organizing activities such as recycling. There are learning from the VinylPlus 2018 Progress Report is a good reflection of that progress, we believe VinylPlus is on the right track and set to go. Looking ahead VinylPlus should begin to consider what will be needed to take the industry commitment to the next level and go further, faster, together.

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Governance

MANAGEMENT BOARD

VinylPlus is managed by a board representing all European PVC industry sectors.

VinylPlus Board

Mr Fabrice Barthélemy – *EuPC* (Flexible PVC sector)
Mr Dirk Breitbach – *EuPC* (Compounding sector)
Mr Filipe Constant – *ECVM 2010*
Mr Alexandre Dangis – *EuPC*
Dr Brigitte Dero – *General Manager (ECVM 2010)*
Mr Joachim Eckstein – *EuPC*
Mr Stefan Eingärtner – *Technical Director (VinylPlus)*
Dr Josef Ertl – *Chairman (ECVM 2010)*
Mr Rainer Grasmück – *Treasurer* (ESPA)
Mr Andreas Hartleif – *Vice Chairman* (EuPC – Rigid PVC sector)
Dr Zdenek Hruska – *ECVM 2010*

Dr Ettore Nanni – *Treasurer* (ESPA)
Mr Hans-Christoph Porth – *ECVM 2010*
Mr Maarten Roef – *EuPC (Rigid PVC sector)*
Mr Nigel Sarginson – *European Plasticisers*
Mr Arjen Sevenster – *Controller (ECVM 2010)*
Dr Karl-Martin Schellerer – *ECVM 2010*
Mr Stefan Sommer – *ECVM 2010*
Mr Remco Teulings – *EuPC (Flexible PVC sector)*
Mr Geoffroy Tillieux – *Controller (EuPC)*
Mr Joachim Tremmel – *European Plasticisers*
Mr Christian Vergeylen – *EuPC (Flexible PVC sector)*

(a) From 10 May 2017
(b) Until 5 October 2017
(c) From 1 May 2017
(d) From 5 October 2017
(e) From 10 May 2017
(f) Until 10 May 2017
Governance

MANAGEMENT BOARD

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**VinylPlus Board**

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<thead>
<tr>
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<td>Treasurer</td>
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<td>Dr Zdenek Hruska</td>
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(From 10 May 2017)

(Until 5 October 2017)

(From 1 May 2017)

(VinylPlus Board representatives)
Governance

MONITORING COMMITTEE

The VinylPlus Monitoring Committee is the independent body supervising the implementation of the Voluntary Commitment. It thus plays a fundamental role in ensuring the transparency, participation and accountability of VinylPlus, as well as in providing guidance and advice. Open to all external stakeholders, it currently includes representatives of the European Commission, the European Parliament, trade unions and consumer organisations, as well as representatives of the European PVC industry. The Committee met formally twice in 2017, in April and in December.

To ensure maximum transparency, the minutes of each Monitoring Committee meeting are published on the VinylPlus website after formal approval.

Members

Mr Werner Bosmans – Directorate-General Environment (DG ENV), European Commission
Prof. Alfons Buekens – Chairman of the Monitoring Committee
Dr Alain Cavallero – Secretary General of ESPA
Mr Alexandre Dangis – VinylPlus Board Member
Mr Armand De Wasch – VinylPlus Board Member
Mr Armand De Wasch – Director General, Euroconsumers Group
Dr Brigitte Dero – General Manager of VinylPlus
Ms Martina Dlabajová(a) – Member of the European Parliament
Mr Joachim Eckstein – VinylPlus Board Member
Mr Rainer Grasmück – Treasurer of VinylPlus(b)
Mr Sylvain Lefebvre – Deputy General Secretary, industriAll European Trade Union
Mr Eric Liégeois – Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW), European Commission
Mr Nuno Melo(c) – Member of the European Parliament
Dr Ettore Nanni – Treasurer of VinylPlus(d)

(a) From 11 April 2017  (b) Until 5 October 2017  (c) From 11 April 2017  (d) From 5 October 2017
Our Partners

In 2017, the contributors were:

**CONVERTERS**

<table>
<thead>
<tr>
<th>Company</th>
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**PVC RESIN PRODUCERS**

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**PVC STABILISER PRODUCERS**

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**PVC PLASTICISER PRODUCERS**

