



Techno-Economic Analysis

Evaluate technologies to maximize your biomass energy cost-effectively

Identify the right technology for your situation, using a techno-economic analysis (TEA). The TEA is a decision-making tool used to evaluate available technology options based on technical, economic, environmental, social and regulatory criteria.

Leveraging the NRC’s knowledge and expertise in technology and innovation, this comprehensive tool helps organizations make the most profitable decision for their energy needs.

To provide results that are meaningful and actionable, a TEA tool needs to utilize high-quality datasets that are comprehensive and up-to-date.

Conventional TEA analysis often doesn’t include a wide range of technology or conversion options, or may be based on limited datasets.

The analysis might produce outputs, therefore, that may support the selection of a particular pathway that is not the most technically or economically viable, which can lead to ineffective use of valuable resources. NRC is addressing this challenge.

Tools

The NRC team has built a complete TEA platform to evaluate the different biomass-to-energy conversion options available today. The platform takes into account all critical steps in the conversion process – including feedstock availability, delivery, and pre-treatment; primary feedstock conversion; intermediary product upgrade; and final conversion. Within each step multiple options are available, leading to a complex optimization process. The tool is designed to streamline this process and reduce the time required to evaluate different scenarios.

To support the TEA platform, the NRC developed and maintains a Technology Development Matrix (TDM) of key bioenergy conversion technologies which has been utilized to support Canadian organizations in selecting the optimal choice for conversion

technology. The NRC has also developed and acquired a wide range of technology, energy, and greenhouse gas (GHG) emission datasets and databases to serve as input to the various models.

Services

The NRC has assembled a multi-disciplinary team and partners to address the needs of the bioenergy industry related to technology and economic analyses. This pool of expertise and know-how provide a complete and unique set of services to benefit the Canadian bioenergy industry and to help address the roadmap towards reducing Canada’s GHG footprint.

Techno-economic services provided by NRC and its partners



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June 2018

