

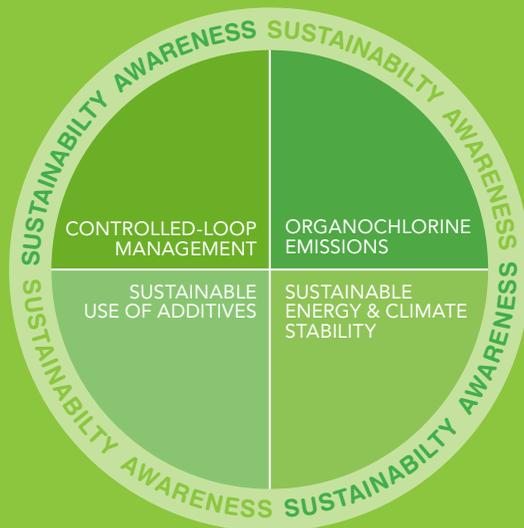
Executive Summary 2015
REPORTING ON 2014 ACTIVITIES

GHELAMCO ARENA

Voluntary Commitment Challenges and Achievements

VinylPlus is the renewed 10-year Voluntary Commitment to sustainable development by the European PVC industry. Developed through open dialogue with stakeholders, the VinylPlus programme is addressing five key sustainability challenges identified on the basis of The Natural Step (TNS) System Conditions for a Sustainable Society (www.naturalstep.org).

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



This Executive Summary summarises VinylPlus' progress and achievements in 2014 in each of the five challenges. All the information reported has been independently audited and verified by third parties.

Expenditure by VinylPlus for 2014, including EuPC¹ and its members, amounted to €5.75 million.

For detailed descriptions of the projects and activities please visit www.vinylplus.eu.

¹EuPC: European Plastics Converters (www.plasticsconverters.eu)



PHOTO: COURTESY OF POLYFLOR

CHALLENGE 1 Controlled-Loop Management:

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

RECYCLING TARGET

With 481,018 tonnes of PVC waste recycled in 2014, VinylPlus continues to progress toward its 2020 recycling targets. The largest volumes, 473,576 tonnes, were registered and certified by Recovinyl (www.recovinyl.com), the organisation set up in 2013 to facilitate PVC waste collection and recycling.

Nevertheless, growing concerns have been expressed by recyclers and converters over uncertainties in the interpretation of relevant EU regulations (REACH², CLP³ and Hazardous Waste), as these might jeopardise recycling activities and demand for recyclates in Europe.

In 2014, VinylPlus continued to investigate how to increase recycling volumes in regulated PVC waste streams such as automotive trim and household packaging. In addition, new projects were launched for specific waste streams, such as end-of-life professional furniture (the Ebene project in France) and medical products (RecoMed, in the UK).

LEGACY ADDITIVES

Legacy additives are substances whose use in PVC products has been discontinued but that are contained in recycled PVC. The most recent developments in waste regulation and their impact

on legacy additives are of major concern for the European PVC industry, as they might negatively affect the recycling of some PVC applications. VinylPlus is carrying out rigorous scientific work on legacy additives and in 2014 it further strengthened its cooperation with the competent authorities, aiming to ensure that recycling can continue to grow and contribute more and more to the circular economy.

CONTROLLED-LOOP COMMITTEE

The Controlled-Loop Committee is carefully monitoring the development and implementation of the complex EU regulatory framework, both at national and European level, and proactively contributing to ongoing discussions.

As part of the PVC industry's efforts to use innovative technology to recycle 100,000 tonnes/year of difficult-to-recycle PVC waste, in 2014 the Committee continued to investigate available recycling technologies and sorting solutions. Large-scale trials are scheduled for Q3-Q4 2015 at the EcoLoop feedstock recycling plant in Germany (www.ecoloop.eu). The Committee also updated the evaluation of the benefits of the DOW/BSL (www.dow.com) plant option. In relation to sorting techniques, the

²REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

³CLP: Classification, Labelling and Packaging of substances and mixtures

Flexible PVC flooring is inexpensive and used in a variety of buildings covering the home, hospitals, offices, schools, etc. Complex and 3D designs are possible due to the prints that can be created. The smooth, tough surface of the upper wear layer prevents the build-up of dirt



PHOTO: COURTESY OF TARKETT

Committee visited the German company Boltersdorf (www.repaboltersdorf.de), which is developing a multi-stage sorting process for PVC and fibres; Galloo Plastics (www.gallooplastics.eu) in France, which treats mainly shredder residue from electrical, electronic and automotive waste; and the German foil company Caretta (www.caretta-folie.de), whose

technology is based on the separation of materials such as synthetic leather and swimming pool foils. Taking into account the VinylPlus mid-term review of targets in 2015, the Controlled-Loop Committee is updating the best estimates of the volumes of PVC to be recycled by 2020.



