



ASEAN VINYL
COUNCIL

PVC update report 2019

Stabilizers Sustainability for the Vinyl Industry

8 November 2019

Manila, PHILIPPINES

Ms. Jirawadee Pipattatornkul
General Manager, AVC



ASEAN VINYL
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CONTENT

- About us
- Voluntary program
- End-Of-Life
- Advocacy



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VISION

"PVC is the most Sustainable,
Environmental-Friendly and Safe-to-Use
Commodity Plastic in the ASEAN Community."





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MEMBERS

- 9 Ordinary Members - resin producers



- 4 Associated Members - additives producers

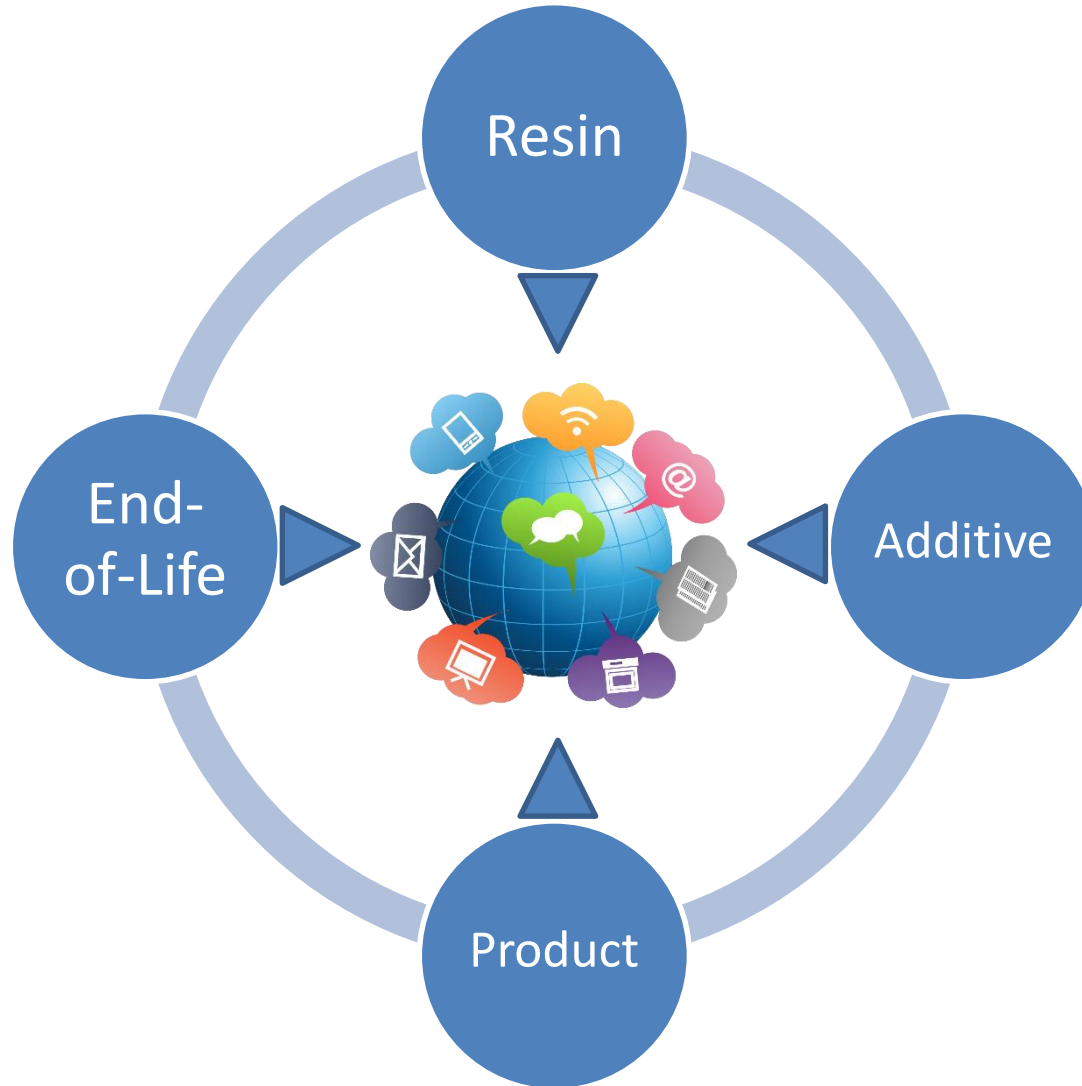




ROLE

- To make AVC the **coordination platform** for the Vinyl Industry in ASEAN, with stakeholders acting responsibly towards society and the environment and committing to adhere to best practices.
- To **facilitate clear communications** and understanding of Vinyl Industry issues to public, authorities and end users.
- To present **PVC as a solution** to challenges posed by global warming and climate change.

COLLABORATE



VINYL COUNCIL AROUND THE WORLD

North America

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Institut de
Vinyle du
Canada

vinyl INSTITUTE

MAPVC
ASOCIACIÓN ARGENTINA DEL PVC

Instituto
Brasileiro do
PVC

Europe

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ecvm

