

A large industrial boiler system with a bright orange and black color scheme. The boiler is a large rectangular unit with various pipes, valves, and a control panel. It is situated in a facility with a wooden pallet stack in the foreground. The background shows a window and some structural elements of the building.

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THE BOILER OF CHOICE FOR THE
WASTE RECYCLING INDUSTRY

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Burning Waste Wood in Biomass Boilers

In 2017 more and more biomass boiler producers are looking at the waste recycling sector. Installing a WID compliant waste wood biomass boiler is still a very attractive proposition and it attracts RHI (Renewable Heat Incentive) tariffs for 20 years, a guaranteed income from the UK Government.

The UK government (BEIS) has renewed its commitment to RHI by setting out the tariffs and budgetary process to 2021. This gives waste recycling companies a tremendous opportunity to avail of this first-in-the-world type scheme. By burning waste wood (A, B or C grade), the boiler owner will earn an income stream which is index-linked each year for 20 years. The business must use the heat produced from the boiler for legitimate purposes, e.g. for space heating, process heating or drying waste. We have enabled such independent waste management companies to safely and legally burn waste wood grades A, B and C with our fully permitted IED (WID) compliant waste wood biomass boiler systems; cutting all costs normally involved in the disposal of waste wood and instead turning it into a profitable fuel via Government-backed incentives.

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Our IED (WID) compliant Waste to Energy systems will enable you to burn Grades A, B and C waste wood in a safe and legal manner.

Types of Waste Wood

Waste wood is categorised into the following 4 Grades – A, B, C and D. Wood such as off cuts, wood shavings, saw dust and wood from demolition is considered waste wood. Waste wood can be “treated” or “untreated”, e.g. pallets that have preservatives or paint is “treated” waste wood. Most Biomass Boilers can burn Grades A and B wood legally, but very few can burn Grade C. **This is where WOODCO can help.**



The Categories of Waste Wood



Grade A – “Clean” recycled wood

This is “untreated” waste wood, typically from packaging or off cuts from joinery works and roof trusses.



Grade B – Industrial feedstock

Waste wood from demolition and joinery works, e.g. furniture manufactures where the wood has some degree of contamination. Grade B waste can include some clean Grade A waste.

Grade C – Includes Grade A & B wood plus material coated and treated with preservatives

This grade of wood includes both A & B and has a high proportion of panel products, e.g. MDF (Medium density fibre board), chip board, and ply wood. This waste wood would typically include glue and paint. This wood can only be burned on WOODCO/Justsen WID (IED) proprietary boiler designs.

Grade D – Hazardous waste

This wood can include all grades of wood A, B and C, and wood which has had copper, chrome, arsenic (CCA) treatment or creosote applied. It can only be disposed of by incineration or hazardous waste landfill.

The Publicly Available Specification 111 in consultation with the Wood Recycling Industry (PAS 111:2012).

Type of boiler required for each type of Waste Wood

Grade	Plant Type
A	Industrial Biomass Boiler
B	Industrial Biomass Boiler/ IED (WID) Compliant
C	IED (WID) Compliant Boiler
D	Hazardous Waste Incinerator

