

Building Successful Feedstock Logistical Systems

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An efficient and optimized feedstock solution requires tight integration of all elements of the biomass supply chain. Genera Energy has focused on developing front to back, integrated supply chain solutions to benefit the entire biobased industry. The company has focused on crop portfolio selection and production as well as downstream operations including harvesting, logistics, storage, and preprocessing. The logistical systems required for cost-effective biomass production are often overlooked and this oversight can create the potential for supply chain failure. Genera has developed industry leading best practices for feedstock logistics.

After a crop has been produced, components of the integrated feedstock supply chain include the timing and management of harvest cycles, the selection of harvesting, collection, and in-field aggregation equipment and the efficient use of that equipment with respect to capital, maintenance, labor, fuel, and scheduling. Managing the labor, equipment and information in relation to harvesting is critical to improving the overall supply chain. Decisions made at harvest and immediately thereafter can have significant impacts on the downstream supply chain.

After harvest, the biomass supply chain becomes an inventory management system. This system includes the management of equipment, capital and labor requirements associated with storage; timing and quality management in storage; equipment, capital, labor, and fuel associated with transportation; managing and scheduling pickup, as well as transport and delivery logistics. A well-managed inventory system will prevent many known problems for biomass-based facilities. Many energy crop facilities will deal primarily with baled biomaterials such as switchgrass, miscanthus, and corn stover as well as a number of chopped and milled energy crops. All of these feedstocks are subject to physical material losses which inevitably leads to economic losses. Therefore, paying close attention to the key contributors of material loss as well as other inefficiencies in the supply chain will make sure that your inventory management does not negatively contribute to the bottom line.

While not an exhaustive summary, it is clear that any one of these elements or others can have significant impacts on the cost of a particular feedstock supply solution, as well as expected feedstock availability, quality, and risk. Genera Energy has developed efficient, economical systems to manage decision making as well as cost. This presentation will overview Genera's lessons learned and best management practices related to biomass logistics.