

# Managing waste variability in a pyrolysis process

Pyrolysis oil is only as good as its waste feedstock. Or is that the full story?

At Itero, we have been running our pilot facility for over two years, testing real-world waste in real-world conditions, constantly learning about how the variability of waste feedstock affects the operation of a pyrolysis chemical recycling process and the pyrolysis output products.

In this talk, we'll use our experience and data to explore how the variance in real-world waste works in the pyrolysis process and feedback on output products:

- After conducting numerous tests on various wastes at various different operating conditions, we have insights into waste parameters such as nitrogen, moisture, ash, chlorine, sulphur, silicon, volatile matter etc and how these affect output products and the pyrolysis process.
- We'll explain the challenges of the variability of waste when processing it through a pyrolysis reactor and share some of the lessons (including case studies and numerical analysis) we have learnt with respect to how this variation affects a pyrolysis process and products on a real world scale, not just on a lab scale.
- We would like to share some insights from our R&D tests as to how we are learning to design flexibility into our system.
- We will discuss some of the challenges of designing and implementing our upcoming Demonstration Plant, including design and regulatory challenges.