

PVC & SPORT

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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.



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PROGRESS REPORT 2018

REPORTING ON 2017 ACTIVITIES

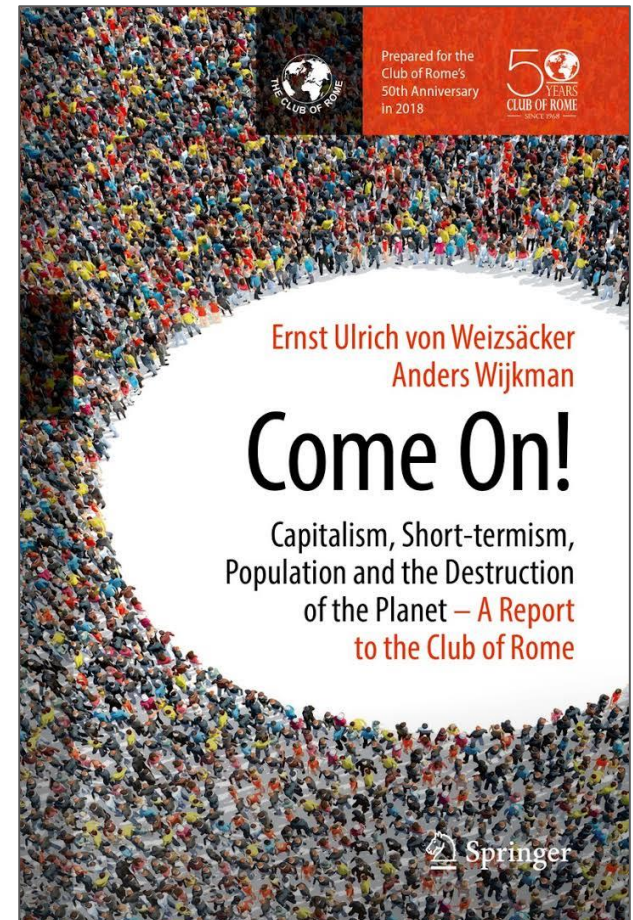
VinylPlus - Circular Solutions with Vinyl Products

PLAST MILAN 2018, 31 May 2018

Zdenek Hruska, VinylPlus[®] Public Affairs Director

Why we need circular solutions?

- Conventional economic models, linear in nature, are incapable to deal with non-linearity of natural systems.*
- Our planet's resources are being consumed at a much faster rate than they are created.
- A balance between the resources consumption and their renewal has to be found.



* "Come On!" by Ernst Ulrich von Weizsäcker, Anders Wijkman
A report to the Club of Rome, 2018

VinylPlus® as a Circular Economy frontrunner

Resins



Additives



We create chemistry



Emerging Chemistry

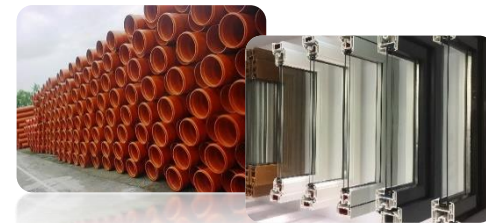


WINNING FORMULAS



chemistry between us

Plastic converters



United PVC Value Chain



VinylPlus Partners

IN 2017, THE CONTRIBUTORS WERE:

CONVERTERS:

A. Kolckmann GmbH (Germany)
 Alfathem SPA (Italy)
 Alkaxis Group (Belgium)
 Alkor Draka SAS (France)
 Alitro (UK)
 Altro Deblon Desseuer Bodenbeläge GmbH & Co. KG (Germany)
 atfer® aluminium GmbH (Germany)*
 aluplast Austria GmbH (Austria)
 aluplast GmbH (Germany)
 aluVira GmbH & Co (Germany)
 AMS Kunststofftechnik GmbH & Co. KG (Germany)
 Amfoco International (UK)
 Avery Dennison Materials Europe BV (Netherlands)*
 Beaulieu International Group (Belgium)
 Berry Plastics (Germany)
 Bilcare Research (Germany)
 BN S.L. (Spain)
 BT Bautechnik Impex GmbH & Co. KG (Germany)
 BTH Fittling Kft. (Hungary)
 CF Kunststoffprofilen (Netherlands)
 Chiefairn Fabrics (Ireland)*
 CIFRA (France)
 Coveris Rigid Hungary Ltd (Hungary)
 Danosa (Spain)
 Decasinnck Ltd (UK)
 Decasinnck NV (Belgium)
 Decasinnck SAS (France)
 Dekara GmbH (Germany)
 DHM (UK)
 Dickson Saint Clair (France)
 Döllken Kunststoffverarbeitung GmbH (Germany)
 Drake Polymer Films BV (Netherlands)
 Dyka BV (Netherlands)
 Dyka Plastics NV (Belgium)
 Dyka Polska Sp. z o.o. (Poland)
 Ebtal Plastics GmbH & Co. KG (Germany)
 Epwin Window Systems (UK)
 Ergle SA (Poland)
 FOT FlachdachTechnologie GmbH & Co. KG (Germany)
 Finstral AG (Italy)
 FIP (Italy)
 Geelen Fenster-Systeme GmbH (Germany)
 Georg Fischer Deka GmbH (Germany)
 Gerflor Mipolem GmbH (Germany)
 Gerflor SAS (France)
 Gerflor Tarare (France)
 Gernord Ltd (Ireland)
 Ghpal (France)
 Griffine Enduction (France)
 Gruppo Febbri (Svizzera) S. A. (Switzerland)
 Gruppo Febbri Vignola SpA (Italy)
 H Producer AS (Norway)
 Heytex Bramesche GmbH (Germany)
 Heytex Neugersdorf GmbH (Germany)
 Holland Colours NV (Netherlands)
 Isopal Kunststoffverarbeitungs GmbH (Germany)
 IKA Innovative Kunststoffaufbereitung GmbH & Co. KG (Germany)
 Imerys (UK)
 Imperbel NV (Belgium)
 Industrial Sedó SL (Spain)

Inoutic/Decasinnck GmbH (Germany)
 Inoutic/Decasinnck Sp. z o.o. (Poland)
 Internorm Besselements GmbH (Austria)
 IVC BVBA (Belgium)*
 Jimten (Spain)
 Kalan (France)
 Kärnkner Pentaplast GmbH & Co. KG (Germany)
 Konrad Hornschuch AG (Germany)
 LIMPAC Packaging PONTIVY (France)
 Low & Bonar GmbH, former Mehter Technologies GmbH (Germany)
 Manufacturas JBA (Spain)
 Marley Deutschland (Germany)
 Marley Hungaria (Hungary)
 MKF-Ergle GmbH (Germany)
 MKF-Ergle Sp. z o.o. (Poland)
 Holoacor (Spain)
 Mondoplastoo SpA (Italy)
 Nicoll (France)
 Nicoll Italy (Italy)
 Nordisk Wavin A/S (Denmark)
 Norsk Wavin A/S (Norway)
 Novafloor (France)
 NYLOPLAST EUROPE BV (Netherlands)
 Oxya 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 Hellen S.A. (Greece)
 Pipelife Hungaria 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)
 Profile GmbH (Germany)
 Protan AS (Norway)
 Redi (Italy)
 REHAU AG & Co (Germany)
 REHAU GmbH (Austria)
 REHAU Ltd (UK)
 REHAU SA (France)
 REHAU Sp. z o.o. (Poland)
 REHAU Industrias SA (Spain)
 RENOLIT Belgium NV (Belgium)
 RENOLIT Cramlington Ltd (UK)
 RENOLIT Hispania SA (Spain)
 RENOLIT Iberica SA (Spain)
 RENOLIT Milano Srl (Italy)
 RENOLIT Nederland BV (Netherlands)
 RENOLIT Odesa SAS (France)
 RENOLIT SE (Germany)
 Razyata International GmbH (Germany)
 Rävart (Spain)
 Roehling Engineering Plastics KG (Germany)
 Salamander Industrie Produkte GmbH (Germany)
 Sattler PRO-TEK GmbH (Austria)
 Schöco Polymer Technologies KG (Germany)
 Serge Ferrari SAS (France)
 Sika Services AG (Switzerland)
 Sika Troval GmbH (Germany)
 SIMONA AG (Germany)
 Sloen Industries (Belgium)
 SKZ-Testing GmbH (Germany)

