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Biomass and bioenergy

'Green' biomass boilers may waste billions in public money

Over £10bn could be paid in incentives for non-domestic biomass boilers despite a government study showing they are less efficient than thought and won't help the UK meet clean energy targets

Arthur Neslen, *Brussels*

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The UK has pushed biomass boilers as a technology to help meet an EU target of getting at least 15% of its energy from renewable sources by 2020. Photograph: Paul Glendell / Alamy/Alamy

Billions of pounds of public money is to be spent supporting 'green' boilers, despite evidence from the government's own experts and industry that they will do little to help the UK meet its clean energy targets.

A study by the Department of Energy and Climate Change found that biomass boilers in the non-domestic sector were around 10-20% less efficient than expected. Those boilers account for 90% of payments under the Renewable Heat Incentive (RHI), the government's flagship scheme to encourage a shift to low carbon heating.

The UK has pushed biomass boilers as a technology to help meet an EU target of getting at least 15% of its energy from renewable sources by 2020, incentivising businesses and individuals to switch to them in return for payments under the RHI.

But "under-performance appears widespread in the UK biomass heat sector," the paper admits, adding that the efficiency shortfall "also means emissions will be higher than laboratory test results suggest".

Just £128.9m had been paid through the RHI as of

November 2014, but the final cost in public money could be over £10bn because those installing biomass boilers under the scheme receive annual payments for several years, Decc's own impact assessment shows. So far, **most RHI payments**

appear to have been banked by wealthy landowners.



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To be promoted as a renewable source of energy, the biomass boilers need to have a 85% efficiency rate for converting fuel to energy – but the Decc study reveals the average efficiency rate of installed boilers was 66.5%.

The target rate may be unreachable, as the report found that the biomass heating systems surveyed “can only achieve levels around 76% (on average)”.

Yet no field studies of biomass boiler efficiency were carried out before the RHI's introduction because Decc viewed biomass as an established and internationally successful technology.

“It is concerning that government has belatedly recognised that many biomass installations will seemingly not contribute to its renewable energy targets despite billions of pounds of public money being committed via the RHI,” said Simon Lomax, managing director of Kensa Group, a manufacturer of heat pump, a rival low carbon heating technology.

“Policy flaws have resulted in absurdly generous tariffs for biomass installations, attracting inexperienced entrants to an immature market which does not benefit from any effective regulation,” he told the Guardian.

The sole regulator for biomass boilers is the Microgeneration Certification Scheme but it only covers smaller models, below 45KW in capacity. “In effect this means there are no quality standards for almost 90% of all schemes under the RHI,” Decc's paper says.

“The absence of any quality standard above 45kW, and of data collection and sharing is remarkable, and differs from most other countries that have seen a biomass heat sector develop successfully,” it adds.

A Decc spokeswoman said that the study's sample had been small and "more work now needs to be done to fully assess the performance of biomass boiler systems and installer competency".

"We will be carrying out a detailed monitoring and evaluation programme for biomass heat systems and recently issued a tender to establish the methodology of how this could be done," she added. "This will identify whether further action is needed to improve efficiencies and how that can best be achieved."

Much of the research for the design of the RHI was sub-contracted out to consultancies such as AEA and NERA and the Guardian understands that neither the figures they produced nor evidence of the renewability of biomass boilers, were scrutinised in detail by the Decc hierarchy.

"Among scientists and engineers there was huge concern but policymakers just didn't understand – or didn't want to understand it," a source involved in the RHI design process told the Guardian. "Decc should have required us to provide suitable evidence to prove that non-domestic biomass boilers eligible for RHI funding were a renewable technology, but they didn't bother."

Decc's own **Future Of Heating publication** shows hardly any biomass by 2030, with super-efficient heat pumps, currently a little more expensive than biomass boilers, becoming the dominant heating technology by mid-century.

