

1<sup>ST</sup> PVC4CABLES  
CONFERENCE

SUSTAINABILITY,  
INNOVATION, MARKET:  
THE NEW HORIZONS OF THE  
PVC CABLES INDUSTRY

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Lyon, France

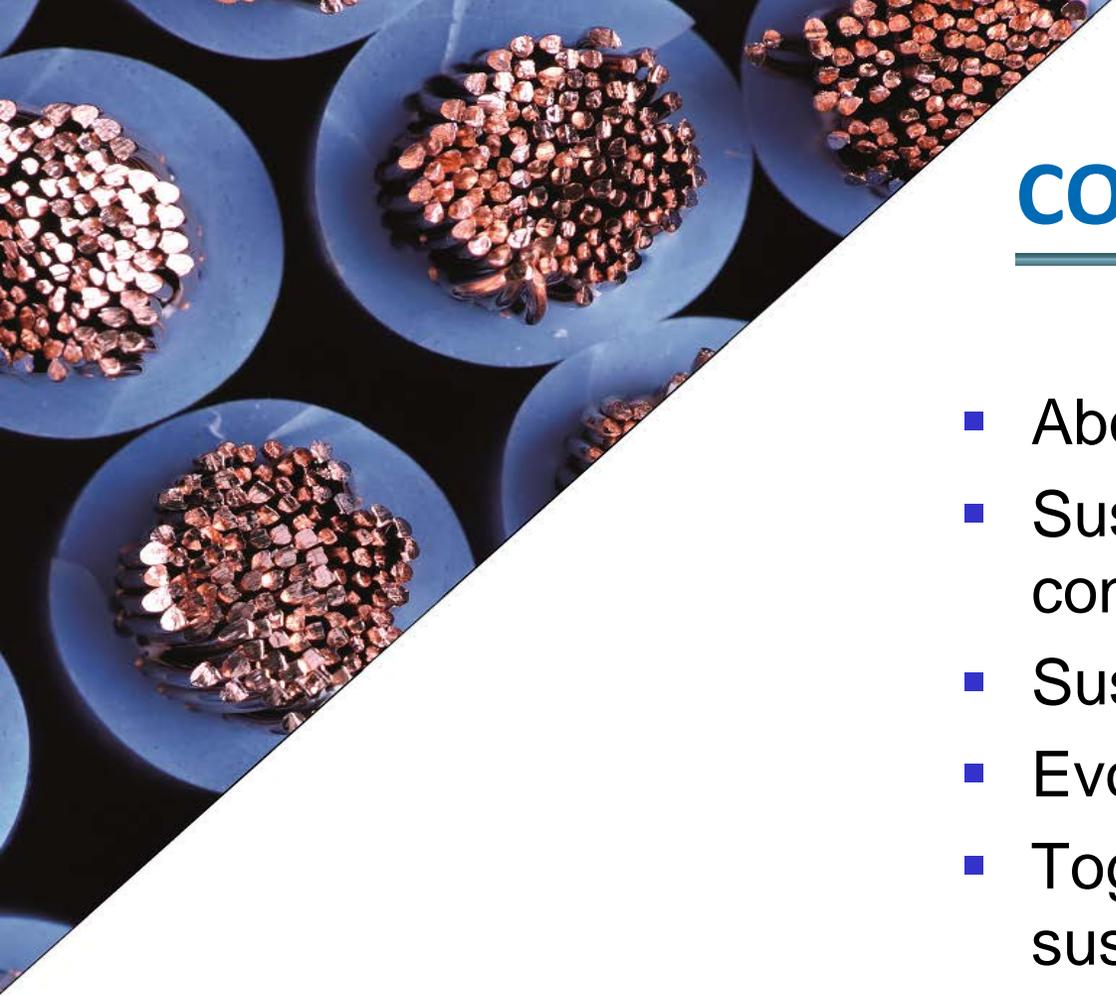


## About PVC stabilisers and Sustainability

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*European Stabiliser Producers Association - ESPA*

an *ecvm* platform



# CONTENT

- About ESPA
- Sustainability: definition, measure and other considerations
- Sustainability and Regulatory measures
- Evolution of formulations
- Together with VinylPlus towards more sustainability
- Summary and outlook

