

USING WASTE STREAMS TO CREATE A BENEFICIAL PRODUCT & A CIRCULAR ECONOMY

Within a circular economy waste materials are not discarded but instead brought back into the process lines or used to create other new products. The concept of a circular economy is becoming well accepted and assists manufacturing companies with offsetting their carbon footprint and creating new beneficial products. This digest will explore the circular economy concept and provide some examples of how waste has been used to produce other beneficial products.

PRODUCTION IN A CIRCULAR ECONOMY

Traditionally, recycling reduces waste but only salvages a small portion of a manufactured product's potential value. Companies are looking past just reducing their waste and are focusing on ramping up productivity by reusing waste to create the new products. Some of the key factors of this circular economy include; systems that are less resource intensive, have a lower impact on the environment and have more flexibility when changing material streams.

While the designs of systems to reuse waste for new products is complicated, the benefits of a lower carbon footprint, reducing trips to the landfill and extracting value add to the bottom line.

EXAMPLES OF RECYCLING A WASTE STREAM

FLY ASH - A waste generated at coal fired power plants is fly ash. Historically fly ash has been stored in ash ponds. New advances in technology have opened the door for reusing this fly ash. The first step when removed from ponds is drying. The dried material can then be used as an additive in Portland cement, structural fill and asphalt filler. Also, the dried material can be separated into a pure carbon/pure ash fraction for other industrial uses.



COFFEE GROUNDS - When producing certain beverage products, spent coffee grounds become the waste stream. When the grounds are dried and compacted they create a high density fuel source that produce more heat than wood. Recycling spent coffee grounds provide the dual benefit of supply heat and reducing landfill waste.

New technology and system designs have made a manufacturers ability to repurpose their waste streams possible.