



# **Introduction to the Renewable Heat Incentive (RHI)**

**Ofgem E-Serve: develops and implements new environmental schemes that Government ask Ofgem to administer.**

RHI

Warm Home  
Discount

Renewables  
Obligation

FITs

CERT / CESP

Other?

## What is the RHI?

- A world-first financial incentive to promote the generation of renewable heat
- p/kWh subsidy for amount of heat generated and used for eligible purposes
- £860m for RHI over four years confirmed in CSR
  - Scheme funded through taxation, not a levy
  - Payments made quarterly over 20 year period on basis of metered heat generation (p/kWh)
- 2011: non-domestics only, with domestics included from 2012
- Estimated 1m participants by 2020
- Ofgem will administer the RHI on behalf of the Government

# Our Approach to Setting up and Operating the RHI

RHI Development Team – setup  
BA Team – IT setup

RHI Operational Team –  
ongoing admin.

- Design schemes to be run efficiently and effectively
- Evaluate cost/benefits of delivery options, including outsourcing where appropriate

## What is Ofgem's role?

DECC

- Develop overarching policy framework and supporting legislation
- Set tariffs for different technologies
- Specify detailed eligibility criteria and scheme rules in RHI Regulations

Ofgem

- Formally administer the scheme on behalf of Government and in line with the RHI Regulations
- Accredite installations to the scheme
- Assess Fuel Measurement and Sampling proposals
- Provide guidance and support to participants
- Receive, assess and process generation and FMS data
- Calculate and make payments to participants
- Ensure compliance with scheme rules
- Undertake fraud prevention and detection activities

## What challenges have we faced this year?

- World-first
- Timescales
- Scale – fraud risks, processing
- New (?) function for Ofgem: payments
- Eligible uses of heat
- Technical issues – equipment standards, metering,
- Discretion / interpretation of regulations

# **Ofgem's administration of the RHI: approach overview**

Lindsay Goater

# Presentation outline

1. Ofgem's role
2. The Operational Team
3. Timetable
4. Enquiry handling
5. Requirements for good applications
6. Processing targets



## 1. Ofgem's role

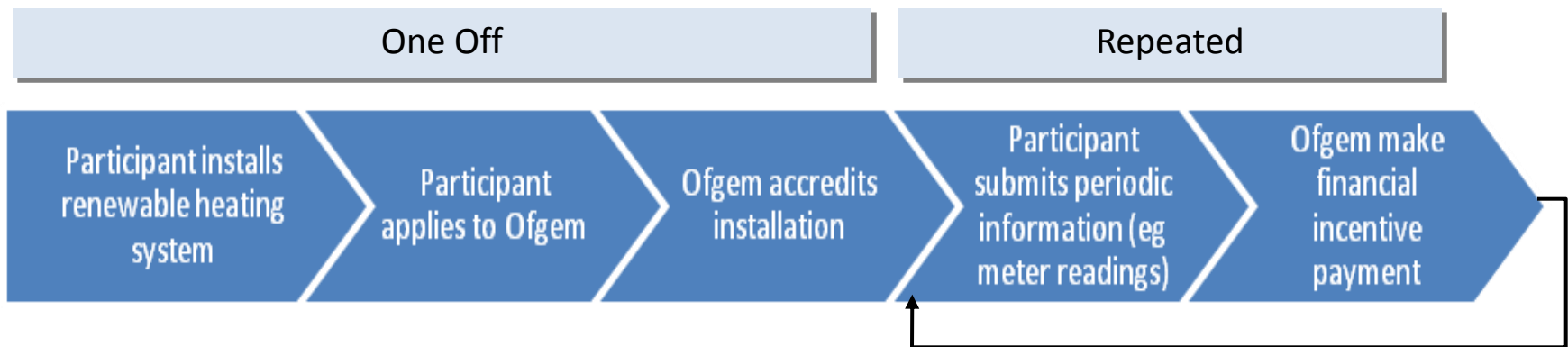
### Administration of the scheme

- Ofgem will administer the RHI for the Government. DECC is responsible for the policy and regulations underpinning the scheme
- Tariffs for payment are set by the Government, and depend on the technology used and size of the installation