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<tr>
<td>Holland Colours NV</td>
<td>Netherlands</td>
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* Companies that joined VinylPlus in 2017

**ASSOCIATE MEMBERS**
### Our Partners

In 2017, the contributors were:

**CONVERTERS**

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<th>Company Name</th>
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<tr>
<td>Icopal</td>
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<tr>
<td>IKA Innovative Kunststoffverarbeitungs GmbH &amp; Co. KG</td>
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<td>Inoutic/Deceuninck Sp. z o.o.</td>
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**PVC RESIN PRODUCERS**

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<tr>
<td>Konrad Hornschuch AG</td>
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<td>Low &amp; Bonar GmbH, former Mehler Texnologies GmbH</td>
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**PVC STABILISER PRODUCERS**

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**PVC PLASTICISER PRODUCERS**

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*Companies that joined VinylPlus in 2017*
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AGPU – Arbeitsgemeinschaft PVC und Umwelt e.V. (Germany)
British Plastics Federation (BPF) Vinlys Group (UK)
PVC Forum Italia (Italy)
Polyvinyl chloride, or PVC, is one of the most widely used polymers in the world. Because it is so versatile, PVC is used extensively in a broad range of industrial, technical and everyday applications.

PVC is an intrinsically low-carbon plastic: 57% of its molecular weight is accounted for by chlorine derived from common salt, 5% by hydrogen and 38% by carbon. It is recyclable and is increasingly being recycled. The European PVC industry has been working hard to boost collection and improve recycling technologies.

Several recent eco-efficiency and LCA studies of major PVC applications have shown that in terms of energy use and GWP (global warming potential), the performance of PVC is comparable to that of alternative products. In many cases, PVC applications resulted in both lower total energy consumption and lower CO₂ emissions.

Due to its light weight, durability and stability, PVC can offer energy, cost and material efficiency gains for sectors such as building and construction, water distribution, health and transportation.

At the European level, the PVC value chain is represented by four associations:
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At the European level, the PVC value chain is represented by four associations:

- The European Council of Vinyl Manufacturers, representing six leading European producers of PVC resin, which account for around 75% of EU-28 PVC resin production. These businesses operate around 40 different plants spread over 23 sites and employ approximately 7,000 people.

www.pvc.org
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Due to its light weight, durability and stability, PVC can offer energy, cost and material efficiency gains for sectors such as building and construction, water distribution, health and transportation.

At the European level, the PVC value chain is represented by four associations:

**European Plastics Converters,**

an association representing more than 50,000 companies in Europe, which produce over 50 million tonnes of plastic products every year. They employ more than 1.6 million people, generating turnover in excess of €260 billion per year.

[www.plasticsconverters.eu](http://www.plasticsconverters.eu)
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Due to its light weight, durability and stability, PVC can offer energy, cost and material efficiency gains for sectors such as building and construction, water distribution, health and transportation.

At the European level, the PVC value chain is represented by four associations:

- The European Stabiliser Producers Association, representing 10 companies that produce more than 95% of the stabilisers sold in Europe. They provide direct employment to more than 2,000 people in the EU.

www.stabilisers.eu
Polyvinyl chloride, or PVC, is one of the most widely used polymers in the world. Because it is so versatile, PVC is used extensively in a broad range of industrial, technical and everyday applications.

PVC is an intrinsically low-carbon plastic: 57% of its molecular weight is accounted for by chlorine derived from common salt, 5% by hydrogen and 38% by carbon. It is recyclable and is increasingly being recycled. The European PVC industry has been working hard to boost collection and improve recycling technologies.

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Due to its lightweight, durability and stability, PVC can offer energy, cost and material efficiency gains for sectors such as building and construction, water distribution, health and transportation.

At the European level, the PVC value chain is represented by four associations:

European Plasticisers, formerly ECPI, representing the eight major European producers of plasticisers, which produce around 90% of the plasticisers manufactured in Europe. They employ approximately 1,200 people in plasticiser production.

www.europeanplasticisers.eu
VinylPlus Voluntary Commitment Targets

CONTROLLED-LOOP MANAGEMENT:
“We will work towards the more efficient use and control of PVC throughout its life cycle.”