Africa

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SAVA
Sustainable Africa Vinyl Association

Asia

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KOVEC
Korea Vinyl Environmental Council

VEC
Vinyl Environmental Council

AVC
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Est.2010

Australia

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Vinyl Council Australia



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VOLUNTARY PROGRAM

Environmental Standard for VCM and PVC production

- Started since 2013, PVC production is the priority.
- The progress is reported internally which is self-verified.

Environmental Standards

Ref. European Council of Vinyl Manufacturers (ECVM) Industry Charter

For PVC Production (Suspension Process)

- Total VCM-emission from PVC-production < 100g/ton of PVC
- VCM-concentration in aqueous effluents < 1g/m³ of effluent
- VCM-concentration in final regular product < 5g/ton of PVC (for general purposes)
< 1g/ton of PVC (for food/medical applications)

For EDC and VCM Production

Emission Limits for all Vent-Gases:

- VCM < 5 mg/Nm³
- EDC < 5 mg/Nm³
- HCl < 30mg/Nm³
- Ethylene < 150mg/Nm³
- Dioxin-like components < 0.1ng/TEQ/Nm³

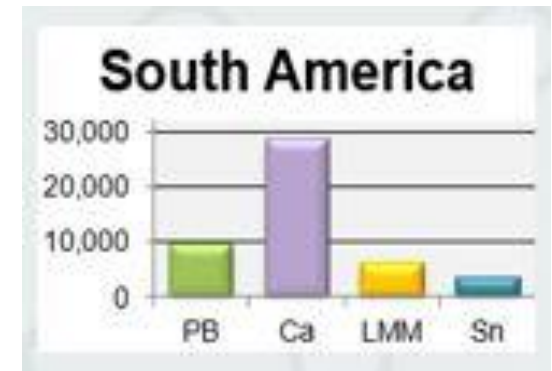
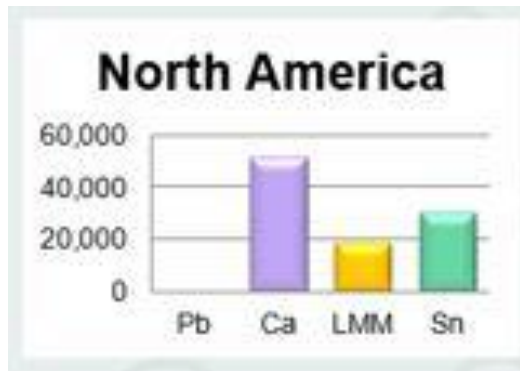
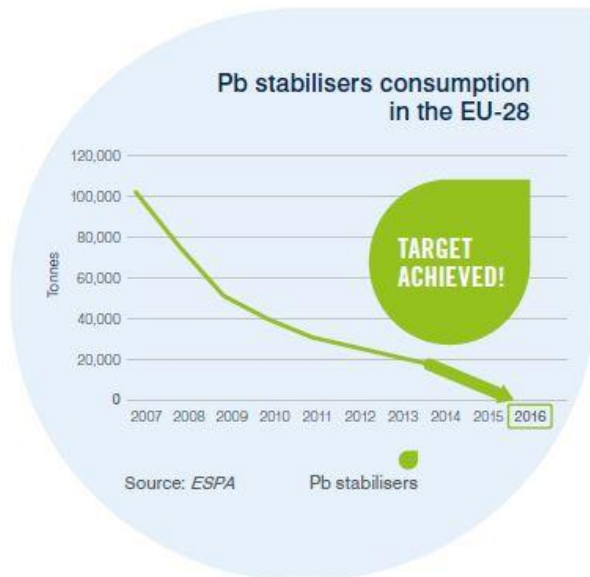
Discharge Limits for Total of Aqueous Effluents:

- EDC < 5g/ton of EDC purification capacity
- Copper < 1g/ton of oxychlorination capacity
- Dioxin-like components < 1µg TEQ/ton of oxychlorination capacity

VOLUNTARY PROGRAM

Lead replacement

- Program has launched in 2015.
- Present “Trend of Stabilizers and GREEN Vinyl Products” to converters then approach and cooperate with technical support.
- Coordinate with National Standard Agency to revise or develop PVC products’ standards with non-Lead stabilizer.





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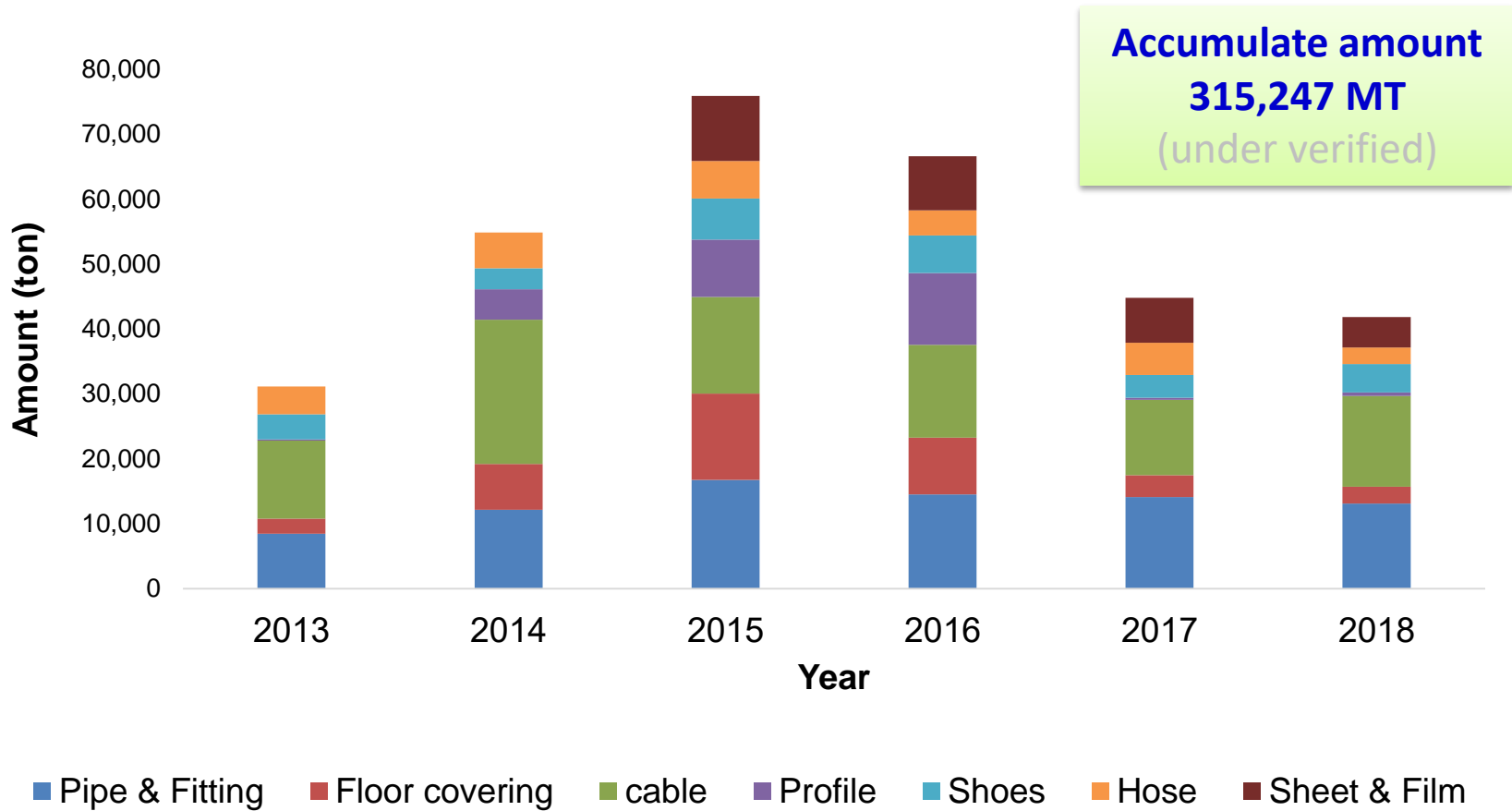
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END-OF-LIFE