## Overall approach

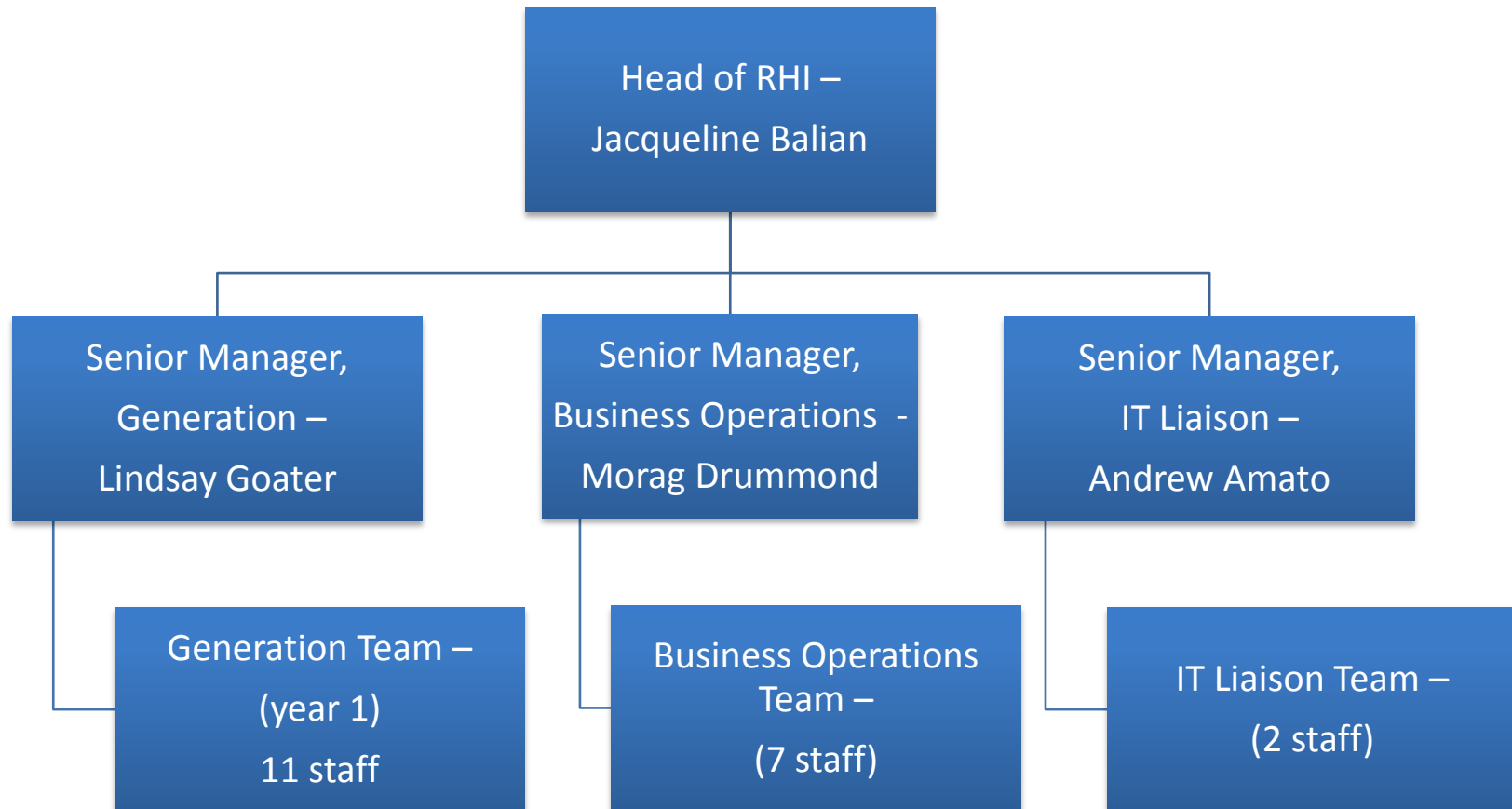
- Aiming to be as user-friendly as we can within confines of regulations
- Applications for RHI made online – as are periodic data submissions
- Ofgem approve accreditation if in line with eligibility criteria
- Payments made to participants quarterly
- Enquiry line / mailbox available for queries on scheme administration