Sopreme Srl, former Flag SpA (Italy)
 SOTRA-SEPEREF SAS (France)
 Stöckel GmbH (Germany)
 Tarkett AB (Sweden)
 Tarkett France (France)
 Tarkett GDL SA (Luxembourg)
 Tarkett Holding GmbH (Germany)
 Tarkett Limited (UK)
 Thomson Research
 TMD Automotive
 Tötscheler Kunst
 Ujonor Infra Oy (Finland)
 Veka AG (Germany)
 Veka Iberica (Spain)
 Veka Plc (UK)
 Veka Polska (Poland)
 Veka SAS (France)
 Verseidag-Indust
 Vesoom BV (Netherlands)
 Vulcaflex SpA (Italy)
 Wavin Baltic Ltd (Lithuania)
 Wavin Belgium BV (Belgium)
 Wavin BV (Netherlands)
 Wavin France SA (France)
 Wavin GmbH (Germany)
 Wavin Hungary BV (Hungary)
 Wavin Ireland Ltd (Ireland)
 Wavin Metallplast (Austria)
 Wavin Nederland (Netherlands)
 Wavin Plastics Ltd (UK)

PVC RESIN PRO
 Ertosa (Spain)
 IMOVY (Belgium)
 Inceplast (Spain, Sweden, UK)
 Shin-Etsu PVC (Netherlands)
 VESTOLIT GmbH (Germany)
 Vianolit GmbH & Co. (Austria)
 Vynova Group (Belgium, Netherlands, UK)

PVC STABILIS
 Akdeniz Kimya A.Ş. (Turkey)
 Asase Products BV (Netherlands)
 Beethochem GmbH (Germany)
 Chemson Polymers (UK)
 Galata Chemicals (UK)
 IKA GmbH & Co. (Germany)
 LANXESS Deutac (Germany)
 PMC Group (Germany)
 Reepsma SpA (Italy)
 Valtiris Specialty (Italy)

PVC PLASTICIS
 BASF SE (Germany)
 DEZA s.r.l. (Italy)
 Evonik Performance Additives (Germany)
 ExxonMobil Chemicals (UK)
 Grupe Azoty ZAK (Poland)
 LANXESS Deutac (Germany)
 Perstorp Oxo AB (Sweden)
 Proviron (UK)

ASSOCIATE MEMBERS
 AGPU - Arbeitsgemeinschaft (Germany)
 (Germany)
 SIMONA AG (Germany)
 Sloen Industries (Belgium)
 SKZ-Testing GmbH (Germany)

200 companies

VINYLPUS AT A GLANCE

THE EUROPEAN PVC INDUSTRY'S COMMITMENT TO SUSTAINABLE DEVELOPMENT



COMMITTED TO SUSTAINABLE DEVELOPMENT

In Partnership with



<http://www.recovinyl.com/>

European network of 185 companies,
recyclers and converters



Overview

<https://thenaturalstep.org/PVC/>

For almost two decades The Natural Step has been helping industry and key stakeholders understand the sustainability challenges and attributes of PVC. This page gives a summary of our views, activities and historical background for interested stakeholders. We welcome your feedback and invite you to contact us for further information.

