

Lecture 19 Integrated Biorefineries

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Most bioenergy ideas and businesses use combinations of different conversion processes and then come up with a cool name for it that get attention (marketable). When someone tells you about a bioenergy conversion process you need to be able to identify the basic parts. There are generally only 4 basic possibilities; Thermal Conversions, Chemical Conversions, Biological Conversions, and Mechanical Conversions. Almost every known bioenergy process will fall into one or more of these categories. In studying bioenergy it is important to develop a basic understanding that allows you evaluate bioenergy news and developments.

An integrated biorefinery is just what it says it is an integrated biorefinery. Integration typically means the use of more than one conversion or step and a primary goal of integration is the reduction of waste and/or the utilization of all waste. The forest products industry and the petroleum industry are excellent examples of “integration”. Biorefinery typically defines a facility that converts biomass into various chemical products. Consider “bio” to be biomass and “refining” to mean breaking it down into something and capturing products of interest. Wood pulping, biodiesel production, and anaerobic digesters can all be considered “biorefining” industries

□□□□□ : <https://www.youtube.com/channel/UCiFXuor4e2agZo5aApgVpTQ>

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