## What does this mean in practice?



- Publish **guidance** and provide support for participants
- **Report** on the progress of the scheme
- **Audits** and site inspections – including participant documentation as requested
- Monitor and enforce **compliance** as required

## 2. The Operational Team



## A range of operational functions

- **Generation Team**
  - Customer service and enquiry handling
  - Operational delivery of high-volume electronic application process
  - Technical review - accreditation, amendments and periodic data
- **Business Operations Team**
  - Payment processing
  - Audits, compliance, fraud and enforcement
  - Grants

## A range of operational functions (cont'd)

- IT Liaison Team
  - IT system support
  - IT system development
- RHI Team - Generally
  - Communication with stakeholders
  - Reporting to stakeholders

### 3. Timetable

Stakeholder  
engagement activity

- Ongoing informal and formal discussions with stakeholders

Consult on guidance

- Guidance consultation published **24 June**, consultation period closes on **5 August**

Enquiry line

- Ofgem dedicated enquiry line launched **14 July**

Applications

- Open for applications from **30 September**

Payments

- First payments in **January 2012**

2012 legislation

- Expected this will include domestics
- Range of eligible technologies will be expanded

## 4. Enquiry handling

Here to help - but not definitive technical advice

- We are here to help, and have already handled over 150 enquiries, and we will provide advice on the eligibility of technologies and proposed installations where we can.
- However, if a technology is new, or a situation is complex, developers might find it helpful to seek their own legal and technical advice before approaching us. The only way we can give an absolute answer on complete eligibility is via an application for accreditation.



## Not definitive legal advice

- Information provided by the enquiry function and Guidance not intended to be comprehensive legal advice on how the Regulations should be interpreted or to itself have legal effect.
- At all times, the onus is on the owner of an installation or producer of biomethane to ensure that he or she is aware of the requirements of the Regulations.

## Response times

- For straightforward enquiries, we will aim to respond to you within 5 working days
- For more complicated enquiries, the team may need to seek more input, and so we will aim to respond to you within 10 working days
- When we can reply sooner, we will
- It may take us longer at very busy times

## **5. Requirements for a good application**

Read the comprehensive RHI Guidance in full

- Our approach to administering the scheme and information on areas of interpretation are provided
- Until 5 August (and preferably sooner) please comment so we can make this Guidance better

## Prepare accreditation information well

- The Guidance provides information on the types of information we will need applicants to provide
- Gather relevant information (eg technical specifications of meters and boilers, schematics, planning consents) – applicants will need to send these electronically
- If still unsure what is required from reading the final Guidance, contact the RHI enquiry line or mailbox

## Send a high quality application

- A primary cause of operational delays in assessing electronic applications is resolving issues with poor quality submissions
- Provide clear, concise and complete information
- Ensure electronic documents are high quality (eg easy to navigate, any scans are legible)

## Reply to us quickly

- There are bound to be questions that need addressing during the accreditation process
- We will get back to applicants as quickly as we can
- Should check have responded to help us provide an efficient service
- Ensure responses are full and considered

## Accreditation timeframe

- Review process has several steps
- For most applications, we will aim to reach a decision on accreditation within 20 working days (ie 4 weeks)
- For complicated applications, the team may need to seek more input, and so we will aim to reach a decision on accreditation within 30 working days (ie 6 weeks)
- This does not include any time where the accreditation application is with the applicant (eg when we are waiting for a response to a request for further information)
- It may take us longer at very busy times – **may** include October – and until we reach a “steady state”

## Periodic data review and payment timeframe

- Ofgem intends to be able to pay participants within 20 to 30 working days of receiving valid periodic data (ie 4-6 weeks)
- The end to end process has several steps, and we will refine the process over time
- This does not include any time where the periodic data submission is with the applicant (eg when we are waiting for a response to a request for further information)
- Part of uncertainty relates to the frequency of payment runs, which have a cost, and frequency is likely to increase alongside the number of participants (ie times likely to become less variable)



