

Bringing Chemistry to Life podcast series

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Season 2: The 2020 C&EN's Talented 12 Episode 8: Sustainability as an entrepreneurial choice



Episode abstract

Sustainability is a trendy word that is often abused, especially when speaking about chemistry. Most commodity chemicals and their highly integrated value chains remain rooted in the oil feedstock. Until this changes, it will be difficult to move towards truly sustainable technologies. The use of renewable resources to produce valuable chemicals has promised a lot but delivered little so far. Dr. Kevin Barnett aims to change that, and his approach is radical and pragmatic at the same time. No real innovation is possible without commercial attractiveness. The obvious start is something that can be useful and commercially attractive right now. Something that can't be easily obtained from the established value chain. That something is 1,5-pentanediol, a small but wondrous molecule.

After graduate school, Kevin took the entrepreneurial way and co-founded Pyran, a company focused on the production of useful commodity chemicals from renewable resources and already launched his first commercial product; 1,5-pentanediol of course! In this fascinating discussion, Paolo and Kevin discuss career choices, entrepreneurship as a credible option for chemistry graduates, the present and future of renewable resources, and the promise for a different chemistry of tomorrow.

About our guest

Dr. Kevin J. Barnett

Co-founder and CTO of Pyran

Kevin's company site: <https://pyranco.com/>

C&EN Talented 12 profile of Kevin:

<https://cen.acs.org/environment/sustainability/Kevin-Barnett/98/i31>

Recent Publications from Kevin:

- [Chemicals from biomass: Combining ring-opening tautomerization and hydrogenation reactions to produce 1, 5-pentanediol from furfural](#)
- [Improving economics of lignocellulosic biofuels: An integrated strategy for coproducing 1, 5-pentanediol and ethanol](#)
- [Production of 1, 5-pentanediol via upgrading of tetrahydrofurfuryl alcohol](#)
- [Autocatalytic Hydration of Dihydropyran to 1,5-Pentanediol Precursors via in situ Formation of Liquid- and Solid-Phase Acids](#)
- [New catalytic strategies for \$\alpha,\omega\$ -diols production from lignocellulosic biomass](#)
- [Oxygenated commodity chemicals from chemo-catalytic conversion of biomass derived heterocycles](#)

Kevin's Content Recommendations:

- [Outliers – The Story of Success](#) (A book by Malcolm Gladwell)
- [How to Win Friends and Influence People](#) (A book by Dale Carnegie)
- [Revisionist History](#) (A podcast series with Malcolm Gladwell)
- [Prisoners of Geography](#) (A book on politics of place by Tim Marshall)

This podcast series is available via the following links



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