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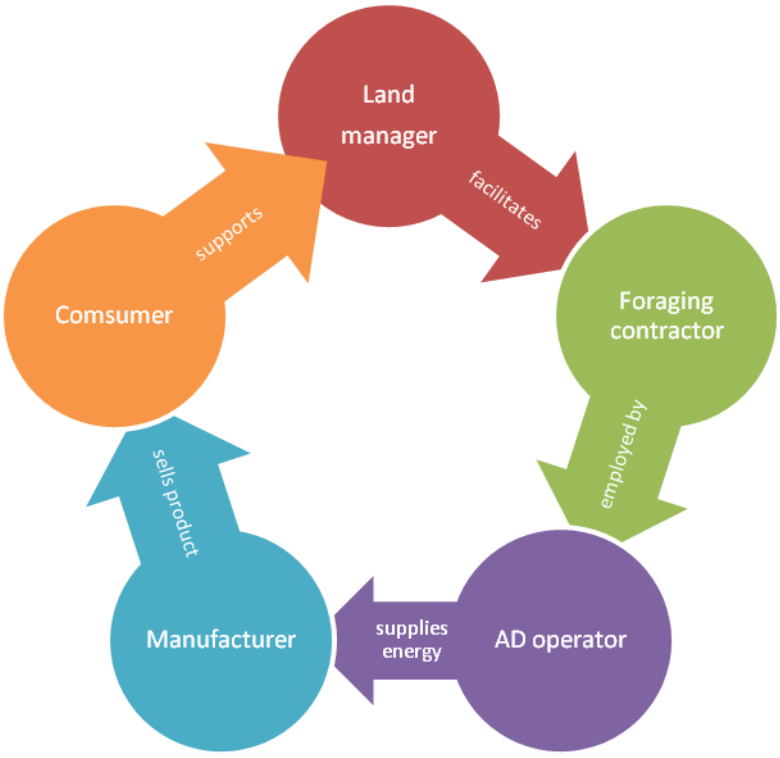
Preliminary Assessment of Community Model Approach

Somerset Biomass Options Project

Ideas for a working model for utilisation of harvested common reed and soft rush on the Somerset Levels. Clearing of excess rush and reed from the land to achieve more effective and efficient management of reed areas and limiting rush tussocks to < 10% ground cover on wet grassland areas. This model looks to utilise medium scale anaerobic digestion (AD) for the conversion of wet biomass with the surplus heat being used to further dry material such as winter reed which could then be briquetted.

This first model illustrated below, shows the circular relationship of the potential stakeholders. In this model the anaerobic digester (AD) operator is the king pin new stakeholder.



The circle shows how mutual support flows, but not how I see the contracts working as I think control needs to rest with the AD operator.

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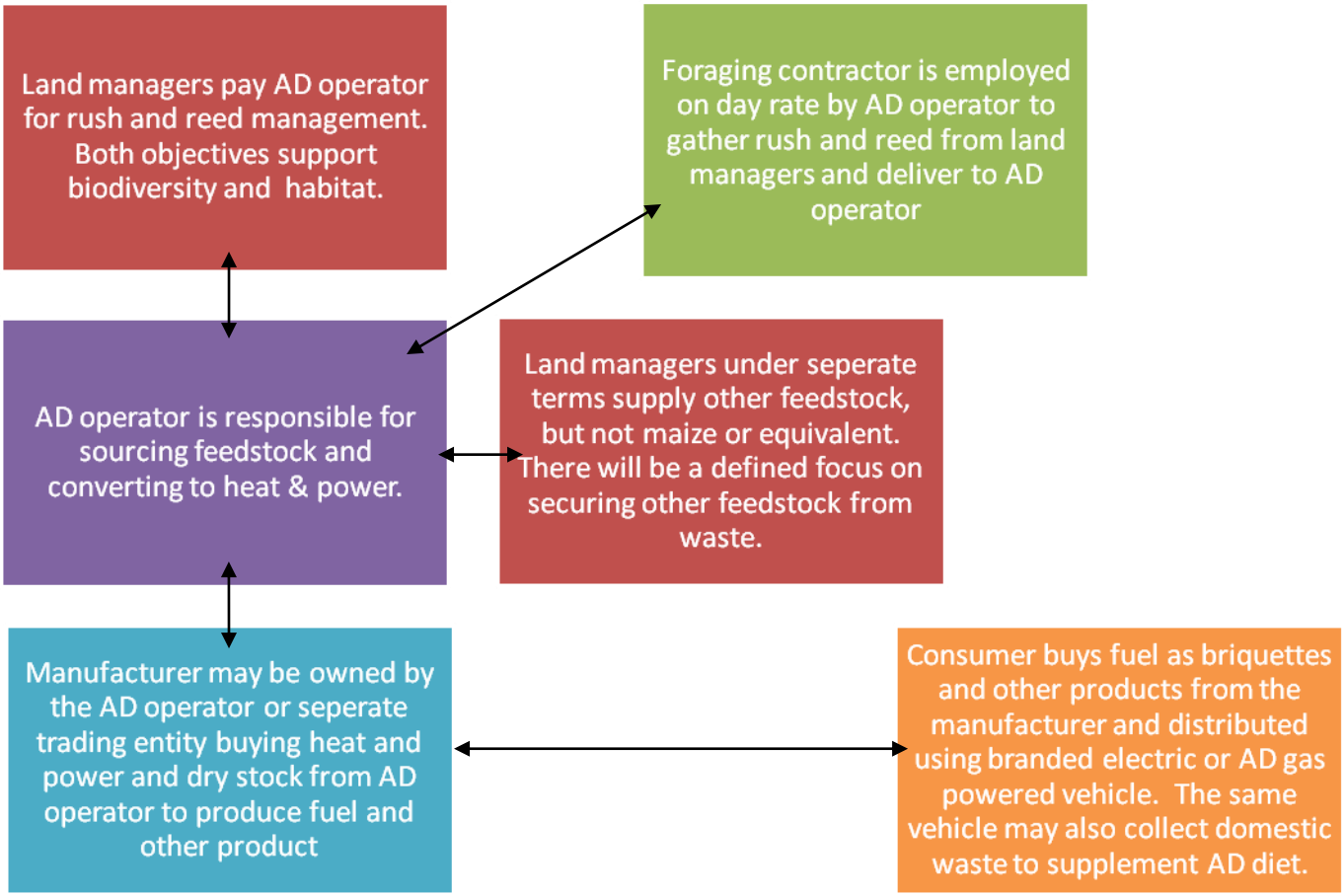
The black arrows in the next diagram show how contracts might operate between stakeholders. The contracts would need to be as long term as possible, mutually supportive and allow for strict minimum obligations, perhaps with profit share if higher outputs boost revenue.