## Complex process – don't send all at once

- Ofgem is aware that there is potentially 2 years worth of applications waiting to be submitted
- Logically, we have a finite trained resource
- The first applications will be a learning experience for both sides
- Consider sending a sample of applications across installation types initially
- If you get one thing wrong, there will be potentially time-consuming exchanges on one issue across many applications

## IT system testing – stakeholder input

- The IT Liaison team wish to undertake some IT system usability testing in late August/early September in advance of “Go Live”
- Looking for some stakeholder volunteers to assist with this
- Timing is likely to be a few hours at most
- Please email [Andrew.Amato@ofgem.gov.uk](mailto:Andrew.Amato@ofgem.gov.uk)

# Questions?

<http://www.ofgem.gov.uk/e-serve/RHI>

[RHI.Enquiry@ofgem.gov.uk](mailto:RHI.Enquiry@ofgem.gov.uk)

0845 200 2122

[Lindsay.Goater@ofgem.gov.uk](mailto:Lindsay.Goater@ofgem.gov.uk)

# **RHI: Ofgem Draft Guidance**

Stakeholder Event, 26 July

Ofgem RHI Development Team:  
Ashley Malster - Head of RHI Design  
Ollie More – Bioenergy Manager  
Laura Missingham – Policy Development Manager

## Draft Guidance

- Published for consultation 24 June
- Consultation runs until 5<sup>th</sup> August
  
- Volume One - Eligibility and how to apply
- Volume Two - Ongoing obligations, payments  
*(plus draft Independent Metering Report)*

## Purpose

- Helps clarify how the scheme works
- Sets out our interpretation of regulations

*For guidance – not comprehensive legal advice*

complex, long-lasting scheme  
200+ pages, but...  
can't cover every eventuality  
will need to evolve over time

# **VOLUME ONE**

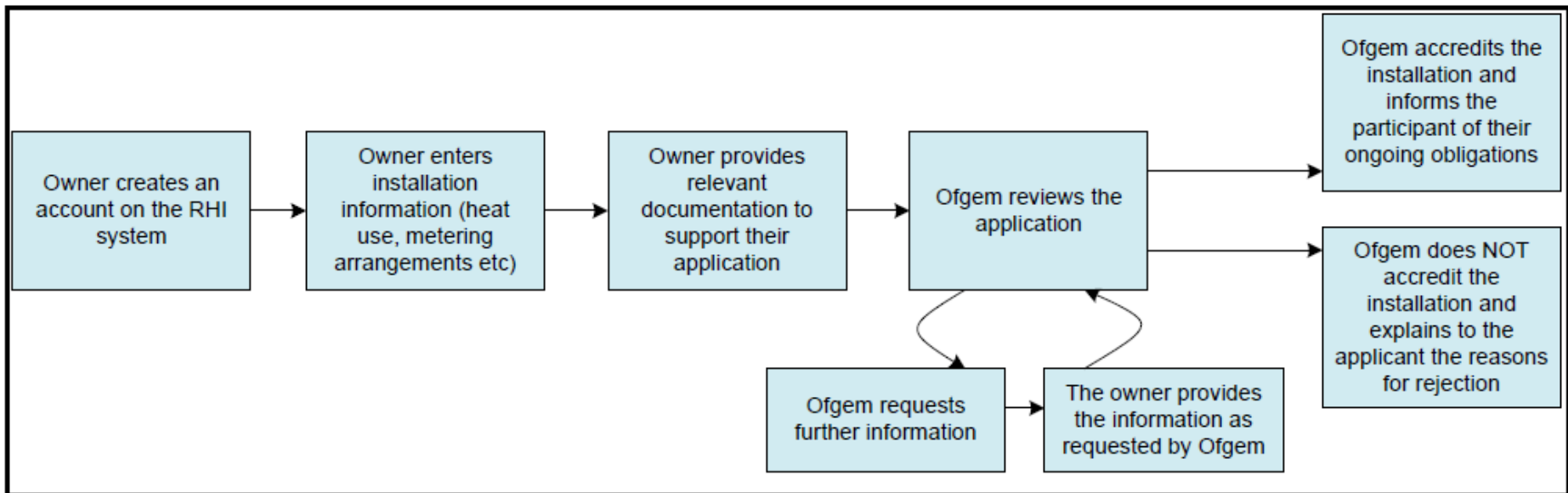
**ACCREDITATION**



# Accreditation

Key process to apply for scheme and determine eligibility

Online applications for majority



## Preliminary accreditation

- ‘In principle’ agreement for installation that hasn’t been built yet
- Available for following technologies:
  - Geothermal
  - Biogas
  - Solid biomass (inc MW) > 200kWth
- Proof of necessary planning permission if required
- Conditions may be imposed
- Not a guarantee of full accreditation