# European Stabiliser Producers Association

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- Pan-European trade association representing more than 95% of the PVC stabiliser industry across Europe ([www.stabilisers.eu](http://www.stabilisers.eu))
- A founding Member of VinylPlus ([www.vinylplus.eu](http://www.vinylplus.eu))
- A unique organisation representing three chemical families of stabilisers:
  - **Calcium-based stabilisers** (including Ca-Zn and Ca-organic) for food contact & medical applications, plus all lead\* replacement systems
  - **Tin-based stabilisers** used primarily in rigid applications including food contact use
  - **Liquid stabilisers** used in a wide range of flexible PVC

*\*Lead-based stabilisers have been fully replaced in the EU for all applications by end 2015*

# ESPA 2017: 10 Members



# Sustainability: *how to define it?*



## **High level definition** ([World Commission on Environment and Development](#))

«To allow to meet the needs of the present without compromising the ability of future generations to meet their own needs»

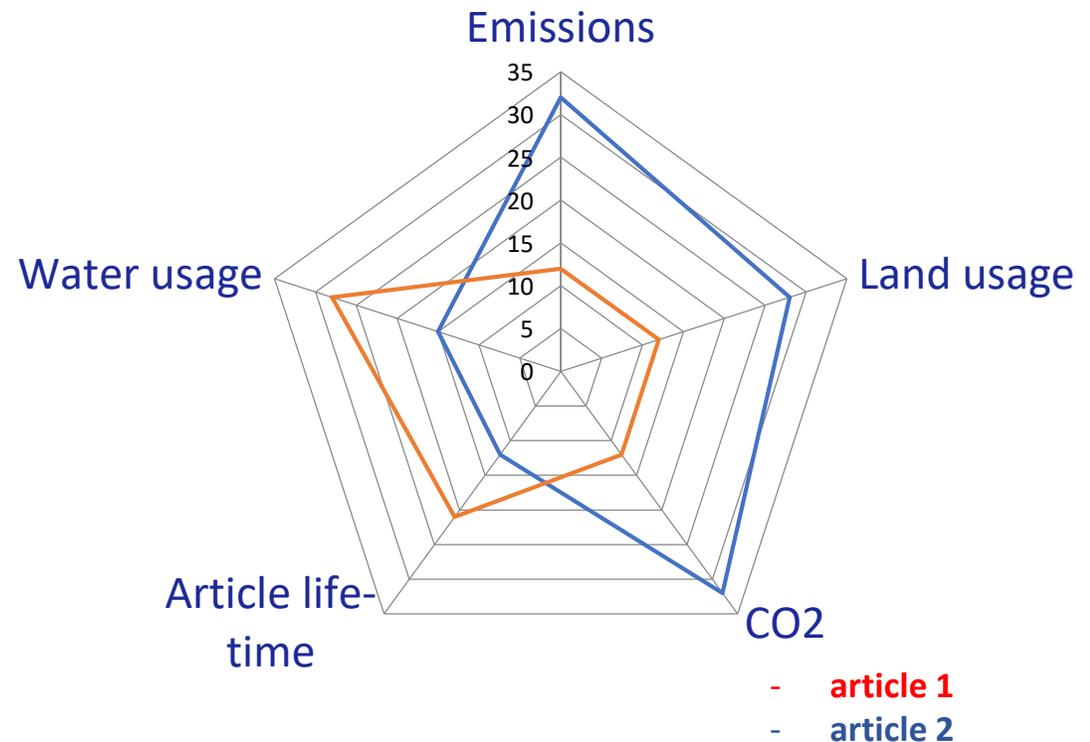
## **Sustainable chemistry** (OECD definition)

“Promoting the design, manufacture and use of efficient, **effective, safe and more environmentally benign chemical products** and processes.

