

Renewable Heat Incentive for biomass (wood fuelled) heating

A Summary of the RHI terms as published by DECC on 10/03/2011

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Planned RHI Introduction Schedule

Phase 1 (July 2011): RHI payments for non-domestic biomass heating installations
Renewable Heat Premium Payments for domestic installations

Phase 2 (Oct 2012): Domestic RHI to be launched for biomass boilers (see below)

RHI parliamentary approval is planned for mid July 2011 for an RHI to cover England, Scotland and Wales and is subject to state aid clearance.

Non-domestic Biomass Boilers: Summary

Tariffs will be paid *to the owner of eligible non-domestic biomass installations* (including community heating schemes) that have been *commissioned* after 15th July 2009.

Tariff name	Eligible Technology	Eligible size kW nominal output thermal	Tariff rate* (pence/kWh)	Tariff duration (years)	Support Calculation
Small biomass	Solid biomass (includes: wood chip, wood pellet, wood logs)	Up to 199 kW	Tier 1: 7.9 Tier 2: 2.0	20	Metered Tier 1 applies annually up to tier break, tier 2 above the tier break. The tier break is 1,314hr x installed capacity (kW)
Medium Biomass		200 kW to 999 kW	Tier 1: 4.9 Tier 2: 2.0		
Large Biomass		1000 kW and above	2.7		Metering

* 2010 number, will be adjusted by RPI for July 2011 launch

Once an installation is accredited, the level of support is fixed and adjusted annually in line with inflation for that installation. The level of support for new entrants to the scheme will decrease over time (degression). Payments will be made quarterly to the owner.

Domestic Biomass Boilers: Summary

The **Renewable Heat Premium** payment details will be **published in May 2011**. **Domestic is defined as single heat source for single private residential dwelling**. Renewable Heat Premium (RHP) payments (approx £950/boiler installed) will be launched for individual domestic installations in July 2011.

If an installation is approved for RHP, it will be automatically be eligible for the RHI when that comes out. A reasonable level of insulation will be required (details - TBD). Eligible installations commissioned after 15th July 2009 will be able to receive the RHI when it is introduced.

A back-up or peak load fossil fuel boiler will not be permitted for domestic installations.

How is the Non-Domestic annual RHI Payment calculated ?

For a 150kW biomass boiler running at an annual load factor of 30%, the annual RHI payment received will be calculated as follows:

Actual peak load hours = **30%** x 8,760 hrs per year = 2,628 hours
 Total annual kWh of heat = 2,628hrs x **150 kW** = 394,200 kWhs
 Total Tier 1 kWhs = **1314hr** x 150kW = 197,100 kWhs
 Tier 1 annual RHI cash = 197,100 kWh x **7.9p/kWh** / 100 = £15,571
 Tier 2 annual RHI cash = (394,200 - 197,100) kWhs x **2.0p/kWh** / 100 = £3,942
Total annual RHI cash = £15,571 + £3,942 = £19,513
Average RHI payment = £19,513 x 100 / 394,200kWhs = 4.95 pence / kWh

The following table summaries this calculation and compares various boiler sizes and load factors. Note how the average RHI rate varies substantially with load factor (see examples at 150kW and 500kW).

Boiler rating (kW)	40	150	150	500	500	750	1200
Tier 1 rate	7.9	7.9	7.9	4.9	4.9	4.9	2.7
Tier 2 rate	2.0	2.0	2.0	2.0	2.0	2.0	N/A
Load factor actual	20%	15%	30%	15%	40%	40%	40%
Actual peak load hours	1752	1314	2628	1314	3504	3504	3504
Total annual kWh of heat	70,080	197,100	394,200	657,000	1,752,000	2,628,000	4,204,800
Tier 1 break (peak load hours)	1314	1314	1314	1314	1314	1314	N/A
Max kWhs at tier 1 rate	5 2,560	197,100	197,100	657,000	6 57,000	985,500	N/A
Tier 1 annual RHI cash	£4,152	£15,571	£15,571	£32,193	£32,193	£48,290	N/A
Tier 2 annual RHI cash	£350	£0	£3,942	£0	£17,520	£26,280	N/A
Total annual RHI payment	£4,503	£15,571	£19,513	£32,193	£49,713	£74,570	£109,325
Average RHI rate (p/kWh)	6.18	7.60	4.75	4.70	2.95	2.95	2.60