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**Early application for accreditation:** Installations  $\geq 1\text{MW}$  that have already been built can apply for accreditation in the month before the installation is first commissioned – this is **not** the same as preliminary accreditation

# **ELIGIBILITY – OVERVIEW & GENERAL ELIGIBILITY**

## Eligibility Criteria - Overview

- Eligible Technology & Scale
- General criteria
  - MCS<45kW, after 15 July 2009, New, No grants, Non-domestic, Correct Heat Transfer Medium
- Eligible Heat Use
- Correct Metering arrangements
- Technology-specific eligibility criteria

## Eligible Technologies & Scales

Technology	Scale	MCS required?
Solid biomass	All Scales	Yes $\leq 45$ kWth
Ground and water source heat pumps	All Scales	Yes $\leq 45$ kWth
Geothermal	All Scales	No
Solar thermal	Under 200 kWth	Yes $\leq 45$ kWth
Biogas combustion	Under 200 kWth	No
Biomethane injection	All Scales	No

## General eligibility criteria - 1

- **Installed/first commissioned on or after 15 July 2009**
- CHP Exemption
  
- **Equipment new at time of installation**
- New (unused)
- Which Equipment: RHI plant vs other (ineligible) plant vs heating system  
– **views?**
  
- **Grants not received for purchase/installation of equipment**
- Recognise greater clarity wanted
- Awaiting State Aid clearance

## General eligibility criteria - 2

- **Medium of heat transfer:**
  - must be liquid or steam - ie no direct air heating
  
- **No single domestics in 2011** (but RHPP may be an option)
- Definition of domestics: “single self contained premises used wholly or mainly as a private residential dwelling where the fabric of the building has not been significantly adapted for non-residential use”
  
- **MCS**
  - requirement under 45kwth for solid biomass, heat pumps, solar thermal
  - Certification required for both the installer (at time of installation) and plant
  - MCS also to mean equivalent schemes under EN45011

# **HEAT USES AND METERING**



# Heat Uses

## Eligible uses of heat:

- Space heating
  - hot water
  - carrying out a process (not electricity)
- } In a building

## Definition of building

- “permanent or long-lasting building or structure of whatever kind and whether fixed or moveable which, except for doors and windows is wholly enclosed on all sides with a roof or ceiling and walls” **Seeking views on interpretation of this**
- Examples in Guidance: tents vs portacabins, distillation columns vs uncovered tanks
- Chemical Plant – Parliamentary debate

***NB: must not generate heat for predominant purpose of increasing payments***

## Metering

- Every installation requires at least one meter
- Regulations specify whether classed as “simple” or “complex”
- Standards for meters
- Requirements on placement
- All installations required to submit a schematic diagram showing metering

# Simple or Complex Metering?

Do any of following apply?

- Heat delivered by steam
- CHP
- Heat used in more than one building
- Ineligible heat uses on heating system

Yes – one or more apply

No – none apply

## COMPLEX

Need to meter all of:

- Heat generated by eligible installation
- Total eligible use of heat on system
- Heat generated by all plants on heating system

## SIMPLE

Only need to meter:

- Heat generated by eligible installation

## Metering: other requirements

- Heat Meters: require flow sensor, matched temperature sensors, calculator/digital integrator; meters must meet MID Class 2 standard as defined in the Regulations (CHPQA exemption)
- Steam Meters: require flow meter, pressure sensor, temperature sensor, calculator/digital integrator; equipment capable of delivering industry good practice reliability/accuracy
- Information needed: make/model, serial number, calibration date, description of role, meter reading