Heat pumps are an electrified heat circulation system seen as state-of-the-art. But as a way of avoiding punitive fines from Brussels, an unspoken consensus emerged in Whitehall that biomass boilers offered the cheapest short-term way of meeting the 2020 renewable energy targets.

The former climate change minister Greg Barker once said that, while a call by the UK's statutory climate advisers for 6.8m heat pumps by 2030 might seem a stretch, he expected them "to play a major role in achieving heat's contribution to the 2020 renewable energy target".

But according to one of those involved in the design of the RHI policy, "the Treasury had said we had to do the 2020 targets as cheaply and quickly as possible, at the best value for UK plc, and never mind if it's of no use after 2020".

A Decc spokesperson told the Guardian that the RHI's "primary objective" was to contribute to the UK's 2020 renewable targets in a cost-effective and environmentally beneficial way.

"Biomass has an important part to play in our transition to a low carbon

economy,” she said. “We want all renewable heating systems installed in the UK – including biomass systems – to operate efficiently and effectively for consumers.”

The heat pump industry argues that the relatively higher tariffs for biomass introduced in the RHI caused the heat pump market share to collapse by more than half.

“It is frustrating that many of these [biomass] installations will seemingly not contribute to the government’s renewable energy targets, and scandalous that part of the shortfall is the direct consequence of Decc allowing installers to ‘game’ the RHI to inflate rewards,” Lomax said.

The RHI tariffs are based on amounts of heat generated, rather than carbon emissions saved.

As a result, the Decc report found that the incentive was encouraging schemes to install inappropriate biomass boilers with a capacity 1kW below the 200kW and 1000kW thresholds, to secure significantly higher rates of return, with the heating balance made up by fossil fuel boilers.

“Where boilers are oversized in particular, the implications are that they will operate less efficiently and also give rise to higher emissions,” the study says. “They may also experience increased maintenance burdens and shortened life expectancy.”

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And air to air heat pumps, perhaps the most efficient heating invented for British climate do not qualify as they can usually also cool. Pity models with cooling disabled cannot be sold.

Plus we have "forgotten" to update building regulations to prevent cheap to install and expensive to run resistive electrical heating in new flats.

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I have woken up in a world of such governmental incompetence that „that I am completely lost for words.

The article actually implies criminal intent imo

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Name a green policy that hasn't wasted cash... conveniently into the hands of the rich.

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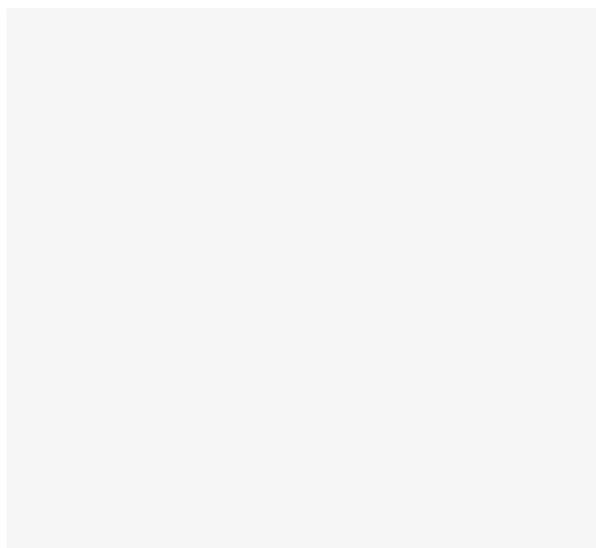
10 

The wealthy (individuals and corporations) lie in wait for any policy - green or otherwise that will line their pockets with public money. This is the 'legal' state handout to the rich that dwarfs any benefit entitlement that is grudgingly made difficult to get by the poor. The Renewable Heat Incentive RHI was always a closed shop, only available to those of means and only available from a minute cadre of accredited installers who took established European technology and sold it at what price they liked at great profit as the public where eventually paying for it. This is the basis of the criminality that rots our democracy but does produce some grateful Tory donors.

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