



**PUReSmart**

**PolyUrethane Recycling Towards  
a Smart Circular Economy**

## Deliverable

**D6.15 White paper issued to policy makers**

**WP6 – Communication, Dissemination and Exploitation**

### Project Information

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## Document status

### Document Information

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### Document approval

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### Document history

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## Publishable Summary

This deliverable is the white paper to policy makers, meant as communication output targeting policy makers and industrial stakeholders, focused on explaining the results of the sustainability assessment of the PUREsmart technologies, in light of the current and upcoming policies, with the ultimate goal of supporting circular economy. The document is built upon the sustainability analysis carried out in WP5 but has focused on communicating the results of a sustainability assessment in a non-technical way, highlighting the key characteristics of the analysed system, the complexities around a life cycle-based sustainability assessment and the trade-off that might arise when evaluating multiple dimensions of sustainability, both within and among different sustainability domains.

Regarding the analysis, the potential environmental impacts of the PUREsmart technological system were quantified with the PEF methodology, complemented by the evaluation of relevant social topics and the identification of social risks. Results pointed out the potential of PUREsmart solution in reducing environmental burdens when managing EoL PU-based mattresses and when producing secondary polyols&isocyanates. There is also potential for positive social impacts in particular on workers and local community, that can be achieved through the implementation of adequate management practices by the organisations that will operate the technology.

Two layouts of the white paper have been developed, which support both the online visualisation and the printing of the document.

## Executive summary

### 1 Description of the deliverable objective and content

This deliverable aims to describe the PUREsmart project and the main results of the sustainability evaluation, which aimed to identify potential environmental and social benefits from the innovative PU chemical recycling technology developed in the project. It is built upon the analysis carried out in WP5 but has focused on communicating the results of a sustainability assessment in a non-technical way, highlighting the key characteristics of the analysed system, the complexities around a life cycle-based sustainability assessment and the trade-off that might arise when evaluating multiple dimensions of sustainability, both within and among different sustainability domains. The developed motto is “Chance to change”, highlighting the opportunities given by chemical recycling as technology for circular economy, under defined conditions, which in PUREsmart are the following:

- Delivery of high-quality secondary materials, which can replace the virgin ones 1 to 1.
- Better environmental performances compared to current chemical recycling technologies, optimising energy consumption, waste generation and secondary material production.
- Consideration that chemical recycling technologies are not the only technologies for EoL of PU mattresses, but as part of the technology mix that can be used for tackling PU waste.

The document is addressed to policy makers and is structured as follows: after a description of the problem addressed by PURESmart, the European policy and legal framework are presented, highlighting the important role played by Extended Producer Responsibility schemes, which are implemented only in a few countries in Europe. The main results of the PURESmart are then presented, before providing the outcomes about the social and environmental analyses.

Two layouts of the white paper have been developed, which support both the online visualisation and the printing of the document.

## 2 Brief description of the state of the art

N/A

## 3 Deviation from objectives and corrective actions

No deviations.

## 4 Innovation brought and technological progress

N/A

## 5 Analysis of the results

N/A because the document is a communication document. The conclusions about the sustainability assessment are included and discussed in D5.3

## 6 Impact of the results

The document can be used for disseminating the PURESmart results among policy makers and also other industrial stakeholders, highlighting its potential from the social and environmental perspective.

## 7 Related IPR

N/A

## 8 Publishable information

This deliverable is public.

## 9 Conclusions

N/A because the document is a communication document. The conclusions about the sustainability assessment are included and discussed in D5.3

## Deliverable report

See the attached pdf, with two layouts.

## References

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