## Metering: other requirements

- Location: Must be located to measure right quantities – may require more than one meter per requirement – should not measure ineligible uses
- Consultation question over meter placement where more than one building – heat loss between buildings insignificant
- Examples of placement (with diagrams) given in Guidance Annex  
***Welcome suggestions where further advice needed***
- Installation, calibration and maintenance requirements

## Independent Metering Report

- All installations >1MWth or 'Complex' will be required to submit an Independent Report on Metering Arrangements as part of their application for accreditation
- To give assurance that metering arrangements are correct
- Competent person.
- Independent.
- Template given in Guidance.
- Consulting on content. Also on requirement for requirement that all complex submit.
- Would also welcome views on "competent person"

# **TECHNOLOGY SPECIFIC CRITERIA – NON-BIOENERGY**

## Solar Thermal, Geothermal

- Solar thermal: must use a liquid filled flat plate or evacuated tube solar collector
- Geothermal: must extract heat from  $\geq 500\text{m}$  depth – otherwise considered as Heat Pump



## Heat pump-specific eligibility criteria

- Naturally-occurring heat from the ground or surface water
- Regulations state that a COP of 2.9 must be met for all heat pumps (clearly state COP, not SPF – policy rationale for this set out in DECC RHI Policy Document)
- Above 45kWth, guidance proposes that participants will supply evidence that heat pump meets this criterion in accordance with industry good practice, for example tested to EN 14511 where that is appropriate
- **Are other standards/approaches that would be consistent with Regulations available?**

## Reversible heat pumps

- Eligible, providing they are not used solely for generating cooling
- Only heat generated is eligible for RHI support
- Cooling generated must not be included in meter readings submitted to us
- We may ask participants to explain how they will account for any cooling generated

## Heat pumps with fully integrated electrical heating

- Eligible
- Where possible, must meter renewable heat output
- Where not possible, can still be eligible
- Consulting on this approach in our guidance – **are there any additional eligibility requirements that we should specify or a capacity above which it is not common practice to install such heat pumps?**

# **TECHNOLOGY SPECIFIC CRITERIA - BIOENERGY**

## Different Bioenergy Technologies

- Solid Biomass
- Municipal Waste
- Biogas
- Biomethane

Definition of biomass: “material, other than fossil fuel or peat, which is, or is derived directly or indirectly from, plant matter, animal matter, fungi or algae”  
e.g. Wood chip, straw

## Solid biomass as 'primary fuel source'

Eligibility criteria: “the heat from the solid biomass is generated using equipment specifically designed and installed to use solid biomass as its only primary source of energy”

i.e. **Not dual-fuel or co-firing**

Evidence to demonstrate meeting this requirement:

**=<45kW:** MCS technical standards accreditation – 2 generally fine (pellets and 303-5), 2 would generally require further evidence (e.g. Stove boilers)

**45kW - 1MW:** boiler warranty, construction specification or contract required that clearly shows biomass as the primary fuel source environmental permits, planning permission may also demonstrate

## Municipal waste (solid biomass contained in municipal waste)

- Municipal Waste plants can **only** burn, municipal waste. Other waste or biomass are not permitted.
- Defined as: “waste from households, other waste that, because of its nature or composition, is similar to waste from households”
- We will have regard to DEFRA guidance on interpreting ‘similar’ to household waste (based on European Waste Catalogue)

# Biogas

- Biogas
  - Anaerobic Digestion (AD)
  - Gasification
  - Pyrolysis
- Eligibility under 200kWth only
- Landfill gas is not eligible