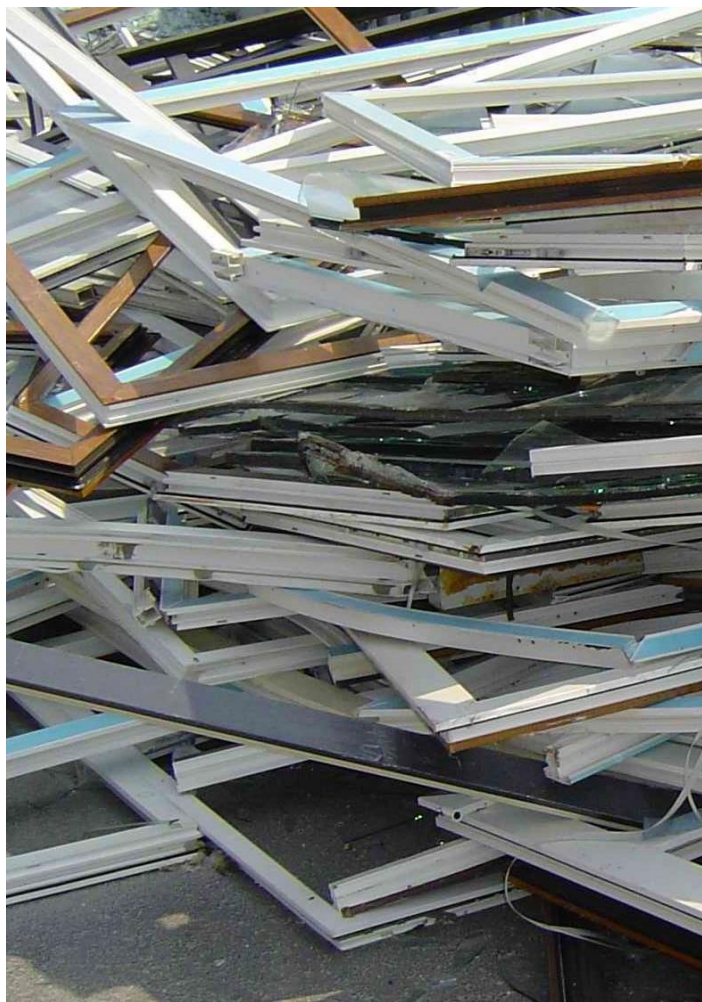


● 30 targets

1. Reducing emissions
2. Reducing energy consumption
3. Controlled loop management
4. Sustainable use of additives
5. Sustainability awareness

● Independently audited annual 'Progress Reports'

- Overseen by a '**Monitoring Committee**' (representatives of the European Commission, European Parliament, Unions, Consumer organisations, Academics)



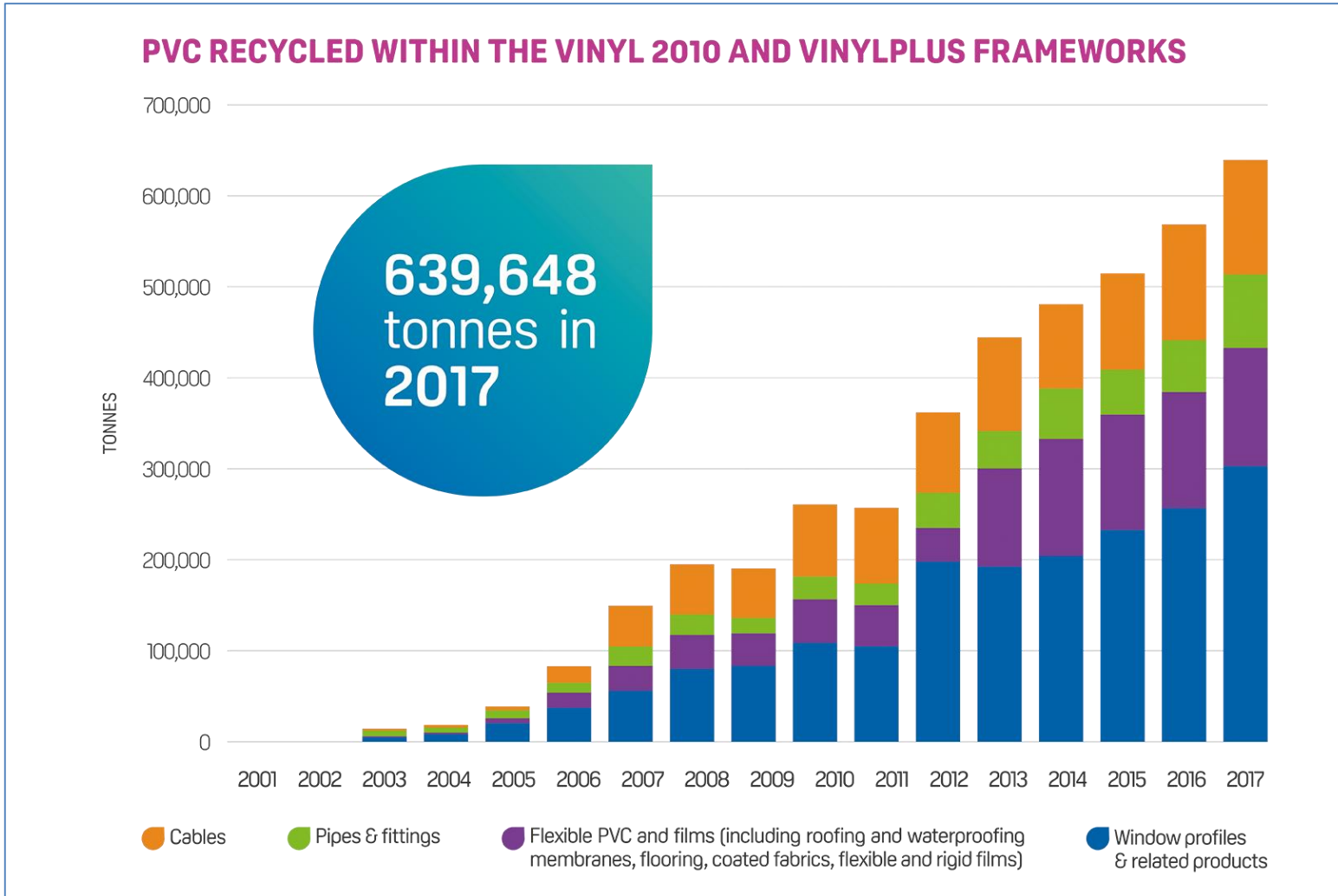
Our target: 800 kt/year of PVC recycled by 2020

