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Biochemicals From Wood and Mill Waste

April - September 2023



ARANCA'S SECTORIAL UPDATE ACROSS FOUR DIMENSIONS....

 Disruptive innovations New product launches 	 Company expansions Competitor tracking Under-research technologies 	01 02 4D's	 Dynamics New entrants/ start-ups Supply chain activities New business 	models Company financials Other initiatives
& regulations Litigations	 Product ratings Influencers Other details 	04 03	 Diversification Mergers & acquisitions VC investments Company collaborations 	 Licensing activities Exploring alternate applications



	Develo	PMENTS
New Manufacturing Set- up	BIOCARBON	A new biorefinery near Carrot River will be built by BioLesna Carbon Technologies, a joint venture of BC Biocarbon and Dunkley Lumber. The new facility will process wood waste from the sawmill and other nearby forestry operations into useful products. <i>Source: Company news</i>
Technology/ Innovations	CHAR technologies	CHAR Technologies Ltd., a renowned leader in sustainable energy solutions, announce that it has been awarded a \$1.43M contribution from the Government of Canada through (NRCan) Clean Fuels Fund. The Clean Fuels Fund will support CHAR to build a facility to significantly increase domestic production capacity of clean fuels ((green hydrogen or renewable natural gas) and biocarbon) from wood waste to support Canada's prosperous low-carbon future.
Technology/ Innovations	₩ 芎肠科益署院	Source: <u>Research Article</u> The innovation discloses a method of producing multi-scale microporous carbon material derived from waste natural timber/wood. Source: <u>Patent</u>
Technology/ Innovations		A preparation method of wood fiber charcoal which takes wood fiber waste as a raw material, separates out glucose-ricl hydrothermal sugar solution and nitrogen-rich hydrothermal charcoal through low-temperature hydrothermal saccharification, thereby preparing the wood fiber charcoal with proper pore size distribution. <i>Source: Patent</i>
	Dynami	CS
Supply Chain Activity	🛞 AEMETIS	Aemetis, Inc., a renewable natural gas and renewable fuels company focused on negative carbon intensity products, announced that its Aemetis Biogas subsidiary generated federal D3 Renewable Identification Numbers (D3 RINs) from the EPA under the Renewable Fuel Standard (RFS) for the first time and has filed to generate California Low Carbon Fuel Standard (LCFS) credits for Renewable Natural Gas (RNG) that was delivered to heavy transportation customers starting in late May 2023

Source: Company News

	Diversifi	CATION
Company Collaboration	UPABIOFORE	UPM and Vaude have collaborated to create the world's first fleece jacket made from wood-based polyester , in a bid to bridge the gap between recycled and sustainable virgin fibres, propelling performance fashion beyond the realm of fossil fuels. <i>Source: <u>Company News</u></i>
Company Collaboration	Steeper Dictor	Steeper Energy has signed a Memorandum of Understanding (MOU) with Invest Alberta Corporation (Invest Alberta) to commercialize Steeper's proprietary Hydrofaction® technology capable of converting a wide range of biowaste feedstocks to flexible renewable biocrude Hydrofaction within Alberta, aligning with Alberta's broader goal of becoming Canada's cleantech leader. <i>Source:</i> <u>Company News</u>
Company Collaboration		UPM Biochemicals and Selenis have entered a strategic partnership aspiring to produce PETG resin – a thermoplastic polyester introducing renewable, sustainable forest-sourced materials into plastic for use in various sectors and packaging applications. <i>Source: Packaging Europe</i>
VC Investments	NATURE COATINGS	Nature Coatings secures \$2.45 million in funding, led by Regeneration.VC and the 22 Fund, with participation from Leonardo DiCaprio, Safer Made, and Portfolia. BioBlack TX, Nature Coatings' is certified 100% bio-based, a unique black pigment sourced from FSC certified wood waste and high-performing alternative to petroleum-based carbon black, gains global recognition and adoption by fashion brands including those within the global luxury group Kering and Levi's <i>Source:</i> <u>Company News</u>

	Drivers	
Government Policies		The U.S. Government has set target for 30% of bio-based chemicals for the US Bioeconomy. Source: Forbes

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IP Strategy	Technology Intelligence	Growth & Strategy
How best can we proactively manage and monetise our technical knowhow / intellectual property?	How best can we keep abreast of technology trends, competitor activity and headwinds / tailwinds in our domain?	Which technologies do we invest in? How do we ensure quick wins? Speed to market?
 IP Portfolio Analysis 	 Competitor Benchmarking 	 R&D Strategy Roadmaps
 IP Monetisation 	 Tech / IP Landscapes 	 Technology Scouting
 IP Valuation 	 Technology Watch 	 Open Innovation
 Prior Art Searches 	 Market Analysis / Trends 	 Product Development



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