National database of PVC recycled in THAILAND



END-OF-LIFE

Peritoneal Dialysis Bags (PD bags) recycled in THAILAND

- Coordinate with local hospital to promote the recycling.



- Expand the project by promoting thru Nephrology Society of Thailand and Infectious Disease Association of Thailand.
- In 2018, PVC recycled from hospital is 10,150 MT.



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END-OF-LIFE

Study Research in INDONESIA

- Coordinate with Institute Technology of Bandung:-
 - Life Cycle Assessment of PVC in Indonesia
 - PVC Baseline Study on PVC Recycling System





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ADVOCACY – THAILAND

Develop National Standard

- Wood-like Plastic (*waiting for official announcement*)
- uPVC Window (*on-going*)
- PVC Coated Vinylon Fabric (*kick-off*)

Eco-labelling

- Thai Green Building Institute (TGBI) has revised criteria, materials for utility system e.g. pipe, cable eligible for point.
- Three major cable manufactures being get the certification in Q1/2020.
(*Electricity Authority moving on Green Procurement Policy*)

Regulation

- **Criteria for fire safety assessment of decorative material used for internal building**
 - was officially announced on April 2019
 - effect to PVC products that are used for internal building, for example, WPC, floor tile, artificial leather, vinyl foam, may require to test following this criteria.



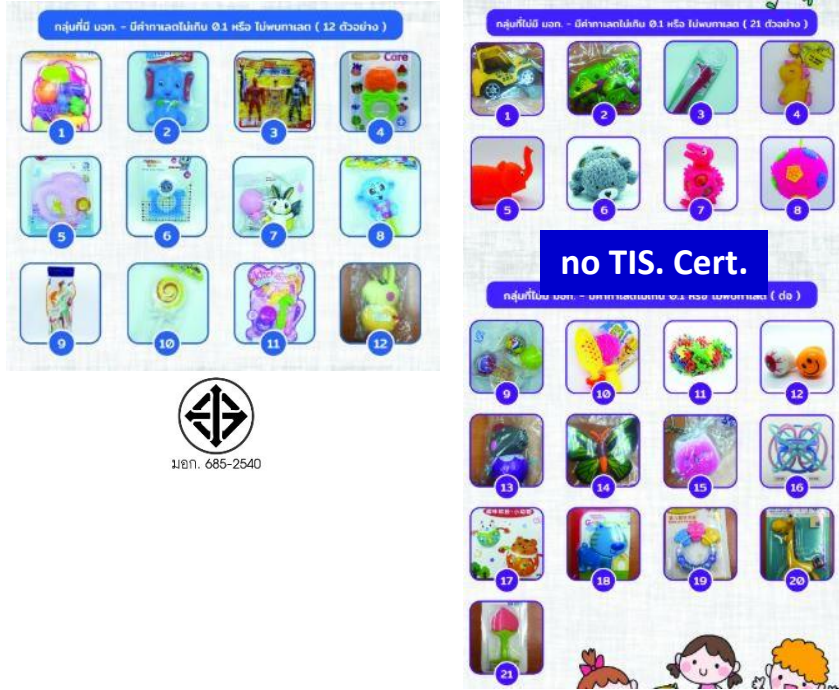


Phthalate in Toys/Plastic products

- Protection Consumer Foundation cooperated with Child Safety Promotion and Injury Prevention Research Center sampling products in the market to "testing Phthalates" - DEHP, DBP, BBP, DINP, DIDP, DNOP
- Testing follow by the Control limit in EU
 - 6 Phthalates control limit is less than 0.1ppm for Toys - child 3 years old and mouth contact
 - 3 Phthalates (DEHP, DBP, BBP) control limit is less than 0.1ppm for Toys – general
- TIS. 685-2540 is under to revise to control Phthalates same as EU