- **639,648 tonnes of PVC recycled in 2017**
- Traceability for recyclates, including additives, audited and certified
- Recovinyl system to ensure quality material flow

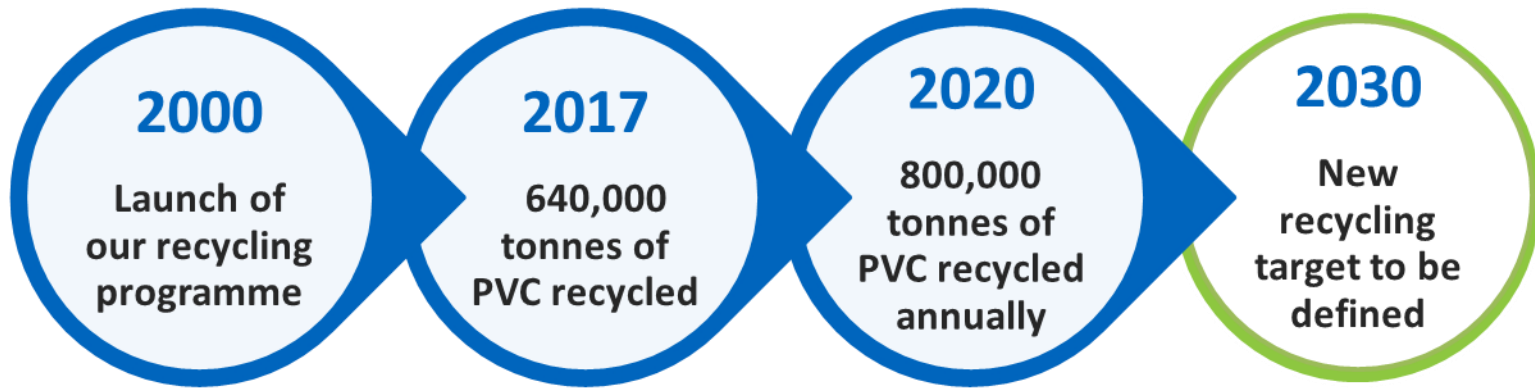
*The quality of recycled PVC is that
what matters!*



4.2 Million tonnes of PVC recycled since 2000!



VinylPlus has already taken up the challenge!