CHALLENGE

TARGFTS

1. Recycle 800,000 tonnes/year of PVC by 2020.
   > ongoing

2. Exact definitions and reporting concept to be available by end 2011. > achieved

3. Develop and exploit innovative technology to recycle 100,000 tonnes/year of difficult-to-recycle PVC material (within the overall 800,000 tonnes/year recycling target) by 2020. > withdrawn*

4. Address the issue of ‘legacy additives’ and deliver a status report within each annual VinylPlus Progress Report. > ongoing

* Even if the target had to be withdrawn (see p. 11 of VinylPlus Progress Report 2017), VinylPlus will continue to pursue efforts to find technically and economically viable solutions for difficult-to-recycle PVC waste
VinylPlus Voluntary Commitment Targets

ORGANOCHLORINE EMISSIONS:
“We will help to ensure that persistent organic compounds do not accumulate in nature and that other emissions are reduced.”

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<tr>
<th>CHALLENGE</th>
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<tr>
<td>1. Engage with external stakeholders in the discussion on organochlorine emissions during 2012.</td>
<td>&gt; achieved</td>
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<tr>
<td>2. Develop a plan to deal with stakeholder concerns on organochlorine emissions by end 2012.</td>
<td>&gt; achieved</td>
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<tr>
<td>3. Compliance with the PVC resin Industry Charters by first Quarter 2012.</td>
<td>&gt; partially achieved</td>
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<tr>
<td>4. Risk assessment for the transportation of major raw materials, in particular VCM, by end 2013.</td>
<td>&gt; achieved in 2015</td>
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<tr>
<td>5. Target zero-accident rate with VCM release during transportation in the next 10 years.</td>
<td>&gt; ongoing</td>
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SUSTAINABLE USE OF ADDITIVES:
“We will review the use of PVC additives and move towards more sustainable additive systems.”

1. Lead (Pb) replacement in the EU-27 by end 2015 (extended to the EU-28 in 2014). > achieved

2. Robust criteria for the ‘sustainable use of additives’ to be developed, with status report by end 2012.
   > achieved in 2014

3. Validation of the robust criteria for the ‘sustainable use of additives’ in conjunction with the downstream value chain, with status report by end 2014. > partially achieved
   3.a. Develop a methodology for the sustainable choice of additives for profiles. > achieved
   3.b. Develop a methodology for the sustainable choice of additives for flexible applications. > ongoing
   3.c. Develop a systematic framework methodology, taking into account the EU PEF concept. > achieved

4. Other PVC additive producers and the downstream value chain will be invited to participate in the ‘sustainable additives’ initiative. > ongoing
SUSTAINABLE USE OF ENERGY AND RAW MATERIALS:
“We will help to minimise climate impacts through reducing energy and raw material use, potentially endeavouring to switch to renewable sources and promoting sustainable innovation.”

CHALLENGE | TARGETS
--- | ---
1. Establish Energy Efficiency Task Force by end 2011. | > achieved
2. PVC resin producers to reduce their specific energy consumption, targeting 20% by 2020. | > ongoing
3. Define targets for specific energy reduction for converters by end 2012. | > partially achieved
3.a. PVC converters will report their gains in energy efficiency year on year. | > ongoing
4. Energy Efficiency Task Force to recommend suitable environmental footprint measurement by end 2014. | > delayed (waiting for the EU PEF pilot phase results)
5. Establish Renewable Materials Task Force by end first Quarter 2012. | > achieved
6. Renewable Materials Task Force’s status report by end 2012. | > achieved + extended
VinylPlus Voluntary Commitment Targets

SUSTAINABILITY AWARENESS:
“We will continue to build sustainability awareness across the value chain – including stakeholders inside and outside the industry – to accelerate resolving our sustainability challenges.”

CHALLENGE | TARGETS
--- | ---
1. VinylPlus web portal to go online in summer 2011. | achieved
2. VinylPlus Monitoring Committee, which will meet a minimum of twice a year, will be established by end 2011. | achieved + ongoing
3. A VinylPlus Membership Certificate will be launched end 2011. | achieved
4. A public, and independently audited, VinylPlus Progress Report will be published annually and proactively promoted to key stakeholders. With the first edition being published in 2012. | achieved + ongoing
5. Annual external stakeholder meetings will be organised, commencing in 2012. | achieved + ongoing
6. A VinylPlus product label will be launched by end 2012. | launch achieved in 2014; implementation ongoing
VinylPlus Voluntary Commitment Targets

**CHALLENGE**

5.

