

Driving Innovation in Plastics Recycling: 4 Key Insights

Advanced technology, strategic scaling, and risk management are shaping the future

Presented by LEC Partners

Key Insight 1: Technologies Drive Value Creation

Advanced technologies like pyrolysis can convert plastic waste into valuable resources, including bio-oil and syngas.

LEC Analysis: Pyrolysis oil has the potential to reduce greenhouse gas emissions by 75% to 115% when compared to fossil fuel alternatives.

Key Insight 2: Scaling Requires Strategic Planning

Scaling from pilot plants to full-scale operations is complex, requiring rigorous simulations and operational testing to minimize risk.

LEC Analysis: The energy consumption for scaled pyrolysis operations stands at 4,651 Btu/lb, emphasizing the importance of enhancing energy efficiency as we transition to full-scale production.

Key Insight 3: Reliable Feedstock Supply is Crucial

Securing consistent feedstock requires strong supplier networks and investment in pretreatment technologies.

LEC Analysis: Post-consumer plastics make up a large percentage of feedstock, requiring detailed sorting and pretreatment to meet operational requirements.

Key Insight 4: Structured Risk Management Supports Growth

Effective risk management frameworks are crucial for meeting tight deadlines, ensuring high-quality feedstock, and executing operations efficiently.

LEC Analysis: Adopting a proactive risk management approach can reduce operational disruptions by 30%-50% and enhance project timelines, enabling companies to scale effectively and comply with regulations.