Revision process started





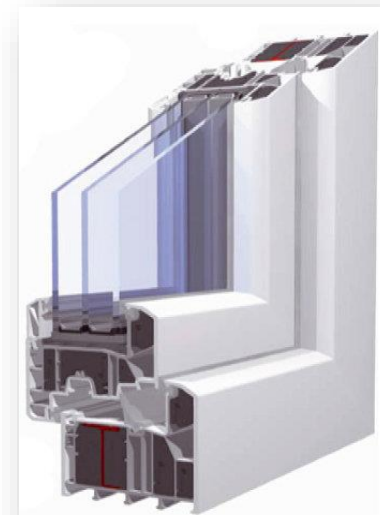
PVC Recyclates containing lead legacy additives are safe in use

- **2015-2016:** studies on migration of lead out of PVC waste
- **2016-2017:** modelling and risk assessments on
 - Outdoor storage of recycled PVC
 - Migration during service life of products made from recyclate
 - Workers in recycling and converting industries
 - Socio-economic studies to prove the sustainability benefits of recycling

VinylPlus is a competent and credible partner for EU authorities when discussing the legacy substances issues

Recycling PVC products with legacy lead additives is the best waste management option from health and environmental points of view

- Time-limited derogations (15 years) were agreed by the MS experts to allow recycling of PVC to continue as a viable waste management practice
 - * ECHA opinion, March 18, 2018
- Call for continuous recycling of plastics with legacy substances and their use in specific, well defined and safe applications
 - * DRAFT REPORT on a European strategy for plastics in a circular economy, Environment Committee of the EP, March 27, 2018





Sustainability awareness in the market

- **March 2018 : VinylPlus® Product Label launched for window profiles with the support of EPPA***
 - Developed in cooperation with BRE Global and The Natural Step
 - Based on sustainability criteria, including **responsible sourcing and additives**
 - To encourage responsible purchasing, public and private

* European PVC Profile & Related Building Products Association, www.eppa-profiles.eu

● 'Additives Sustainability Footprint'

- Complementing existing schemes (e.g. EPD, PEF)
- Wider set of criteria aligned with the VinylPlus commitment and four TNS System Conditions
- Helping to understand current issues, complying with regulation, implementing circular economy and guiding innovation for the future

Results Matrix:
colour-coded based on
number of positive answers

Ca/Zn stabilizers	1. Raw Materials (acquisition & pre-processing)	2. Additive Production	3. Additive Packaging & Distribution	4. Additive + PVC Compounding and / or Processing	5. Product Use, incl Maintenance (PVC article)	6. Product Post use (recycling / end-of-life)
System Condition 1	1	5	6	5	7	6
System Condition 2	4	6	5	6	7	6
System Condition 3	3	5	5	6	7	5
System Condition 4	5	7	6	7	7	6

Global engagement:



Launch of Vinyl 2010, the 1st Voluntary Commitment of the European PVC industry for Sustainable Development

Vinyl 2010 is registered as a Partnership with the Secretariat of the UN Commission on Sustainable Development

Launch of VinylPlus®, the 2nd Voluntary Commitment of the European PVC industry for Sustainable Development

VinylPlus® Voluntary Commitment included in the RIO+20 Registry of Commitments

VinylPlus® registered as a SMART partnership on the UN Partnerships for the SDGs Platform

