

## Case study: Harrison Spinks

Harrison Spinks is a family-run business that has been producing luxurious mattresses since 1840. The mattresses are constructed with natural fibres such as hemp and flax which are all grown on their own 160 hectare farm and under contract by several other local farmers within 25 miles of their factory. Hemp fibre is extremely resilient and durable with soft and springy properties. This combined with the ability to regulate the body's temperature make it a perfect material for mattresses. They are the only bed manufacturer in the world that produce their own materials from their own land and this ensures that the fibres meet the highest quality requirements as well as having an ultra-low transport carbon footprint.

The hemp production process is highly sustainable and forms a closed loop. The harvested crop is processed into three different products: fibres for mattress production; shiv (the woody inner layer of the plant) for animal bedding; and dust which is turned into briquettes which are burnt to provide heating to the associated Manor House and holiday lets. Any residual material is returned to the land as a fertiliser.



The company currently grows 81 hectares of hemp. The crop is sown in May and harvested in August when it has grown to a height of 3.5 metres. The crop is very low input. Although it does require fertiliser to achieve the high yields of over 6 tonnes per hectare it does not require any herbicide or pesticide inputs.

The crop is harvested with a mower conditioner and is allowed to ret in the field (a process where wet and dry periods help break down the strong fibrous nature of the plant) before being baled. The moisture content when baled is around 17% so no forced drying is required.

The briquettes are produced from the material left over once the fibre and shiv are extracted. This is done with a RUF 400 briquetting press which has a maximum throughput of 400 kg/hour. At peak production the machine can produce seven briquettes per minute. The briquettes measure 15 cm x 7 cm x 6.5 cm and weigh 650 grams each. They have a bulk density of 845 kg/m<sup>3</sup> when packed on a pallet.



The briquettes are used in a 205 kW Granpal biomass boiler which provides heat to several buildings via underground piping. The complex is expected to use 125 tonnes of briquettes per year. Harrison Spinks are currently applying to receive payments from the Renewable Heat Incentive (RHI) scheme for the renewable heat produced from their boiler. One of the requirements of the RHI is to provide evidence that the fuel is derived from sustainable sources and

meets lifecycle greenhouse gas emissions 60% lower than the EU fossil fuel average.

### **How SFR helps**

The Sustainable Fuel Register (SFR) will simplify the compliance process for Harrison Spinks and other users of non-wood fuels. SFR enables clients to register fuel lots and once these are approved the client will be provided with an SFR Authorised Number that can be used in ongoing RHI periodic reporting. Going forward they will simply have to provide SFR with the details of the amount of fuel used in the previous quarter and we'll calculate the lifecycle greenhouse gas emissions (GHG) for that quarter. When they submit their quarterly meter readings to Ofgem they can add their SFR Authorised Number and they will automatically receive the GHG emissions for that quarter from the SFR system. As Harrison Spinks are also sourcing fuel from other growers, they also need to register their hemp on the SFR.

By subscribing to SFR Harrison Spinks will be certain that their system will remain compliant with the sustainability criteria whilst easing the burden of their ongoing obligations. In addition, the lifecycle GHG figures obtained will provide even greater exposure to the sustainability credentials of their hemp production and processing cycle and provide additional green marketing potential.

For more information see:

[www.harrisonspinks.co.uk](http://www.harrisonspinks.co.uk)

[www.harrisonspinksfarm.co.uk/](http://www.harrisonspinksfarm.co.uk/)

[www.briquetting.co.uk/pdfs/Woodbiomass.pdf](http://www.briquetting.co.uk/pdfs/Woodbiomass.pdf)