NB: Log gasification boilers etc count as heat from biomass not gasification

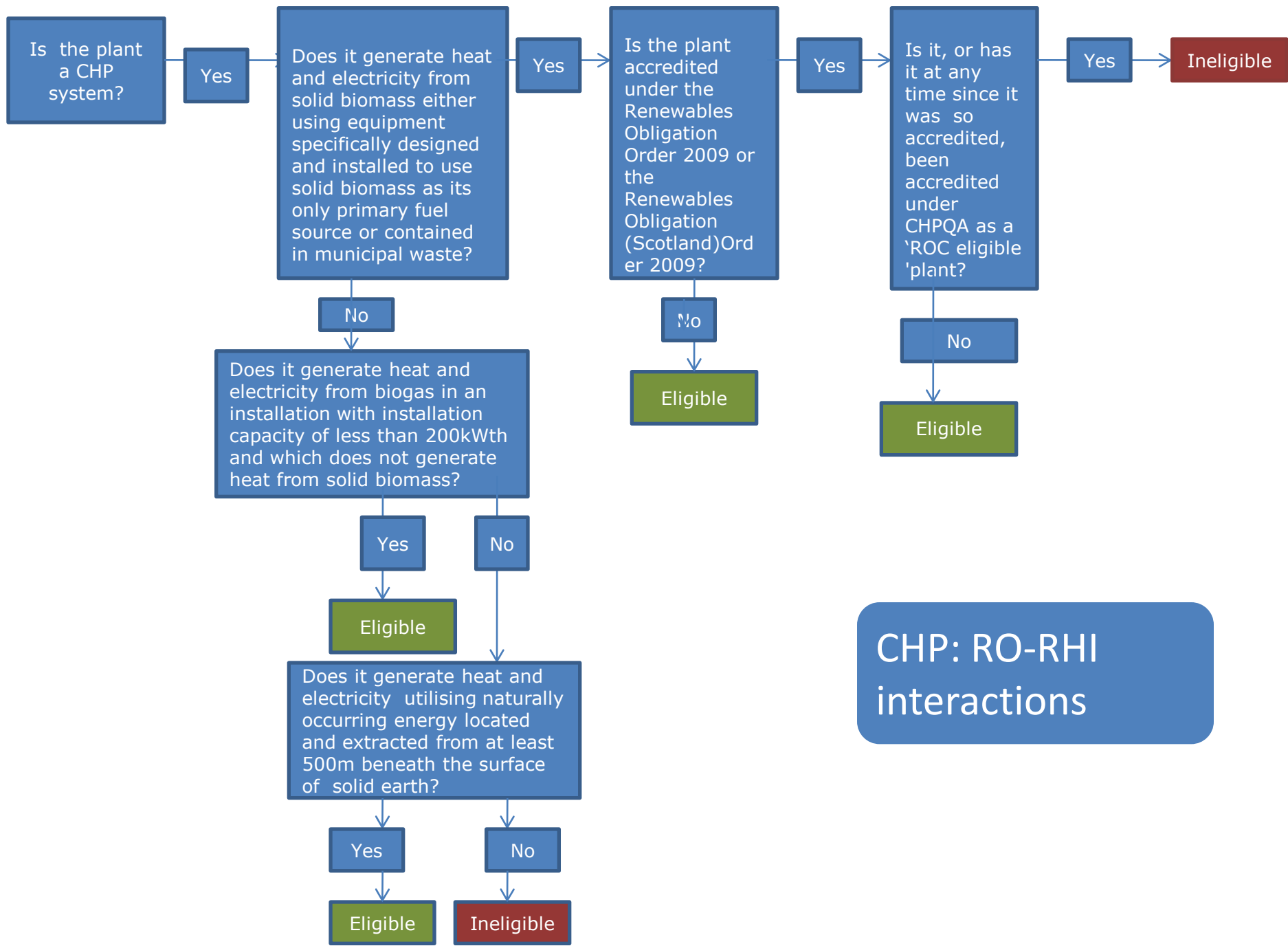


## Biomethane injection

- “Biogas which is suitable for conveyance through pipes to premises in accordance with [Gas Act]”
- Registration not accreditation
- Measure energy in biomethane injected, not heat delivered
- No further heat use restrictions once into gas grid
- Need assurance that biogas comes from biomass (incl FMS)
- Will need to comply with broader Ofgem (Orange) framework on injection
- Who counts as Biomethane producer – final process(es) necessary - **consultation question**
- **Emerging technology – advise to contact Ofgem early in process for informal guidance**

## CHP capacity

- Capacity is the ‘total installed peak heat output capacity’
- For CHP plants, this would be the heat output in the form of hot liquid or steam
- Examples: solid biomass CHP steam turbine, biogas engine CHP + heat exchanger



CHP: RO-RHI interactions

# Bioenergy and fossil fuel

Co-firing not allowed, but ancillary purposes and contamination may be:

