

Alternative Feedstocks for the Chemical Industry

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The current high prices for petroleum have spurred the chemical industry to take a long term look at alternative feedstocks in the production of commodity chemicals. Oak Ridge National Laboratory and chemical industry representatives undertook a review of the use of non-petroleum based feedstocks in the manufacture of the largest volume organic chemicals. The team identified both the near term opportunities for feed substitution into existing chemical plants, and longer term application of new technologies, new products and new equipment. The feedstocks that were considered in this analysis included those derived through unconventional processing technologies, such as coal gasification and coal liquefaction, unconventional reserves such as stranded natural gas and heavy oil from tar sands or oil shale, and novel resources such as biomass. The feedstocks were evaluated as to readiness for implementation and feasibility for production of the highest volume commodity chemicals produced in the US. Technical barriers for implementation were identified, and suggestions have been made on a path forward both in terms of research requirements and policy decisions.