**TARGETS**

7. ECVM will take an active role in promoting VinylPlus within international PVC industry organisations worldwide. > ongoing

8. ESPA stabiliser producers will actively promote VinylPlus outside the EU-28. > ongoing

9. VinylPlus will increase the number of programme participants by 20% compared to 2010 by end 2013. > not achieved*

10. VinylPlus will engage with five global brand holders by end 2013. > partially achieved + ongoing

11. A review of progress towards the globalisation of the approach will be undertaken by end 2015. > achieved

12. A Social dialogue commitment endorsed by the EU Sectoral Social Dialogue Committee for the Chemical Industry will be included in the VinylPlus programme by the end of 2016. > achieved + ongoing

*SUSTAINABILITY AWARENESS:*

“We will continue to build sustainability awareness across the value chain – including stakeholders inside and outside the industry – to accelerate resolving our sustainability challenges.”

* Even if the target was not achieved in 2013, VinylPlus continued and will continue to work on increasing the number of programme participants
Cooperation Agreement
of the European Chemical Sectoral Social Dialogue Committee and VinylPlus on the European PVC Industry

The industry associations ECVM, ECPI and ESPA on the one hand and EMCEF on the other hand agreed in 2000 to a social dialogue on important issues for all involved partners, as part of the Vinyl 2010 programme.

As part of the 2015 VinylPlus revision and following the formal enlargement of the scope of the European Chemical Sectoral Social Dialogue Committee (SSDC) in 2015 to include, among others the plastics sector as well, VinylPlus, in charge of implementing the voluntary programme of the European PVC industry, and ECEG / IndustriAll Europe, together representing the European Chemical SSDC, have agreed to intensify their cooperation.

This cooperation agreement on the European PVC Industry defines areas and subjects of joint activities of all three parties within this intensified cooperation for the period of 2017-2020 (3 years) (with an annual evaluation of the cooperation at the Plenary of the SSDC).

These areas and subjects will be fully linked to the European Chemical Industry Sectoral Social Partners’ 2015-2020 Roadmap and will focus on the following priorities:

- **Health & Safety**
- **Education / training**
- **Knowledge transfer**
- **Sector evolution**
- **Objectives**
- **Agenda**
- **Expected results**

The European Chemical Social Partners will actively engage with key stakeholders in order to pave the way towards a sustainable future as mentioned above and based on efficient use of resources and sound waste management.
Cooperation Agreement
of the European Chemical Sectoral Social Dialogue Committee and VinylPlus on the European PVC Industry

DEVELOPMENT OF THE PVC INDUSTRY IN EUROPE
The regular meetings of the European SSDC of the Chemical, Pharmaceutical, Rubber and Plastics Industries cover views on the EU legislative developments affecting the sectors concerned, including the PVC industry in Europe. Together with experts from VinylPlus, ECEG and IndustriAll Europe will intensify their exchange on the issues at stake and the progress on decided actions and subsequent decisions to be taken in the SSDC with regard to the European PVC industry.

HEALTH AND SAFETY AND ENVIRONMENTAL STANDARDS
In the EU, the production, use and recycling of PVC applications and their raw materials are governed by the respect of high safety and environmental standards. These high standards guarantee a safe production and use of PVC applications. Such high standards require continuous research and implementation of new scientific findings and a clear focus on health and safety as well as environmental issues. At company level, appropriate and comprehensive information and training of the workforce are an important precondition for handling PVC and its raw materials safely.

The SSDC will together with VinylPlus discuss PVC R&D programmes and findings, with the objective to improve dissemination of information and training programmes in order to manage risk exposures safely.

One envisaged action is to discuss with the Consultative Commission on Industrial Change (CCMI) the possibility of launching a study on industrial changes in the converting sector and/or in the recycling sector, which could deal with sectoral policies developments, evolution of R&D, innovation, digitalisation in the sector and the evolution of the requested competencies.
Cooperation Agreement
of the European Chemical Sectoral Social Dialogue Committee and VinylPlus on the European PVC Industry

SPECIFIC FOCUS ON RECYCLING FACILITIES

One needs to take into account that most of recyclers are SMEs and only a small part of the recyclers (10-20%) use SDS-R today. EuPC/PRE have already taken some actions to substantially increase this figure. To support these activities in Europe the SSDC together with VinylPlus will work on implementing this project with the following objectives:

- Preparation of a brochure providing a detailed overview of health and safety aspects in the plastics recycling sector, in order to make sure that the workers’ protection is continuously ensured in the different steps of the recycling process. This brochure should be made available in several languages (minimum EN, FR, DE, ES and IT)

- Organisation of workshops in several EU Member States with the objectives to cover large parts of the European plastics recycling sector to disseminate the findings and information.
Cooperation Agreement
of the European Chemical Sectoral Social Dialogue Committee and VinylPlus on the European PVC Industry

TRAINING AND LIFELONG LEARNING

High technological standards as well as a qualified, competent and motivated workforce are prerequisites for high environmental, health and safety standards in the PVC industry.

