



*FutureMetrics™ LLC*

8 Airport Road  
Bethel, ME 04217, USA

# **Advanced Biomass Solutions for Coal Substitution in Power Generation**

**Optimizing carbon-beneficial coal replacement for power generation when white pellets are not optimal**

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***Overview of “Black” Pellets and the Process Characteristics  
of Torrefied and Steam Treated Pellet Fuels***

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***Cost analysis normalized for energy output***

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***Financial analysis, including sensitivity to changes in critical inputs***

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***Conclusions on suitability and economic competitiveness***

Produced by

***FutureMetrics***

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## Acknowledgements and Disclaimers

This report would not be possible without the cooperation of the four black pellet technology providers reviewed herein.

TSI, Airex, Valmet, and Arbaflame provided FutureMetrics with data that allowed FutureMetrics to perform the analysis and create the opinions that are in this report.

The data that is shown in this report is with the explicit permission of TSI, Airex, Valmet, and Arbaflame.

Any reference to capital costs are high-level estimates by FutureMetrics that are within a wide range of potential values. They do not represent offers by the technology providers.

The objective analysis in this report is by FutureMetrics. The opinions in this report are those of FutureMetrics.

FutureMetrics does not endorse any particular technology provider or project developer. There are many other black pellet technology providers that are not included in this report. This does not imply that all of those technology providers are inferior.

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