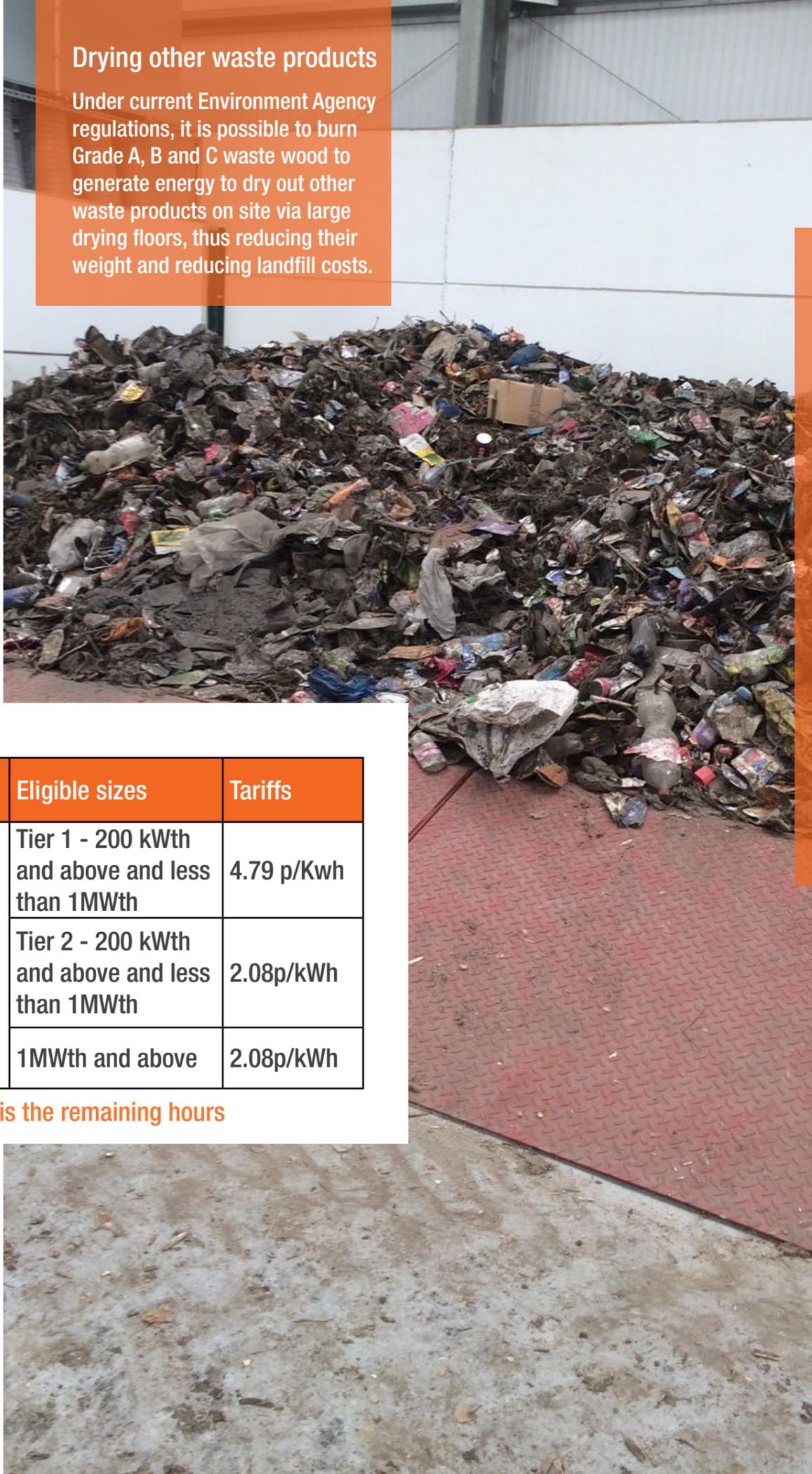
With a WID compliant biomass boiler system, supplied by WOODCO, waste management companies will receive Renewable Heat Incentive (RHI) payments each year for 20 years, reduce heating bills and waste removal costs, and improve their carbon footprint.

RHI

Funded by the Government and regulated by Ofgem, the RHI scheme pays for renewable heat produced, giving businesses an income for every kilowatt hour of heat generated. Safely and legally burn waste wood grades A, B and C with IED (WID) compliant waste wood biomass boiler systems; cutting waste wood disposal costs and instead turning it into a profitable fuel via these Government-backed incentives.

Drying other waste products

Under current Environment Agency regulations, it is possible to burn Grade A, B and C waste wood to generate energy to dry out other waste products on site via large drying floors, thus reducing their weight and reducing landfill costs.



Benefits

By installing one of our WID compliant biomass boiler systems, you can:

- See a quick return on investment. The payback time on our boilers typically lies within 2 to 3 years, after which time they become a valuable income source RHI, which pays for a total of 20 years.
- Reduce your waste to landfill and therefore lower waste management costs and turn your waste into a commodity.
- Reduce the weight of your household waste by 25% using a drying floor powered by your boiler.
- Our boilers are fully permitted IED (WID) compliant, legal and safe to operate systems.
- Reduce carbon footprint and energy bills by reducing your reliance on traditional, less eco-friendly energy sources and reducing CO2 emissions.
- Produce your own clean energy from waste.

Tariff Name (Effective 1 July 2017)	Eligible Technology	Eligible sizes	Tariffs
Medium Commercial Biomass	Solid biomass including solid biomass contained in waste	Tier 1 - 200 kWth and above and less than 1MWth	4.79 p/Kwh
Medium Commercial Biomass		Tier 2 - 200 kWth and above and less than 1MWth	2.08p/kWh
Large Commercial Biomass		1MWth and above	2.08p/kWh

Tier 1 is first 1,314 hours and Tier 2 is the remaining hours

BEIS has proposals to changing the tariffs and tier levels later in 2017. The proposal is to increase Tier 1 from 1,314 hours to 3,066 hours and to decrease Tier 1 tariff from 4.74p/kW to 2.90p/kWh.



Example

A waste recycling company in England, dealing with 7,500 tonnes of Grade C waste wood per annum. The company has decided to install a 3MW Justsen WID boiler supplied by WOODCO. The boiler will run for 8,000 hours p.a. The company will use the heat generated to dry waste before it is sent to landfill.

