

Business Model Case Study 1: Straw

AF Biomass Limited in East Anglia, UK

Introduction

AF Biomass Limited is one of the four subsidiaries of Anglian Farmers Limited (AF), a purchasing cooperative with a diverse set of products and services. Based in the East of England, the cooperative has ca. 3500 shareholders and purchases 10% of the total farming inputs in the UK such as fertilisers, fuel, seeds and animal feed. While most business activities are focused on purchasing products and services for farming *inputs*, AF Biomass Limited is focused on buying straw *outputs* for sales as animal bedding and renewable feedstock for the power generation sector as well as a number of other new and emerging customers. Find out more in this [video](#) introducing AF Biomass.

Circular business model canvas

Strong buyer-supplier relationships with farmers supplying straw form the basis of the business model of AF Biomass. Mutual benefits are secured with the help of AF' assets, incl. extensive contact databases, finance, transport, and the AF brand. Attracting straw supplies of varying qualities, AF Biomass has opened- and continues to explore diverse end-markets.

Drivers and barriers

AF Biomass was founded when demand for biorenewables in the energy sector continued to grow. The British government incentivises low-carbon energy, including the use of biomass. However, the use of biomass for energy has been criticised as concerns around food security and land-use change emerged. Finding the middle-ground, AF Biomass has successfully developed a business model (see next page) enabling the use of straw with higher technical value, i.e. of higher quality, for higher value applications whilst also increasing resource efficiency and economic value from lower grade straw by-products.



Circular business model canvas: AF Biomass Limited, Straw

<p>Key partnerships</p> <p>Close buyer-supplier relations with arable farmers producing the by-product straw, by offering reliable and convenient service including:</p> <ul style="list-style-type: none"> - Secure and regular payments irrespective of harvest/ transport time, offering cash flow security - Assurance of timely transport before new crop needs planting - Offer contacts for contractors to bale straw - Delivery and transport services - Interest free finance for storage facility 	<p>Activities to create, distribute, sell and recover values</p> <p>Contract arable farmers to source straw, and support them for the baling and storing of straw.</p> <p>Assess straw quality and match produce to the right end-user.</p> <p>Transport straw from farmer to end-user.</p> <p>Explore new end-markets.</p>	<p>Value added proposition, e.g. economic, technical, social and /or environmental value of product or service</p> <p>Mass customisation: Ability to match straw with diverse resource characteristics to the right end-users depending on the quality requirements for their application (energy, animal bedding, etc.) – combining economies of scale with specific customer needs.</p> <p>Environmental benefit: Certainty that food production and renewable energy are balanced, preventing a supply conflict.</p> <p>Technical value: Maintaining the highest utility of straw by diversified end-markets.</p>	<p>Types of customer relationships</p> <p>Combining automated services with personal assistance from specialised staff.</p>	<p>Customer segments</p> <p>Multiple diversified customer groups:</p> <ol style="list-style-type: none"> 1) Renewable energy sector (power stations) 2) Livestock farmers 3) Composting facilities 4) Sewage treatment facilities
<p>Physical, financial, human and/or intellectual assets needed to create, distribute, sell and recover values</p> <p>Database of suppliers, straw baling contractors, power stations and livestock farmers</p> <p>Access to finance within business group to support farmers investing in straw storage facilities</p> <p>Transport and bale handling fleet</p> <p>Access to digital platform to match supply and demand</p> <p>AF brand offering security to partners</p>				

Types of costs to create, distribute, sell, and recover value (e.g., financial, social and environmental costs)

Value-driven because of offering customised service, and cost-driven because striving for economies of scale, minimising costs, and maximising automation.

Fixed costs: All usual business costs such as salaries, depreciation assets, etc.; Development of automated online services;

Variable costs: Payments to farmers for straw and building up of stocks; Transport fuel; Fleet maintenance; Innovation budget; Interest on loans for storage facilities; Risk management budget; Tax; Levies to AF.

Types of benefits for your business and the mechanisms required to capture them

Mainly the transaction revenues from straw sales.

Additional small amounts of financial income from for example the disposal of assets.

Costs and benefits created and shared in the wider circular supply chain

The straw is used within relatively short supply chains, generally involving three steps – production, trade and usage, before the remaining resources can return to land as soil conditioner. AF Biomass is strengthening the supply chain network by exploring new end-markets such as for linseed straw in the paper industry in Spain and with a new straw pelleting plant in the UK. This diversification should provide greater overall system stability, benefiting all supply chain partners involved.

Context: Wider costs of- and benefits to the economy, society and/or environment

AF Biomass has benefited from the growing renewable energy sector and the increasing demand for straw for power generation facilities. This company is in a position to directly balance demand for straw for higher-value applications, such as livestock farming, with lower-value applications such as energy recovery. When done in such responsible manner, the growing use of biomass for energy can positively contribute to energy security, the low carbon economy and 'green' jobs.