PHOTO: COURTESY OF PROTAN AS

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

SAFE TRANSPORT

VinylPlus has a target of zero accidents leading to vinyl chloride monomer (VCM) release during transportation. No such accidents occurred in 2014.

The Task Force of experts continued its work assessing the risk of transporting major raw materials. Certification systems were identified for ship, road and rail transport.

PVC roofing solutions are characterised by high quality, long life and durability in any climate

CHALLENGE 3 Sustainable Use of Additives:

“We will review the use of PVC additives and move towards more sustainable additive systems.”

LEAD REPLACEMENT

In 2014, the commitment of ESPA⁴ and EuPC to replacing lead-based stabilisers by the end of 2015 across the EU-27 was extended to the EU-28. Over the 2007-2014 period, use of lead-based stabilisers decreased by 86,228 tonnes (-86%) in the EU-28.

ESPA members are working very closely with converters to resolve any remaining issues that might prevent them from completing the switch and to help reformulate remaining applications that still rely on lead-based stabilisers.

Candidate list, with the potential for a second Authorisation process.

In Denmark, the Danish Environment Ministry decided to withdraw its proposed national ban on DEHP, DBP, DIBP and BBP, which would have entered into force in December 2015.

PLASTICISERS

European plasticiser producers continued to adapt their products to legislation and to the evolving demands of the market. Market share of High Molecular Weight Ortho-phthalates and other plasticisers is growing rapidly, replacing DEHP.

In September 2014, ECHA's Committees for Risk Assessment (RAC) and Socio-economic Analysis (SEAC) expressed their support for authorising the continued use of DEHP in both virgin and recycled PVC and of DBP in certain specific applications⁵.

Following a proposal from Denmark, ECHA's Member State Committee (MSC) concluded in December 2014 that DEHP is an endocrine disruptor in the wider environment, as well as in humans. This conclusion may lead to a second listing of DEHP on the REACH

‘SUSTAINABLE USE OF ADDITIVES’ CRITERIA

The Additives Task Force includes representatives from ECPI⁶, ESPA and related sectors such as pigments and fillers, as well as NGOs and major PVC converting industries. In 2014 it further widened its membership.

The Task Force developed a new methodology to evaluate the use of substances utilised as additives in PVC products from the perspective of sustainable development. This integrates the current standard Environmental Product Declarations (EPDs) with TNS criteria for sustainability. The new ‘EPDplus’ approach was then reviewed and discussed with external stakeholders at the ‘Stakeholders Dialogue on Additives’ meeting hosted by VinylPlus in Vienna, Austria, in September 2014. Participants included representatives from international institutions, national and local authorities, environment agencies, research institutes, consumer organisations and environmental NGOs.

⁴ ESPA: The European Stabiliser Producers Association (www.stabilisers.eu)

⁵ <http://echa.europa.eu/addressing-chemicals-of-concern/authorisation/applications-for-authorisation-previous-consultations>

⁶ ECPI: The European Council for Plasticisers and Intermediates (www.plasticisers.org)



CHALLENGE 4 Sustainable Use of Energy:

“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.”

ENERGY EFFICIENCY AND SUSTAINABLE FOOTPRINT

In 2014, the Energy Efficiency Task Force analysed ECVM⁷ member companies' energy consumption data for 2012-2013. This showed an average 10.2% decrease in the energy used to produce a tonne of PVC compared to the 2007-2008 baseline, which is well in line with the target of a 20% reduction by 2020.

Converters, too, are striving to increase their energy efficiency. However, due to the complexity and variety of operations in the converting sectors, an overall target would be meaningless, as would targets for subsectors. It was therefore decided to take a step-by-step approach. Tests were conducted on some converter companies in 2014, in order to evaluate their energy consumption. But the calculations were very complicated, because energy consumption can vary significantly depending on the product being manufactured, as well as for individual production runs.

The Sustainable Footprint Task Force continued monitoring the pilot phase of the European Commission's Product Environmental Footprint (PEF) scheme, with the aim of recommending footprint measurements for PVC that are aligned with the EU PEF.

RENEWABLE RAW MATERIALS

Established in December 2011, the Renewable Materials Task Force has been investigating renewable alternative resources for the production of PVC. Information was collected and analysed from 2012 to 2014. A detailed report on the work, including potential scenarios for the future, is available on the VinylPlus website.

⁷ ECVM: The European Council of Vinyl Manufacturers (www.pvc.org)



CHALLENGE 5 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.”