- Some products were detected Phthalates over the limit

Not Detected



Detected control limit all Phthalates less than 0.1 ppm





ADVOCACY – THAILAND and VIETNAM

STOCKHOLM CONVENTION on Persistent Organic Pollutants

- is an international environmental treaty,
 - signed in 2001 and effective from May 2004,
 - aims to eliminate or restrict the production and use of persistent organic pollutants (POPs) also to reduce the unintentional production of POPs.
- Chemicals related with vinyl industry are “dioxins” (unintentional) and “Short Chain Chlorinated Paraffins: SCCP” (using in PVC soft products).



ADVOCACY – THAILAND and VIETNAM

- THAILAND

- National Metal and Materials Technology Center: MTEC, have been assigned by Thai authority; Pollution Control Department, to prepare [“POPs directory and National management master plan”](#)

- VIETNAM

- United Nations Development Program (UNDP) support the funding thru Vietnam Chemical Agency , Ministry of Industry and Trade.
- S&C – consultant of UNDP, project runner is calling companies to demonstrate the positive and benefit of adopting [“Green Chemistry”](#) through pilot project.
- six sectors have been prioritized, including plastic manufacturing use of deca-BDE as well as PBBs (flame retardant) and [Short Chain Chlorinated Paraffins are targeting.](#)



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ADVOCACY – SINGAPORE

Develop National Standard

- PVC pipe and fitting for soil, waste and vent application (*on-going*)



BANGKOK DECLARATION ON COMBATING MARINE DEBRIS IN ASEAN REGION

- on the occasion of the 34th ASEAN Summit in Bangkok, Thailand on 22 June 2019
- [“The ASEAN Framework of Action on Marine Debris”](#) was developed to act on the recommendations from the ASEAN Conference on Reducing Marine Debris in ASEAN Region in Phuket in November 2017.
- The Framework comprises four (4) priority areas namely:
 - (i) Policy Support and Planning;
 - (ii) Research, Innovation, and Capacity Building;
 - (iii) Public Awareness, Education, and Outreach; and
 - (iv) Private Sector Engagement



ADVOCACY – REGIONAL

THAILAND

- Ministry of Natural Resources and Environment has announced draft “Roadmap for Plastic Waste Management in 20 years”.
- 3R concept and banning are key concept for short term plan. Eco-design and technology innovation are added for middle and long term plan
- 7 plastic products are banned in 2019 and 2022.

2019



Cap Seal
(drinking water)



Product with
Oxo-



Product with
Microbeads

2022



Plastic Bag
(thickness < 36 um)



Foam
(food tray)



Plastic Cup
(single-used)

