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**PROCESSING OF ANIMAL BY-PRODUCTS TO PRODUCE
TALLOW AND MEAT AND BONE MEAL BY HEATING AND
CENTRIFUGAL EXTRACTION**

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ENERGY CONSUMPTION AND EFFICIENCY

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1. The Installation activity together with the Directly Associated Activity combine as a highly efficient process with minimal use of or need for external energy. The plant is designed to process the raw material of animal carcasses and animal by-products to extract the energy value in the material, in the form of both tallow and meat and bone meal. The tallow element of the extracted energy is then used on-site to generate electricity for use by the plant, the adjoining knackery and also to export to the grid, while the hot gases from the electricity generating set are passed to a heat exchange boiler to raise steam for use in the processing line. Except at initial start-up of the system as a whole, almost no external energy input is required; in effect the raw material is both the product source and energy source.
2. Energy for the processing of the raw material, saturated steam and electricity, is derived from the electricity generating set. The generating set is fitted with a small fuel tank, and use B100 biodiesel for operation on start-up until the processing of the initial batch of raw material produces tallow to fuel the generating set. Thereafter the generating set will use tallow from the process via a storage tank.
3. The generating set will consume approximately 6.75GJ of energy per hour (1.875MWh), drawn from the processing plant. External energy requirement is expected to be minimal, assessed at no more than 2.2GJ (0.6MW) per year. The generating set will produce 800KW/hr energy in the form of electricity of which 100KW is expected to be used by the Installation, 150KW in the adjoining knackery site and between 150KW and 800KW exported to the grid, depending upon demand from the process and adjoining knackery site.
4. Hot gases from the generating set will be drawn off and passed via a heat exchange boiler when the processing plant is in operation. Hot exhaust gases are drawn off to the exchange heat boiler, with approximately half of the heat extracted. This system qualifies as a “good quality” combined heat and power system that contributes to the calculation of the Renewable Obligation

Certificate multiplier for the amount paid for the renewable energy produced from the biomass fuel of tallow.

5. There is no separate climate levy agreement in place for this new Installation.