... maximise resource efficiency, ... minimisation of waste at all stages of a product life-cycle, and the **development of products that are durable and can be re-used and recycled**”

# Assessing Sustainability

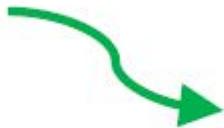
- To assess the sustainability of a chemical in a given use/article various sets of indicators can be used to reflecting the aspects covered by the above-mentioned OECD definition
- “spider graphs” are convenient and often used to compare the sustainability scores of different articles



# Stabilisers are crucial for PVC!



The impact of stabilisers on the life cycle of articles is huge. Therefore stabilisers must not be evaluated *in their bag* but *in the articles*



Stabilisers are crucial to produce and maintain the properties of the finished article:

- heat / weathering resistance
  - colour stability for sheathing applications
  - electrical characteristics
- ensure an extended service life of the cable
- contribute to save the “grey energy” associated to the premature replacement of a cable

# Sustainable product development: *what we achieved so far*

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As part of the Voluntary Commitment of the PVC industry (VinylPlus) ESPA members have progressively replaced in the EU:

- ✓ **cadmium** stabilisers: completed in the EU-15 already by 2001 and by now in the EU 28
- ✓ **lead** stabilisers replacement:
  - RoHS compliance ; voluntary replacement in the other applications completed in EU-28 in 2015
  - Replacement promoted worldwide and expanding
- ✓ **Bisphenol-A** (meanwhile included in the REACH Candidates List for Authorization): alternative formulations developed and available since many years

**Stabilisers formulations are being continuously adapted to anticipate on the regulatory context and with sustainability in the visor**

# Sustainable product development: *Additives Sustainability Footprint as a tool*

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VinylPlus is developing ASF, a voluntary, European-wide approach to assess the sustainability of PVC additives in various types of articles

- ASF builds on available Life Cycle information (cradle to grave) and informed analysis by industry experts to provide a qualitative screening assessment of the relative performance of additives
- The methodology is a complement to (and compatible with) schemes such as Environmental Product Declarations (EPD) and Product Environmental Footprint (PEF) but not positioned as a substitute for quantifiable product claims
- It takes a wider perspective giving a clear picture of where to aim and what to do to improve additives sustainability performance

# Sustainable product development: *an iterative process*



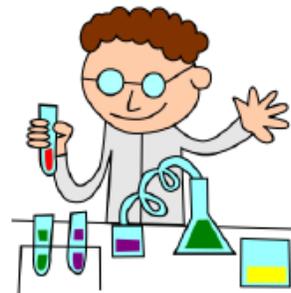
Life Cycle Analysis



ASF evaluation

TNS System Condition	Raw materials	Additive production	Packaging and distribution	PVC compounding	Use	Post-use
1: Substances from the Earth's crust	Red	Yellow	Green	Green	Yellow	Green
2: Substances made by society	Yellow	Green	Green	Red	Green	Yellow
3: Physical impacts	Yellow	Green	Green	Yellow	Green	Green
4: Impacts on human needs	Green	Red	Green	Green	Green	Green

*Illustrative sample only*



R & D





## SUMMING UP

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- Integration of the sustainability principles in planning the future of chemicals reduces the risk of hitting regulatory barriers at a later stage.
- Stabilisers are crucial to maintain the properties of articles throughout their entire life. Hence the use phase, including recycling, has to be taken into account when assessing their sustainability.
- Measuring sustainability is key to foster progress ; however data must be interpreted carefully when comparing different (stabiliser) systems.
- ESPA members are devoting important resources to R&D to supply REACH-compliant and performing solutions to the PVC chain.
- The European PVC industry, represented by *VinylPlus*, is progressing constantly on the sustainability scale. Its effort exerts an influence on markets beyond the EU boundaries and continent.



Thank you



## CONTACT



For more information, please visit: [www.stabilisers.eu](http://www.stabilisers.eu)

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