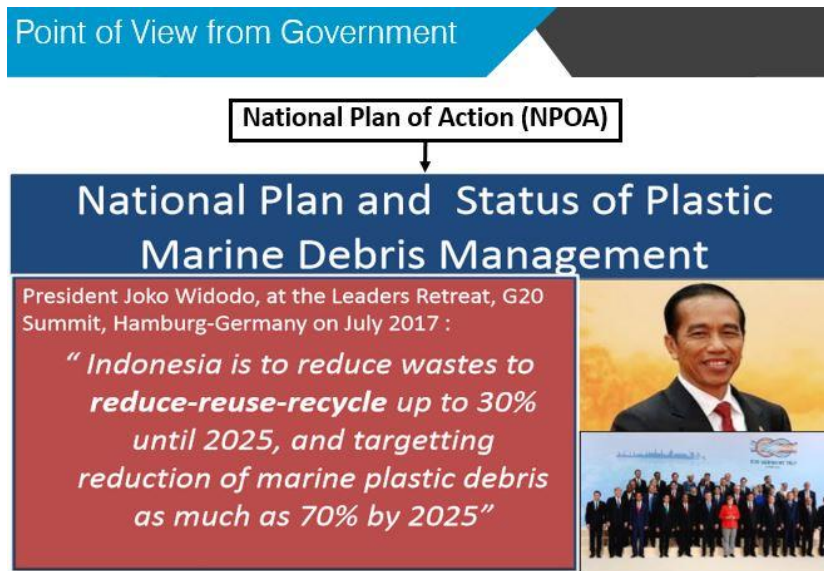


Straw

ADVOCACY – REGIONAL

INDONESIA

- Announcement the National Plan to solve Marine Debris



- Example - Bali governor has announced **banned plastic bag in Bali within 2019.**



Deselection PVC packaging

THE NEW PLASTICS ECONOMY:
RETHINKING THE FUTURE OF
PLASTICS & CATALYSING ACTION

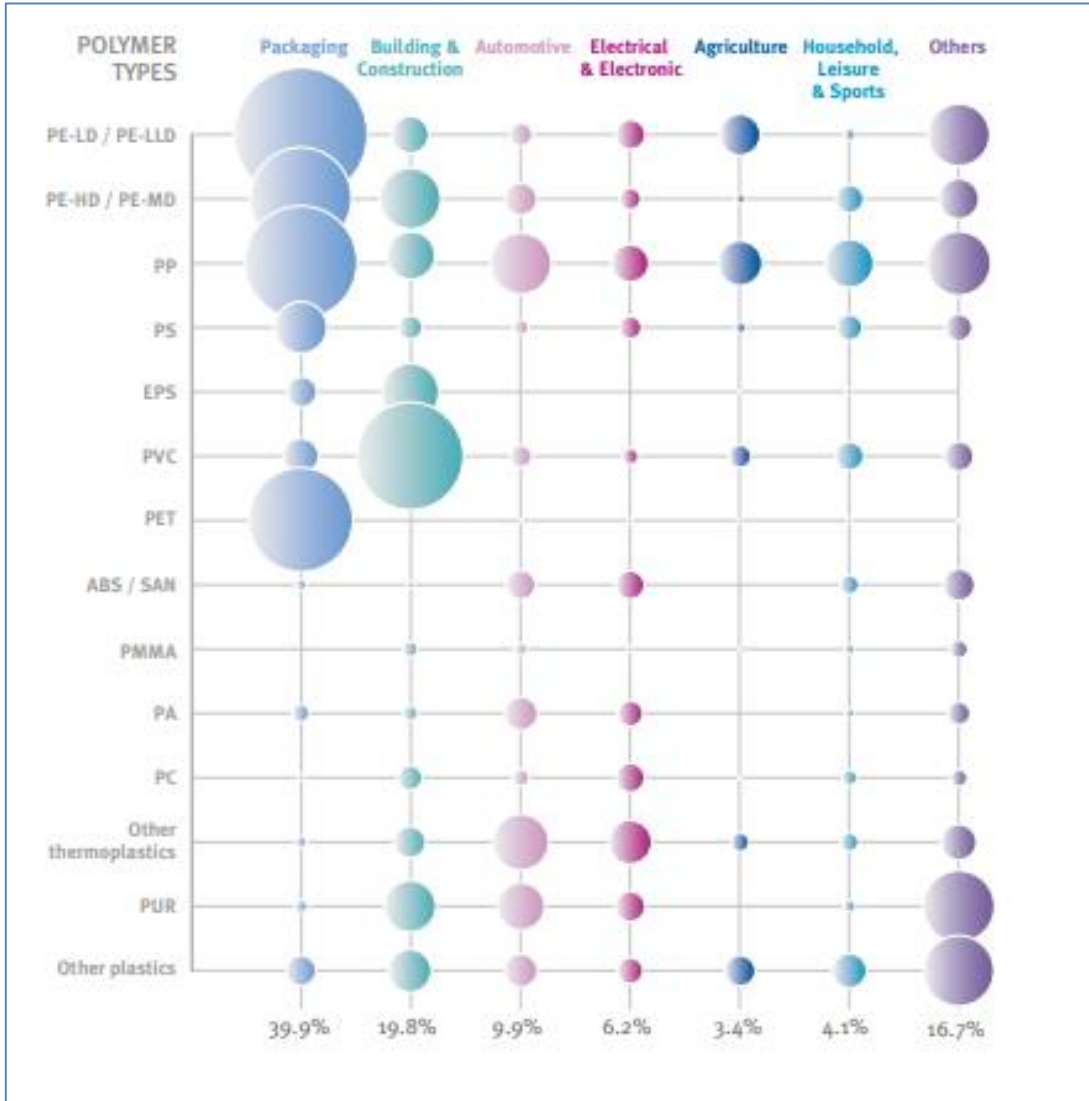
FIGURE 3: PLASTIC PACKAGING SEGMENTS THAT NEED FUNDAMENTAL REDESIGN AND INNOVATION

