

VINYL PLUS, THE NEW EUROPEAN PVC INDUSTRY'S VOLUNTARY PROGRAMME TOWARD SUSTAINABILITY

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Abstract

Over the past ten years, the Vinyl 2010 programme has been highly effective in assisting the European PVC industry tackling various stakeholder concerns related to PVC sustainability. The Vinyl 2010 partners decided in 2009 to launch a follow-up programme.

Vinyl 2010's success was to a large extent due to the close cooperation of the entire value chain and to clear targets and deadlines allowing transparent progress monitoring. These key features will be retained. Climate change and availability of non-renewable resources are now widely recognised as major challenges. Health and safety concerns about chemical substances are increasingly prevalent.

In this context, a fundamental assessment of the sustainability features of PVC as material and as industry was carried out. An in-depth reflection involving scores of business managers and industry experts, stakeholders and NGOs took place during almost two years, producing collective insights and a credible pathway for progress over the next ten years. Both the reflection process and its results are described, with particular emphasis on recycling.

Keywords: PVC, vinyl, sustainability, voluntary commitment, recycling.

1. Introduction

Vinyl 2010, the voluntary commitment of the PVC industry signed in 2000 by associations representing the entire value chain, has been highly successful in helping the European PVC industry tackling many stakeholder concerns about PVC sustainability [1]. Despite difficult market conditions, it reached almost all its targets. It ensured that recycling of post-consumer PVC waste increased by more than 200 kt/year. It is the example of a successful industry commitment.

The programme that will follow, dubbed VinylPlus, will address all key aspects of sustainability, striving for a position where PVC is seen as a significant enabler of sustainability progress globally over the coming decade, while building on the achievements of Vinyl 2010.

2. Process to determine the new programme

A fundamental assessment of the sustainability aspects of PVC as material and as industry was needed, before outlining the features of any follow-up of Vinyl 2010. This assessment started in 2009 and resulted early on in a broad agreement that the PVC industry would pursue its efforts, building on Vinyl 2010's achievements, learning from the issues encountered, while taking into account the situation in 2010 and in the foreseeable future.

Vinyl 2010's success rested to a large extent on the close cooperation of the entire value chain and on clear, verifiable targets and deadlines allowing transparent

monitoring. It was also decided early on that these key features would be retained, that the deadline for the new set of targets would be 2020 and that the European industry would not await potential global commitments, while ensuring that its approach could become one of the basic elements of a potential global long term sustainability drive. Last but not least recycling would remain the favoured waste management option for PVC.

TNS (The Natural Step) is a non-profit organisation founded with the vision of a sustainable society [2]. Its mission is to provide decision makers across the globe with a unifying framework for Strategic Sustainable Development. TNS has been dealing with PVC for more than 10 years. It facilitated a UK multi-stakeholder study in 2000 which is still seen today as having set the sustainability benchmark for PVC. This vision was framed into five dimensions, derived from The Natural Step System Conditions, which remain a good and workable way of organising and understanding the challenges that have to be met along the path to sustainable use and management of PVC.

Vinyl 2010 decided therefore to involve TNS in the development of the new programme. The TNS methodology provides a valuable structure to determine where to concentrate efforts in order to achieve sustainability progress in an effective and holistic way. Moreover, TNS's experience in involving external stakeholders in the thought process was a major asset.

In order to achieve the vision, the industry has to tackle five major sustainability challenges, identified through

using the science-based sustainability principles of The Natural Step Framework. The challenges cover all aspects of the production, use and management of PVC including alternative raw materials and additives:

1. **Controlled-loop management of PVC:** Economic plan and technology roadmap, increasing the quality, acceptability and use of recycle, multiplying the accessibility of recycling infrastructure
2. **Sustainable energy and climate stability:** Striving for carbon neutrality, investigating how PVC can contribute to a low carbon society, promoting best practice energy use and investigating alternatives to fossil carbon raw materials
3. **Organo-chlorine emissions** to be minimised world-wide, by responsible handling of PVC waste across the globe
4. **Sustainable additives:** Prevent systematic accumulation of man-made substances, ensure additives allow controlled loop management
5. **Sustainability awareness across the value chain.** Develop a way of telling the difference between PVC made according to best sustainability practices and other methods, spread best practices and good examples world-wide, continuous engagement of a wide set of stakeholders

Three industry workshops were held in May 2010. There was a broad agreement on voluntary action, continuous improvement, collaboration, transparency, scientific rigour and research, dialogue with external stakeholders in a positive, listening and learning frame of mind and, last but not least, seeking business prosperity. Businesses involved in the production and sales of PVC must be making an acceptable return on investment, and remain competitive at the same time as seeking the route to sustainable development.

TNS then carried out between September 2010 and January 2011 an extensive consultation of external stakeholders to achieve engagement and get reactions in terms of expectations, ideas and concerns. The outcome of the consultation, and the ensuing recommendations from TNS, were an essential addition to the results of the industry workshops. TNS committed to the participating external stakeholders that it would follow up with them in during the second half of 2011. This will expose the PVC industry to external scrutiny and potential criticism, but is considered essential to ensure transparency.

3. Outline of the new programme with respect to recycling

Further development of PVC waste recycling will be a key element to address challenges 1 and 2. Industry set itself an ambitious target of controlled loop recycling by 2020. It will be helped by developing a "pull market" strategy, i.e. stimulating converters to use more recycle in their products. This will be achieved by setting quality

standards for recycle, enhancing the attractiveness of such products for the specifiers and/or end consumers, and boosting the sustainability credentials of the actively involved companies. The Recovinyl scheme, which has been instrumental in achieving the Vinyl 2010 recycling target, will be re-focused to support this shift.

The scope of recycling will be extended to sectors Vinyl 2010 did not cover, i.e. packaging, automotive and E&E waste. In addition to post-consumer waste, recycling of waste generated during production processes will also be encouraged insofar as the waste cannot be recycled directly in the same process and hence recycling might not happen without some kind of support. The overall objective will be to divert as much as possible PVC waste from landfill. As was the case in Vinyl 2010, the amounts recycled will be tracked year after year

In parallel, the development of techniques providing a viable and cost efficient way to treat some difficult types of waste (i.e. mixed, composite or contaminated waste), will be evaluated and their implementation will be supported, with the objective to bring a significant contribution to the overall recycling target. Feedstock recycling had received extensive attention in the first years of Vinyl 2010, but mechanical recycling proved sufficient to reach the 2010 target. It will be considered again as a potential solution for "difficult waste", but economic feasibility will be a major selection criterion.

4. Conclusion

The key principles of the new VinylPlus programme are decided. The new and ambitious recycling target is decided. There can be no doubt about the commitment of the European PVC industry to pursue its efforts on the arduous journey towards sustainability, and controlled loop recycling will remain a prominent part of this effort.

References

- [1] www.vinyl2010.org
- [2] www.thenaturalstep.org