A high level of continuous training (throughout the working life) is essential for employment security within the PVC industry and also for the creation of employment opportunities in allied industries. The SSDC together with VinylPlus will discuss the need to develop further specific training geared to the needs of the PVC industry. A particular attention will be paid to digital transformation and the development of job content in this respect.

The objective will be to facilitate the implementation of high-level standards in all EU Member States, taking into account their specific situations and traditions.

Bruxelles, 24 February 2017
Glossary

**AgPR** – Arbeitsgemeinschaft PVC-Bodenbelag Recycling (Association for the Recycling of PVC Floor-Coverings – [www.agpr.de](http://www.agpr.de))

**AGPU** – Arbeitsgemeinschaft PVC und Umwelt e.V., the German association of the PVC value chain ([www.agpu.com](http://www.agpu.com))

**ARCHE Consulting** – Expert in environmental and human toxicology, exposure modelling and risk assessments ([www.arche-consulting.be](http://www.arche-consulting.be))

**ASF** – Additives Sustainability Footprint

**Axion Consulting** – resource recovery expert, a division of Axion Recycling Limited ([www.axionconsulting.co.uk](http://www.axionconsulting.co.uk))

**B&C** – Building and construction

**BPF** – British Plastics Federation, the leading trade association for the UK Plastic Industry ([www.bpf.co.uk](http://www.bpf.co.uk))

**BRE Global** – Building Research Establishment ([www.bre.co.uk/breglobal](http://www.bre.co.uk/breglobal))


**EC** – European Commission

**ECEG** – European Chemical Employers Group, the European employers’ organisation representing the interests of the chemical, pharmaceutical, rubber and plastics industries at the European level ([www.eceg.org](http://www.eceg.org))


**ECVM** – The European Council of Vinyl Manufacturers ([www.pvc.org](http://www.pvc.org))

**ECVM 2010** – The ECVM’s formal legal entity, registered in Belgium

**EDC** – Ethylene dichloride or 1,2-dichlorethane

**EMCEF** – European Mine Chemical and Energy Workers Federation, now IndustriAll European Trade Union

**EPD** – Environmental Product Declaration

**EPFLOOR** – European PVC Floor Manufacturers, an EuPC sector group ([www.epfloor.eu](http://www.epfloor.eu))

**EPPA** – European PVC Window Profile and Related Building Products Association ([www.eppa-profiles.eu](http://www.eppa-profiles.eu))

**E-PVC** – Emulsion polyvinyl chloride
Glossary

**ERPA** – European Rigid PVC Film Association, an EuPC sectoral association ([www.pvc-films.org](http://www.pvc-films.org))

**ESPA** – The European Stabiliser Producers Association ([www.stabilisers.eu](http://www.stabilisers.eu))

**ESWA** – European Single Ply Waterproofing Association, an EuPC sectoral association ([www.eswa.be](http://www.eswa.be))

**EuPC** – European Plastics Converters ([www.plasticsconverters.eu](http://www.plasticsconverters.eu))

**Euroconsumers Group** – European consumer organisation ([www.euroconsumers.org](http://www.euroconsumers.org))

**European Plasticisers** – former ECPI ([www.europeanplasticisers.eu](http://www.europeanplasticisers.eu))

**FABES** – German research institute ([www.fabes-online.de](http://www.fabes-online.de))

**HMW phthalates** – High Molecular Weight phthalates


**IFEU** – Institut für Energie- und Umweltforschung Heidelberg GmbH (German Institute for Energy and Environmental Research – [www.ifeu.de](http://www.ifeu.de))

**industriAll** – European Trade Union, it represents workers across supply chains in manufacturing, mining and energy sectors across Europe ([www.industriall-europe.eu](http://www.industriall-europe.eu))