This does not show who owns what, only the critical position of the AD operator. RSPB and other large land owners may have a stake as land manager, AD operator, manufacturer and consumer, but there are other land managers and consumers and the foraging contractor may be more cost effectively distinct. The AD operator and manufacturer will have to share a site with sufficient space for development.

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During our discussions we talked about ownership scenarios and the benefits of ownership, for example for the RSPB ownership could marginally broaden membership and increase public engagement. The cost could be funded through the sale of bonds to the RSPB membership and wider national public. This would allow work to proceed under control without impacting on core RSPB work. For other land owners ownership could offer different benefits, such as diversification opportunities, but still inline with key objectives. I suggested that the fuel briquette manufacture might be funded locally by a new community benefit society (CBS) as broad local participation would improve prospects of fuel sales and create new links between the community and both local organisations and local land owners. This tends to mean the AD plant and manufacturing plant are separately owned, but not necessarily so as the new Community benefit Society (CBS) could own a license to operate from the AD site. Linking good local use of the heat and electricity generated to sustainable local production is critical I think, especially if we are then able to use dry reed, but there is work to do before deciding quite how. Surplus electricity will be sold to the grid. The manufacturer could do other things and there may be more than one CBS owned producer on site, one growing fruit in poly tunnels for example.

It would be worth considering whether setting up a separate trading entity to operate commercial operations would be beneficial. This might then be a locally administered Community Interest Company (CIC) of CBS underwritten by the land owner.

Removing reed and rush in a properly managed way could be a service to everyone, but particularly to the land owner who will save cost and achieve environmental objectives; so the land owner should be prepared to pay for that service a sum at or marginally below what that management currently costs. The landowner may be tempted to set aside more land for ecological objectives. It may be possible that the AD operator will be able to subsidise the cost of harvesting; perhaps to the extent that they receive income along with feedstock from some land owners. The land owners would be charged a rate per tonne for removed material and the harvesting contractor will be paid a rate per day for its removal and delivery to the AD site, so the process will have to be carefully managed and work done to see what effect this has on the overall viability of the AD plant. The landowners are paying for a service, and whoever owns the AD plant they, as landowners, could pay the same rate/tonne as everyone else as profit would return to the organisation/landowner later. Linking harvesting directly to best environmental management practice will directly serve conservation objectives in the wider area beyond the nature reserves and may justify proceeding with objectives even if borderline in revenue terms or perceived as costly in management time. Securing feedstock would be part of the job of the full time AD manager.

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Harvesting would normally be most cost effectively achieved by contractors, but terms would have to be reviewed and as the plant is unusual terms might be expensive and prompt one of the landowners or other stakeholders to speculate with local ownership of plant.

A single landowner may be uncomfortable with the role of AD operator in the medium and long term, and that capacity may be sold or transferred to members by converting bonds to shares when the model is proven and trading. The same capital might then be re-employed in the next wetland area and the model repeated.

Perhaps the trading AD plant could be sold to the local briquette manufacturing CBS, simplifying management after development stage.

Preliminary conclusion

There is an obvious benefit for all stakeholders in the development of a model for sustainable conservation biomass utilisation linked to power and fuel production. Work appears to be advanced in terms of AD viability, but that might be improved by charging landowners for harvesting and setting up local cost effective distribution of fuel briquettes. Much could be made of local manufacture in public relations terms with general local engagement and use of a battery powered delivery vehicle – a refurbished and colourfully endorsed milk float perhaps?

Market testing within RSPB, the local community and other stakeholders may be the next step, but we should also establish that briquettes can be sold as a cost effective alternative to logs.

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