Assumptions

Volume of Grade C waste wood handled by company	7,500 tonnes
Boiler Running hours p.a.	8,000 hours

Wood Saving

Gate fee	£20/tonne
Transport	£20/tonne

RHI Tariffs

Tier 1 - 3,066 hours	2.91p/kWh
Tier 2 - 4,934 hours	2.05p/kWh

£ `000s

CAPEX

For 3MW Boiler System	1,741
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Savings/Income

Waste Disposal saving	300
RHI Income	571

Maintenance & annual Costs

(70)

Nett. Annual Benefit

801

Payback time

2.1 years

Additionally...

If the client can use the heat to dry waste (i.e. reduce moisture) that would otherwise be sent to landfill, e.g from 40% moisture to 20%. Landfill costs are £90/tonne.

WOODCO's Justsen range of boilers have a number of unique characteristics that set them apart from the rest.

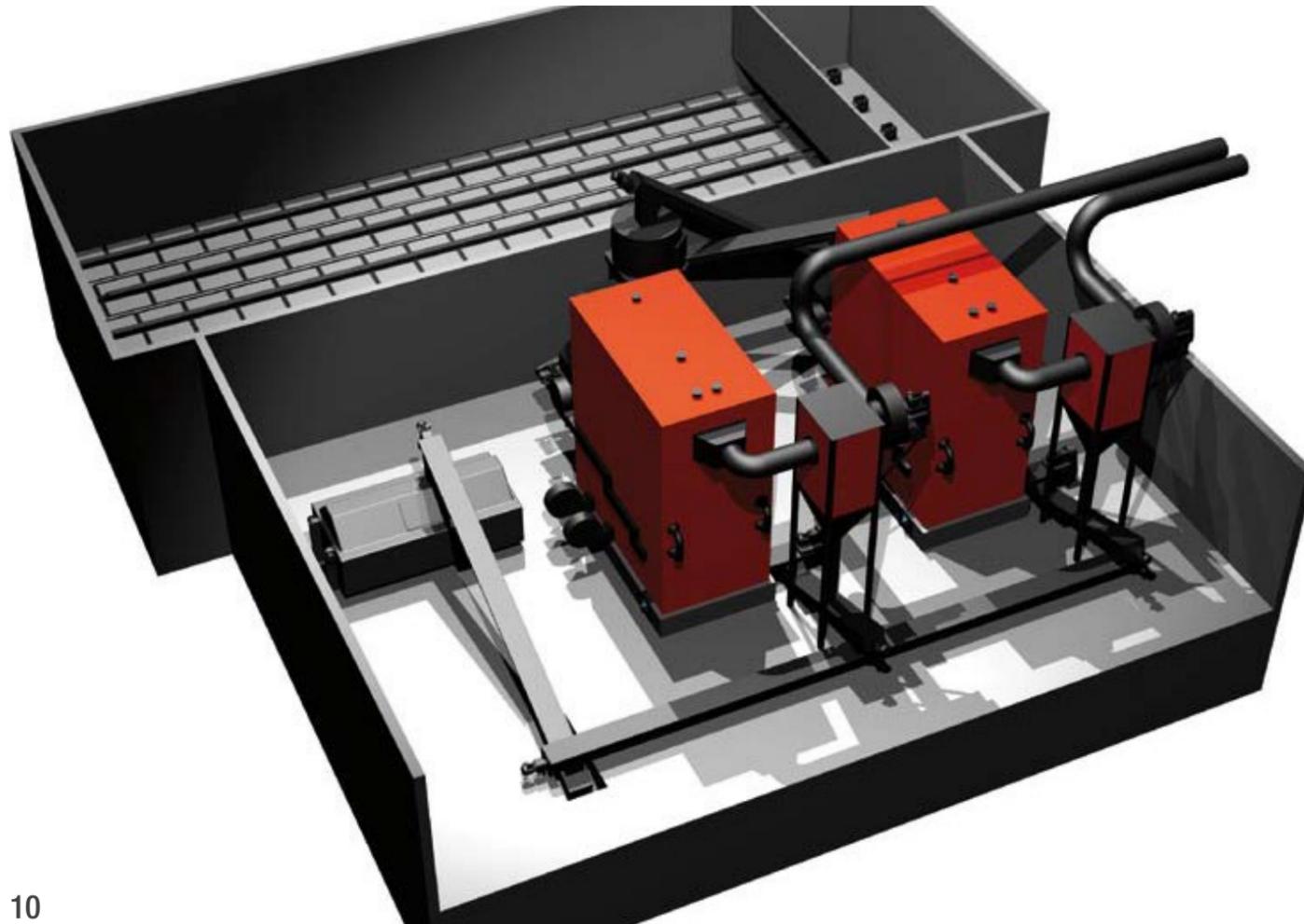
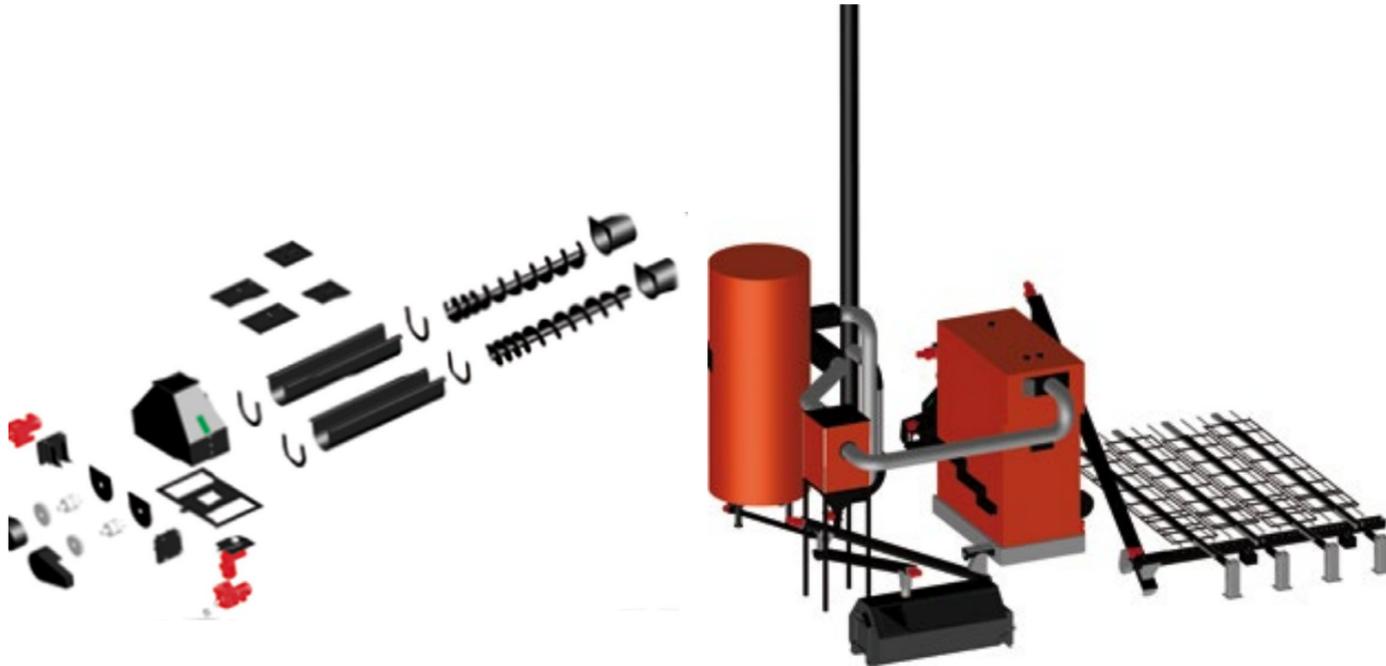
More about WOODCO's Boilers – Technical Specification



