Fields of Fuel: Environmental and Economic Considerations of Transitioning Boardman to Biomass Using Corn and Wheat Residue in a Three State Area

Final report of the Spring 2014 Environmental Studies Junior Seminar (ES300) at Reed College

Executive Summary

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2.4.1 Units

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2.4.2 Calculation Notes

Wheat Straw:

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Figure 3.

Figure 4.

2.4.4 Carbon Emissions from Biomass[47]

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Combined corn and wheat biomass:

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Figure 5.

Figure 6.

3 Transportation and Acquiring Biomass: Costs and Carbon Implications

3.1 Biomass requirements

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3.2 Crop residues

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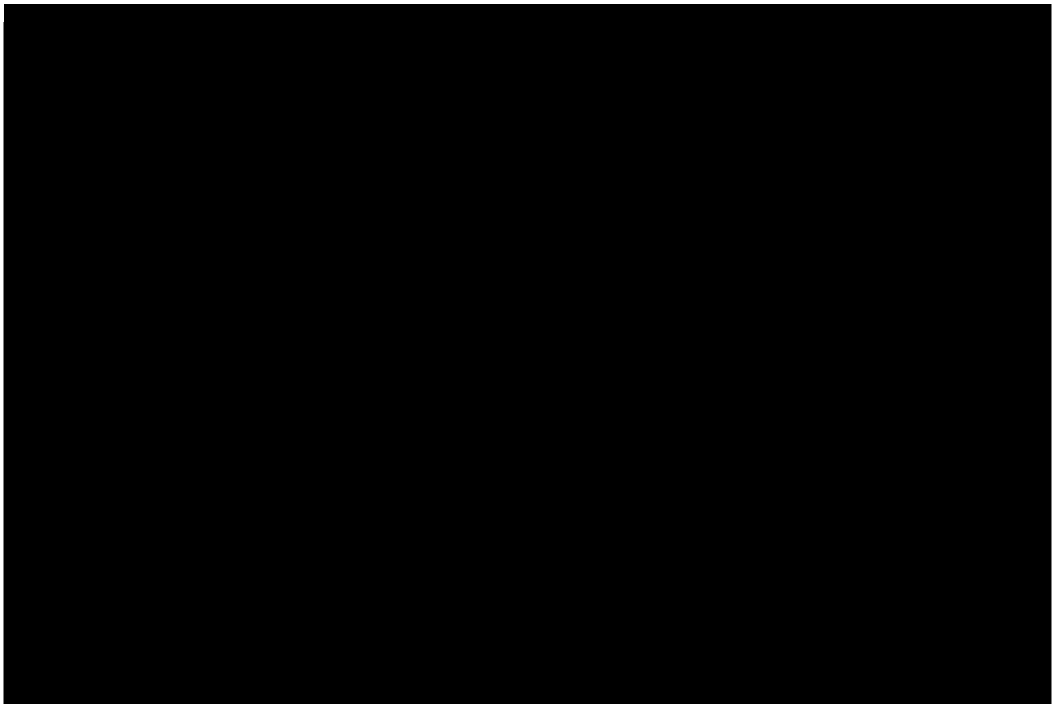
Figure 7



Wheat Residue:	2.94 million tons dry wheat straw	(Milbrandt 2005, 12) (Ag Census 2007

Figure 8

Figure 9

3.3 Crop distance from Boardman

3.4 Transportation Costs of moving biomass to Boardman

Figure 10

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Figure 11

4 Torrefaction: Scenarios and Development

4.1 Current Torrefaction Technology

4.2 Future Torrefaction Technology

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6 GIS Table Appendix

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G2	FI .8E87=S5	,75C=	AG3G@	23A@I	@GFJA)M+(O#%-+K!P		H3
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7 Bibliography