INDEPENDENT MONITORING

VinylPlus is continuing the best practices established by Vinyl 2010, its predecessor programme. It maintains an independent and critical Monitoring Committee, the majority of whose members are external stakeholders.

collaboration between regional, national, European and international partners, in both the public and private sectors, as a way to best achieve long-term sustainable development goals. Barbara Kreissler, Head of the Business Partnerships Group at UNIDO, participated as keynote speaker.

ANNUAL REPORTING

The Progress Report 2015 has been independently verified by SGS, while tonnages of PVC waste recycled and expenditure have been audited and certified by KPMG. The Natural Step made a commentary on the overall work and progress of VinylPlus.

Advocacy Task Force

A new Advocacy Task Force was set up in 2014 to support the development of the Voluntary Commitment in the context of the complex EU regulatory framework and the EU policy roadmap. The Task Force will also contribute to VinylPlus' mid-term target review in 2015.

EXTERNAL STAKEHOLDER DIALOGUE AND COMMUNICATIONS

Dialogue with all stakeholders, both inside and outside the industry, continued to be enhanced in 2014. VinylPlus' Voluntary Commitment, its progress and achievements were presented through active participation in high-level conferences, events and exhibitions in Europe and throughout the world. European industry sector federations and national PVC associations also continued joint communications projects supported by VinylPlus in order to raise sustainability awareness. In May 2014, the second Vinyl Sustainability Forum – held in Rome, Italy – explored the keys to successful

VINYLPLUS PARTNER CERTIFICATE AND PRODUCT LABEL

The Partner Certificate is released on an annual basis to the companies which contribute to the VinylPlus Voluntary Commitment. The VinylPlus Product Label scheme – which was developed in close cooperation with BRE Global (UK-based certification experts on responsible sourcing for building and construction products – www.bre.co.uk) and TNS – was officially launched in May 2014. Several companies from the pipe, window and flooring sectors have officially applied for it.

Barbara Kreissler, UNIDO, dialoguing with Paul Hohnen, international expert on sustainable development and moderator of the Vinyl Sustainability Forum 2014

VinylPlus Partners

IN 2014, CONTRIBUTORS WERE:

A. Kolckmann GmbH (Germany)
Alfatherm SpA (Italy)
Aliaxis Group (Belgium)
Altro (UK)
aluplast Austria GmbH (Austria)
aluplast GmbH (Germany)
alwitra GmbH & Co (Germany)
AMS Kunststofftechnik GmbH & Co. KG (Germany)
Amtico International (UK)
Armstrong DLW AG (Germany)
Bilcare Research (Germany)
BM S.L. (Spain)
BT Bautechnik Impex GmbH & Co. KG (Germany)
BTH Fitting Kft. (Hungary)
CIFRA (France)
Coveris Rigid Hungary Ltd (Hungary)
Debolon dessauer bodenbeläge GmbH & Co. KG (Germany)
Deceuninck Ltd (UK)
Deceuninck NV (Belgium)
Deceuninck SAS (France)
DHM (UK)
Dickson Saint Clair (France)
Döllken Kunststoffverarbeitung GmbH (Germany)
Dyka BV (Netherlands)
Dyka Plastics NV (Belgium)
Dyka Polska Sp. z o.o. (Poland)
Elbtal Plastics GmbH & Co. KG (Germany)
Epwin Window Systems (UK)
Ergis SA (Poland)
FDT FlachdachTechnologie GmbH & Co. KG (Germany)
Finstral AG (Italy)
FIP (Italy)
Flag SpA (Italy)
Fucine Film Solutions Srl (Italy)*
Gallazzi SpA (Italy)
Gealan Fenster-Systeme GmbH (Germany)
Georg Fischer Deka GmbH (Germany)
Gerflor Mipolam GmbH (Germany)
Gerflor SAS (France)
Gerflor Tarare (France)
Gernord Ltd (Ireland)
Girpi (France)
Griffine Induction (France)
H Productor AS (Norway)
Heytex Bramsche GmbH (Germany)
Heytex Neugersdorf GmbH (Germany)
Holland Colours NV (Netherlands)*
Icopal Kunststoffverarbeitungs GmbH (Germany)
IGI – Global Wallcoverings Association (Belgium)
IKA Innovative Kunststoffaufbereitung GmbH & Co. KG (Germany)
Imperbel NV (Belgium)*
Inoutic/Deceuninck GmbH (Germany)
Inoutic/Deceuninck Sp. z o.o. (Poland)
Internorm Baulemente GmbH (Austria)*
Jimten (Spain)
Klückner Pentaplast GmbH & Co. KG (Germany)
Konrad Hornschuch AG (Germany)
KWH Pipe Oy AB (Finland)
Manufacturas JBA (Spain)
Marley Deutschland (Germany)
Marley Hungária (Hungary)
Mehler Technologies GmbH (Germany)
MKF-Ergis GmbH (Germany)