- The ARGUS Flex range can burn both Grade A and B wood and is fully compliant with RHI eligibility requirements
- Justsen WID compliant boilers can burn Grade C waste wood safely and legally
- Unique combustion controls (Urea/Ad Blue)
- Bespoke filtration and abatement technology
- Weishaupt pre-heat oil burner
- All boilers are equipped with proprietary water-cooled moving grates, which allow for greater flexibility in fuel moisture and prevents slag formation associated with other boilers
- Customised fuel deliver handling solution, e.g. walking floors, hook bins or screw conveyors

WOODCO and Justsen have boiler reference sites worldwide.

Typical plant room layout, 2x3MW boilers



About WOODCO

We are “The Biomass Boiler People”. We design, manufacture and support a wide range of biomass boilers on the market, including commercial, condensing, MicroCHP and Waste to Energy Biomass boilers.

About Justsen

Justsen Energiteknik A/S is a highly specialized world leader in heating technology and maximum energy utilization from biomass, with particular expertise in boilers of output > 1MW. Their proprietary water-cooled moving grate technology gives Justsen boilers great flexibility in the types of fuel that is used in the boilers.

Together, WOODCO and Justsen have developed a WID compliant Biomass Boiler system, to generate heat from all types of biofuel which otherwise would go to waste.

What Next?

Contact us at info@woodco-energy.com to enquire about our range of WID compliant boilers to turn waste into heat. Of course, we do not expect you to make a purchase until you have seen one of our boilers in action and you are fully informed on the product, so make sure to contact us to make an appointment for us to bring you to a site where a boiler has already been installed.



Head Office: Donaskeigh, Co.Tipperary, Ireland
Telephone: (IE) +353 (0) 62 74007

UK Office: Cinnamon House, Cinnamon Park, Crab
Lane, Fearnhead, Warrington, WA2 0XP
Telephone: (UK) +44 161 261 7497

Email: info@woodco-energy.com