EXAMPLES	SHARE OF PLASTIC PACKAGING MARKET % BY WEIGHT	PRIORITY SOLUTIONS
SMALL-FORMAT Lids, tear-offs, caps, sachets and generally all items smaller than 40 - 70mm 	~10%	REDESIGN packaging formats and/or delivery models (and after-use systems)
MULTI-MATERIAL Packaging with inseparable layers of different materials 	~13%	INNOVATE In materials and reprocessing technologies
UNCOMMON MATERIALS Uncommon plastic packaging materials like PVC, EPS, PS 	~10%	Actively explore to REPLACE as a priority PVC, EPS, PS by known alternatives
NUTRIENT-CONTAMINATED Coffee capsules, organic waste bags, takeaway food packaging 	NOT QUANTIFIED	SCALE UP compostable plastics for targeted applications to help recover nutrients of packaging contents

FUNDAMENTAL REDESIGN AND INNOVATION is needed for >50% of plastic packaging (by no. of items), or >30% of plastic packaging (by weight)*



ADVOCACY – GLOBAL



Plastics demand by segments and polymer types in 2018. Total 51.2 M t

Data for EU28+NO/CH.

SOURCE: PlasticsEurope Market Research Group (PEMRG) and Conversio Market & Strategy GmbH

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ADVOCACY – GLOBAL



The Negative List

We have identified several materials for which recycling schemes are unlikely to be established. These materials will no longer be used in new product packaging and we will also immediately begin phasing them out from existing packaging.

Material	Application examples
⊘ Polyvinyl Chloride (PVC)	sleeves, labels, films, trays, printing inks, sealing layers
⊘ Polyvinylidene Chloride (PVDC)	PVDC coated bi-oriented Polypropylene (PP) films
⊘ Polystyrene (PS)	trays, yoghurt pots, lids for ice cream cones and coffee cups
⊘ Expanded Polystyrene (ePS)	trays, pots, tubs, transport protections and sleeves
⊘ Regenerated Cellulose	twist wraps, pack windows
⊘ Non-recyclable plastics/paper combinations	paper/plastic laminates, laminated paper cups

January 12, 2019

Tesco Preferred Materials

Version: B03
Date: 091018

Red: Materials that we will remove from our Own Brand packaging by the end of 2019
Amber: Materials that we will either investigate alternatives for, or use only where required
Green: Materials we will continue to use and use as replacements for the Red List

Red – Exit (poor for recycling and/or potentially harmful)	Amber – Hold (until infrastructure and/or scientific developments take place)	Green – Preferred (easily recycled, can have high recycled content)
PVC & Polystyrene	Home compostable E.g. Cellulose, Mater-bi & Natureflex	Sustainably sourced Wood, board, paper & Glassine
Oxy degradable materials	OPP - Oriented polypropylene	PET - Polyethylene terephthalate
Rigid Water soluble plastics	Black plastic	Glass
PLA - Polylactic acid	PP - Polypropylene [for certain food applications]	PP - Polypropylene (non food)
Industrial compostable	Complex laminates	HDPE & LDPE
Polycarbonate	PVdC (Not PVC)	PE - Polyethylene (preferred material for flexible film)
Acrylic	New materials	Steel & Aluminium

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https://www.unilever.com/sustainable-living/reducing-environmental-impact/waste-and-packaging/

Recycle packaging

Tackle sachet waste

Eliminate PVC

We will eliminate PVC (polyvinyl chloride) from all packaging by 2012 (where technical solutions exist). **99%** 99% of PVC packaging removed from our portfolio by end 2012.