MKF-Ergis Sp. z o.o. (Poland)
Molecor (Spain)
Mondoplastico SpA (Italy)
Nicoll (France)
Nicoll Italy (Italy)
Nordisk Wavin A/S (Denmark)
Norsk Wavin A/S (Norway)
NYLOPLAST EUROPE B.V. (Netherlands)
Omya International AG (Switzerland)
Perlen Packaging (Switzerland)
PipeLife Austria (Austria)
PipeLife Belgium NV (Belgium)
PipeLife Czech s.r.o (Czech Republic)
PipeLife Deutschland GmbH (Germany)
PipeLife Eesti AS (Estonia)
PipeLife Finland Oy (Finland)
PipeLife France (France)*
PipeLife Hellas S.A. (Greece)
PipeLife Hungária Kft. (Hungary)
PipeLife Nederland BV (Netherlands)
PipeLife Polska SA (Poland)
PipeLife Sverige AB (Sweden)
Poliplast (Poland)
Poloplast GmbH & Co. KG (Austria)
Polyflor (UK)
Polymer-Chemie GmbH (Germany)
Profine GmbH (Germany)
Protan AS (Norway)
PUM Plastiques SAS (France)
Redi (Italy)
REHAU AG & Co (Germany)
REHAU GmbH (Austria)
REHAU Ltd (UK)
REHAU SA (France)
REHAU Sp. z o.o. (Poland)
REHAU Industrias S.A. (Spain)
RENOLIT Belgium NV (Belgium)
RENOLIT Cramlington Ltd (UK)
RENOLIT Hispania SA (Spain)
RENOLIT Ibérica SA (Spain)
RENOLIT Milano Srl (Italy)
RENOLIT Nederland BV (Netherlands)
RENOLIT Ondex SAS (France)
RENOLIT SE (Germany)
Resysta International GmbH (Germany)*
Riuvert (Spain)
Roehling Engineering Plastics KG (Germany)
S.I.D.I.A.C. (France)
Salamander Industrie Produkte GmbH (Germany)
Sattler (Austria)
Schüco PWS GmbH & Co. KG (Germany)
Serge Ferrari SAS (France)
Silka Services AG (Switzerland)
Silka Trocal GmbH (Germany)
SIMONA AG (Germany)*
Sion Industries (Belgium)*
SKZ-TeConA GmbH (Germany)*
SOTRA-SEPEREF SAS (France)
Stöckel GmbH (Germany)*
Tarkett AB (Sweden)
Tarkett France (France)
Tarkett GDL SA (Luxembourg)
Tarkett Holding GmbH (Germany)
Tarkett Limited (UK)
TMG Automotive (Portugal)
Tönsmeier Kunststoffe GmbH & Co. KG (Germany)

Upofloor Oy (Finland)
Uponor Infra Oy (Finland)
Veka AG (Germany)
Veka Ibérica (Spain)
Veka Plc (UK)
Veka Polska (Poland)
Veka SAS (France)
Verseidag-Indutex GmbH (Germany)
Vescom BV (Netherlands)
Vulcaxflex SpA (Italy)
Wardle Storeys (UK)
Wavin Baltic (Lithuania)
Wavin Belgium BV (Belgium)
Wavin BV (Netherlands)
Wavin France SAS (France)
Wavin GmbH (Germany)
Wavin Hungary (Hungary)
Wavin Ireland Ltd (Ireland)
Wavin Nederland BV (Netherlands)
Wavin Plastics Ltd (UK)

PVC producers contributing to VinylPlus in 2014

Ineos Vinyls (Belgium, France, Germany, UK, Netherlands, Norway, Sweden)
Shin-Etsu PVC (Netherlands, Portugal)
SolVin (Belgium, France, Germany, Spain)
VESTOLIT GmbH (Germany)
Vinnolit GmbH & Co. KG (Germany, UK)

Stabiliser producers contributing to VinylPlus in 2014

Akrocs Chemicals
Akdeniz Kimya A.S.
Asua Products SA
Baerlocher GmbH
Chemson Polymer-Additive AG
Galata Chemicals
IKA GmbH & Co. KG
Lamberti SpA
PMC Group
Reagens SpA

Plasticiser producers contributing to VinylPlus in 2014

BASF SE
DEZA a.s.
Evonik Industries AG (Germany)
ExxonMobil Chemical Europe Inc.
Grupa Azoty Zaklady Azotowe Kedzierzyn S.A
Perstorp Oxo AB (Sweden)

* Companies that joined VinylPlus in 2014