Non-Domestic Installations: Eligibility & Other Terms

- Eligible sectors include: private industrial and commercial, the public sector, not-forprofit organisations and communities.
- Installations must provide **useful heat** for space, water or process heating (includes heat for cooling via absorption chillers).
- The owner is the person with exclusive rights and liabilities for the installation (the legal aspects need careful consideration for any financing offering).
- **Installation capacity (kW)** is the total new installed peak biomass boiler heat output connected to a single distribution system (for multiple boilers).
- **Peak load and stand-by fossil fuel boilers will be permitted.**
- **Ongoing obligations:** Participants to provide evidence of regular maintenance, sign a detailed annual return and to permit inspections.
- **Installations of 45 kW** or less must be certified under the Microgeneration Certification Scheme (the installer and the product).
- An **approved heat meter** must be used to measure the heat (kWh) out of the biomass boiler(s) (Class 2 requirements as listed in Annex MI-004 of the EU measuring Instruments Directive (MID) 2004). The meter must be installed and calibrated / recalibrated according to manufacturers' instructions.
- Additional **Air Quality** limits will not be imposed in the first year. It is planned that emissions limits of 30 g/GJ for particulates and 150 g/GJ for NOX will be imposed in 2012, once the measurement and certification process has been defined.
- **Fuel sustainability reporting** will be mandatory for all plant of 1MW and over from July 2011. **Fuel sustainability criteria** are expected to be mandatory from 2013 onwards.

- **Overlap with Grants:** It will not be possible to receive the RHI if the installation has been partly funded by any public sector grants (national, regional, European). For installations prior to July 2011, grants must be paid back.
- **Replacement of biomass boilers** commissioned prior to 15th July 2009 is currently permissible, but this is not the intent of the scheme as these boilers may be relatively new, so this may be reviewed in future. We recommend careful consideration of detailed rules if planning to replace an existing biomass boiler.
- **Preliminary accreditation** will be permitted for larger schemes to give reassurance prior to commencing construction. **Final accreditation** will only be given following completion and this will be the date from which financial support is given.

Administration

- **Scheme administration will be by OFGEM** via on-line applications. Administration to include: applications, scheme accreditation, making RHI payments and ensuring compliance.
- Only installations **accredited by OFGEM** will be able to receive RHI payments.
- OFGEM will have a number of measures to tackle **non-compliance** including random inspections.
- **Enforcement** will be through compliance notices, payment withholding or reduction, exclusion of participants or more severe civil or criminal prosecution for wilful fraudulent activities.
- OFGEM will collect important data on each scheme.
- The RHI will be funded by central government funding.

Further Consultation or Actions Planned

- **Domestic Boilers:** Further detail to be announced in May 2011. Introduction of RHI planned in October 2012 alongside the Green Deal (insulation scheme).
- **Air Quality** limits and certification in 2012 (consultation planned in 2011).
- **Biomass sustainability criteria** from 2013 (consultation in 2012).
- A potential **uplift for community or district heating** will be considered for introduction in 2012 (subject to consultation).
- **Degression** (future reduction in tariffs for future installations) will be introduced in 2012. A consultation will be published on this prior to introduction.
- The **Draft Regulations** which will be laid before parliament are available on the DECC website now with consultation until mid April 2011.
- It is intended that the RHI will be open to new applications until at least 2020. **Scheduled Reviews** of the scheme will occur every 4 years starting in 2014 for implementation in April 2015. Early reviews have not been ruled out and will be consulted on at the same time as potential additions to them scheme in 2012