2000

2004

2011

2012

2015



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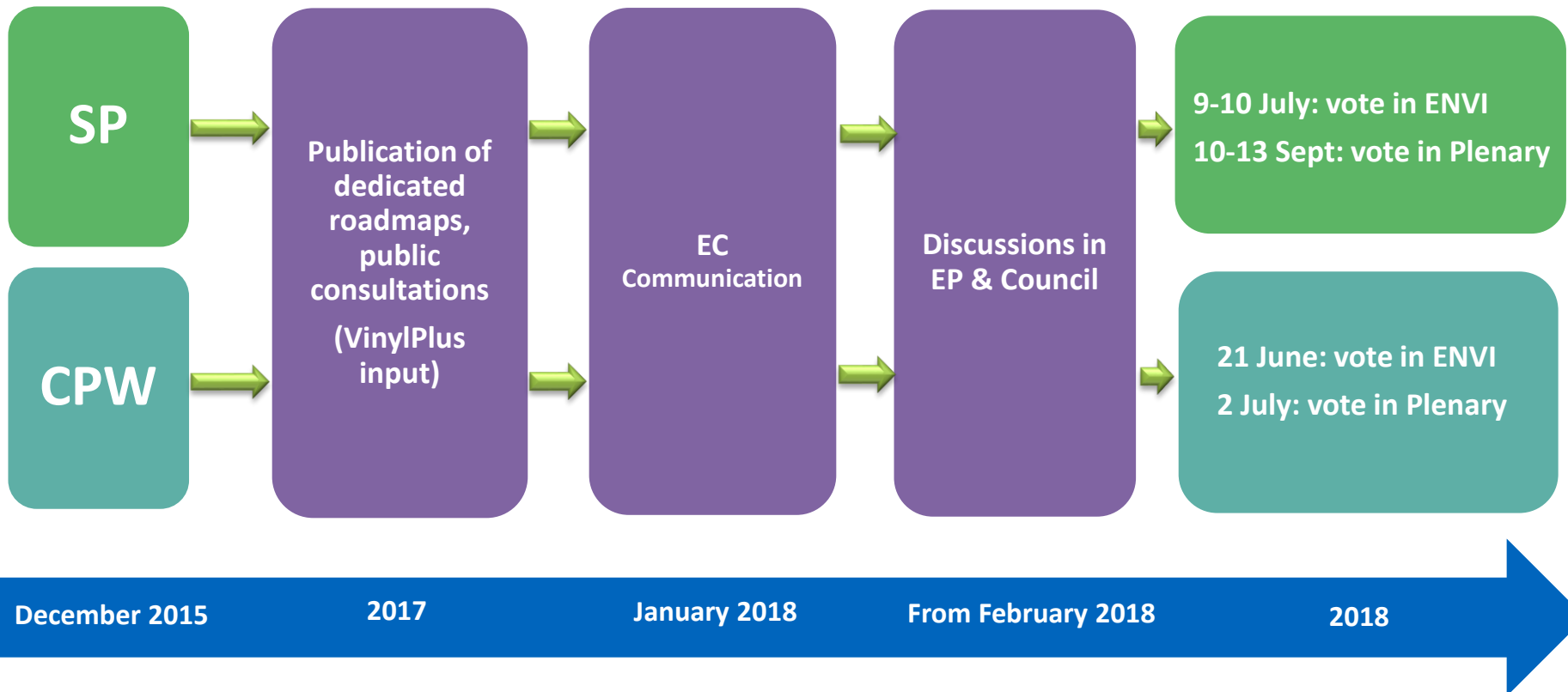
Summing-up

- United industry
- Real progress made through the VinylPlus Voluntary Commitment, increasing the sustainability performance of PVC
- Product Label for window profile sector
- Partnerships



EU Plastics discussion - Milestones

Action Plan for the Circular Economy – Closing the Loop



* SP: Strategy on plastics in the circular economy

* CPW: Analysis of the interface between chemicals, products and waste legislation and identification of policy options

EC communication (16/01/2018) : “A European Strategy for Plastics in a Circular Economy”

.... “the Commission is launching an EU-wide pledging campaign to ensure that by 2025, ten million tonnes of recycled plastics find their way into new products on the EU market ... this exercise is addressed to both private and public actors, inviting them to come forward with **substantive pledges by June 2018**”



Pledging campaign

The COM encourages the industry to come forward with voluntary pledges to boost the uptake of recycled plastics (Annex III)

OBJECTIVE: 10 mil tonnes must find their way to new products by 2025

DEADLINE for submission: 30 June 2018

ASSESSMENT: October 2018

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Thank you!

Back up slide

FOUR SUSTAINABILITY PRINCIPLES ARE USED TO DEFINE CRITERIA FOR SUSTAINABLE USE OF ADDITIVES



Principle 1: Substances from the Earth's crust must not systematically increase in concentration in nature



Principle 2: Substances produced by society must not systematically increase in concentration in nature



Principle 3: Nature must not be systematically degraded by physical means



Principle 4: People must not be subject to structural obstacles to health, influence, competence, impartiality and meaning