OUR PERSPECTIVE

We have made very good progress in eliminating PVC from our packaging, including from the acquisitions we have made in recent years.

We have a robust system in place to ensure that any PVC entering the business through acquisitions is swiftly dealt with.



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ADVOCACY – GLOBAL

- Therefore, in response to it most GVC members agreed to send a joint complaint letter to Nestle.
- The letter provided fact and figure about PVC recycling data worldwide Such as VinylPlus, VEC, VI and AVC.

Mr. Christoph Meier
Head of Corporate Media Relations Nestlé S.A.
Nestlé S.A., avenue Nestlé 55, 1800 Vevey, Switzerland

June 19, 2019

Subject: Comments to your press release on 15 January 2019 regarding the Negative List of Materials

Dear Sir,

In its press release from January 15, 2019, Nestlé announced that between 2020 and 2025 the company will phase out all [plastics that are not recyclable or are hard to recycle for all its products worldwide \(pdf, 50 Kb\)](#).

The statement, wrongly labelling “Polyvinyl Chloride (PVC)” as non-recyclable, is not based on any solid evidence and contradicts the reality. This stigmatization is clearly unjustified and not in the interest of the consumers and the environment. PVC packaging provides excellent protective function with regard to

BPF House
5 – 6 Bath Place
Rivington Street
London
EC2A 3JE

Tel: +44 (0)207 457 5000
Email: bpfb@bpfb.co.uk
Web: www.bpfb.co.uk

Mr Jason Tarry
Chief Product Officer
Tesco PLC
Tesco House, Shire Park
Kestrel Way
Welwyn Garden City
AL7 1GA

20th September 2018

Dear Mr Tarry,

Tesco closed loop packaging system (press release 23 May 2018)

I am writing to you regarding information contained in the press release dated 23 May, concerning Tesco’s ‘closed loop’ packaging system.

Healthy Building Network (HBN)

- a non-profit organization,
 - work to reduce “toxic chemical use”, minimize hazard and eliminate exposure,
 - Development of affordable green chemistry solutions
- Published [“Chlorines and Building Materials: a global inventory of production technologies, market and pollution”](#)
 - Phase 1: Africa, The America, and Europe (July 2018), cover 86 chlor-alkali plants and 56 PVC plants
 - Phase 2: Asia (March 2019), cover 60 chlor-alkali-plants and 52 PVC plants





ADVOCACY – GLOBAL

- Claimed "Chlorine is the origin of many of the world's most problematic chemicals and products, including polyvinyl chloride (PVC), used in building and construction."
- The response and action had done by the "Vinyl Institute (US)"
 - had a meeting with CEO of main sponsors (flooring manufacturers) of this study,
 - published the fact information and in-depth science base thru "Vinyl Verified" website <https://vinylverified.com/> and mobile application.

**HBN: HEALTHY BUILDING NETWORK,
OR HARDLY BELIEVABLE NONSENSE**

February 11, 2016

**QUESTIONS SURROUND
HEALTHY BUILDING
NETWORK'S MOTIVES IN
LATEST ANTI-PVC REPORT**

September 27, 2018



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SAVE THE DATE



The World's Leading Forum on Vinyl
20-23 April 2020
Edinburgh, UK

Success and Innovation in the Circular Economy

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HOME

THE WORLD'S LEADING FORUM ON VINYL - find out why

REGISTRATION

ACCOMMODATION

CALL FOR PAPERS - abstract deadline extended to 28 June

KEY DATES

WELCOME RECEPTION: Mon 20 April

CONFERENCE DINNER: Wed 22 April

VENUE

PROMOTIONAL OPPORTUNITIES

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<http://www.pvc2020.org>



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Collaboration for PVC Sustainability in ASEAN



THANK YOU
for your attention