Bio-Based Materials Can Replace Petro in $100B Worth of Polymers

JIM LANE, Biofuels Digest

By JIM LANE, *Biofuels Digest*

In Massachusetts, Lux Research released its latest report, “Bridging the Divide between Demands and Bio-Based Materials” and predicted that bio-based molecules are ready to take on petro-polymers in major applications like industrial parts, coatings and packaging.

Kalib Kersh, Lux Research analyst and the lead author of the report, states, “Bio-based material developers must aim for large, addressable markets, among which the biggest are composites and coatings, industrial manufactured intermediates and packaging.”

Kersh adds, “Of 38 demand areas we assessed, a few come out as top opportunities due to market size and opportunities to create value by solving end-user problems.”

Key Opportunities

1. Coatings — with so many potential ingredients, coatings is a sizeable market and has extensive substitution opportunities for bio-based chemicals and materials to penetrate.
2. Manufactured intermediate components, like foam, gears and laminates, have a diverse range of applied uses and potential.
3. Textiles and fabrics are also open to materials innovation, but crafting a solution that end-users desire is critical to a material’s success.
4. Automotive is another opportunity for materials developers, but the industry’s long qualification cycles prevent quick revenue.
5. Bio-based plastics are ideal disposables. Bio-based plastics can be biodegradable, recyclable and less energy-intensive to process, and thus are

often tough to beat as disposables, with volume applications such as medical, flatware, cleaning, bags, liners, bottles and others.

6. Industrial intermediates represent the future. Industrial intermediate components target huge addressable markets, such as electronics, building materials, automotive, aerospace and consumer goods. New innovations are letting bio-based developers like Vertec Biosolvents and Crey Bioresins access these markets.

Key Caveats

 An opportunity for PTT, a polymer of 1,3-propanediol (PDO) in foams, highlights how shifting economics disrupt markets, by making familiar materials open to new applications.

The palette of bio-based drop-ins needs to expand, but options exist for developers to pursue. A slew of key intermediate developers are the gatekeepers to expanding bio-based drop-ins.

Bio-based and natural polymers need a performance boost and a reputation make-over.

“Sometimes, bio-based really is better,” Kersh writes, “but changing minds that bio-based materials can do more than be disposable will benefit from innovations on additives and hybrid polymers of conventional and various bio-based materials, like PBS, PLA and PHA.”

What’s your take? Please feel free to comment below! For more information, please visit www.businesswire.com/news/home/20121120005066/en/Bio-based-Materials-Replace-Petroleum-100-Billion-Worth *[1]. Copyright 2012;* Biofuels Digest [2]

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