**IVK Europe** – Industrieverband Kunststoffbahnen e.V. (Association of Coated Fabrics and Films – [www.ivk-europe.com](http://www.ivk-europe.com))

**Jellyfish Livewire** – A Hampshire-based digital marketing agency and gift card producer ([www.jellyfishlivewire.co.uk](http://www.jellyfishlivewire.co.uk))

**KPMG** – KPMG is a global network of professional firms providing audit, tax and advisory services ([www.kpmg.com](http://www.kpmg.com))

**LCA** – Life Cycle Assessment

**LMW phthalates** – Low Molecular Weight phthalates

**NaCl** – Sodium Chloride

**Pb** – Lead
**Glossary**

**PlasticisersPlus** – European Plasticisers’ legal entity, based in Brussels, Belgium

**P-PVC** – Plasticised PVC

**PRE** – Plastics Recyclers Europe ([www.plasticsrecyclers.eu](http://www.plasticsrecyclers.eu))

**PVC** – Polyvinyl chloride

**PVC Forum Italia** – The Italian association of the PVC value chain ([www.pvcforum.it](http://www.pvcforum.it))

**RDC Environment** – Belgian consulting company ([www.rdcenvironment.be](http://www.rdcenvironment.be))


**RecoMed** – A partnership project launched in 2014 between the British Plastics Federation (BPF) and Axion Consulting, the UK agent of Recovinyl

**Recovinyl** – Set up in 2003, Recovinyl is the organisation aimed at facilitating PVC waste collection and recycling in the framework of the European PVC industry’s Voluntary Commitments ([www.recovinyl.com](http://www.recovinyl.com))


**Roofcollect®** – Recycling System for Thermoplastic Membranes ([www.roofcollect.com](http://www.roofcollect.com))

**R-PVC** – Recycled PVC

**SDG Compass** – Developed by GRI ([www.globalreporting.org](http://www.globalreporting.org)), the UN Global Compact ([www.unglobalcompact.org](http://www.unglobalcompact.org)), and the World Business Council for Sustainable Development (WBCSD – [www.wbcsd.org](http://www.wbcsd.org)), the SDG Compass ([www.sdgcompass.org](http://www.sdgcompass.org)) provides guidance for companies on how they can align their strategies as well as measure and manage their contribution to the realisation of the SDGs

**SDGs** – Sustainable Development Goals

**SDS** – Safety Data Sheet

**SDS-R** – Safety Data Sheet for Recyclates

**SFEC** – Syndicat Français des Enducteurs Calandreurs, the French Association of Calenderers ([www.sfec-services.org](http://www.sfec-services.org))

**SGS** – Société Générale de Surveillance, the world’s leading testing and verification organisation ([www.sgs.com](http://www.sgs.com))
Glossary

S-PVC – Suspension polyvinyl chloride
SSDC – Sectoral Social Dialogue Committee
TEPPFA – The European Plastic Pipes and Fittings Association
  (www.teppfa.eu)
The Natural Step – A sustainability NGO acting as critical friend and sustainability advisor to VinylPlus
  (www.thenaturalstep.org)
UN – United Nations
UNIDO – United Nations Industrial Development Organization
U-PVC – Unplasticised PVC
VCM – Vinyl chloride monomer
Vinyl 2010 – The first 10-year Voluntary Commitment of the European PVC industry, signed in 2000
VITO – Vlaamse Instelling voor Technologisch Onderzoek (Flemish Institute for Technological Research – www.vito.be)
VFSE – Vinyl Films & Sheets Europe (www.vfse.org)
WUPPI – Danish company set up to collect and recycle rigid PVC (www.wuppi.dk)
PVC & SPORT

Resilient PVC flooring is ideal for sports facilities thanks to its elasticity, safety and comfort. The photo shows a typical application produced by VinylPlus partner Gerflor for the volleyball court of the Palazzetto dello Sport in Chieri, near Turin, Italy.

The uses of PVC in sport do not stop at flooring. Its versatility makes it suitable for a large number of applications, ranging from B&C elements for sport structures, to textile architecture, clothing and footwear.

It is also used to make equipment such as basketballs, coatings for gym benches and tools, boxing gloves and dumbbells.

Sport benefits people’s wellbeing and social lives. It embodies fundamental values such as loyalty, commitment, teamwork and determination to achieve objectives. We at VinylPlus share these values.