Technology	Size	Is fossil fuel permitted for ancillary purposes?	Is contamination allowed?	Is ancillary fossil fuel and contamination deducted from payment?
Solid biomass	45kW and below	×	×	N/A
	Between 45kW – 1MW	✓	✓	N
	1MW and above	✓	✓	Y
Biogas - gasification or pyrolysis	Under 200kW only	✓	✓	Only contamination deducted
Biogas - anaerobic digestion	Under 200kW only	✓	✓	N
Municipal waste	All	✓	✓	Y
Biomethane - gasification or pyrolysis	All	N/A	✓	Only contamination deducted
Biomethane - anaerobic digestion	All	N/A	✓	N

# **VOLUME TWO**

# **ONGOING OBLIGATIONS AND PERIODIC DATA**

## Key ongoing obligations

- Submission of periodic data
- Maintenance of equipment
- Calibration of meters
- Notification of any major changes to installation or heating system – including ownership
- Keeping of records
- Annual declaration
- Compliance with any document audit / site inspection request

## Provision of periodic data

- Heat use data
  - Supporting Meter readings
  - Fuelling data
  - Sustainability
- 
- First two required monthly for >1MW, otherwise quarterly
  - Meter readings to be taken +/- 3 days of period date, submitted within month



Do any of following apply?

- Heat delivered by steam
- CHP
- Heat used in more than one building
- Ineligible heat uses on heating system

Yes – one or more apply

No – none apply

## COMPLEX

Need to meter all of:

- Heat generated by eligible installation
- Total eligible use of heat on system
- Heat generated by all plants on heating system

## SIMPLE

Only need to meter:

- Heat generated by eligible installation

Also need to meter heat input to biogas plant input for biogas / biomethane

## RHI Payments

- RHI payments made quarterly, based on periodic data submitted
- Data will be verified by Ofgem – may be queries
- Payment formulae set out in regulations – worked examples in Guidance document *(NB: formatting update)*

*Eg - "Complex Formula*

$$= \text{Tariff Level} \times \text{Eligible Heat Used on System} \times \frac{\text{Heat Generated by RHI Installation}}{\text{Total Heat Generated on System}}$$

- Note:
  - Two tier small/medium biomass tariff
  - Qualifying percentage where FMS used
- Payments made by BACS transfer

# **BIOENERGY SPECIFIC ONGOING OBLIGATIONS**

## Biomass-specific ongoing obligations

- **=<45kW:** no fossil fuel or contaminated fuel allowed
- **Above 45kW:**
  - Fossil fuel permitted for 'ancillary purposes' (up to 10% of all fuel used by energy content)
  - Biomass contaminated with fossil fuel (e.g. treated wood) (up to 10% of biomass fuel by energy content)
- How to demonstrate meeting 10% fossil fuel (45kW – 1MW)?
  - Keep records: fossil fuel invoices + description + boiler efficiency
  - No payment deductions for fossil fuel use at this scale
- How to demonstrate meeting 10% fossil fuel (=>1MW)?
  - Fuel measurement and sampling (e.g. Weighing and GCV sampling)
  - Energy content of fossil-derived is deducted

# What is Fuel Measurement and Sampling?

- Where applicable, it usually consists of weighing fuels (biomass and fossil) to determine the weight of each
- Sampling GCV of fuels to determine energy content of bio- and non-biomass fuels
- Sampling contamination in fuels contaminated with fossil fuel
- Determines 'renewable' or 'qualifying' percentage

# Biomass-specific fossil fuel obligations – fossil fuel allowances

<b>Technology</b>	<b>Size</b>	<b>Where plant uses contaminated fuel is fuel measurement and sampling required?</b>	<b>Where plant uses fossil fuel for permitted ancillary purposes, is fuel measurement and sampling required?</b>
Solid biomass	45kW and below	N/A (not permitted)	N/A (not permitted)
	Between 45kW - 1MW	No	No
	1MW and above	Yes	Yes
Biogas - gasification or pyrolysis	Under 200kW only	Yes	No
Biogas - anaerobic digestion	Under 200kW only	No	No
Municipal waste	All	Yes	Yes
Biomethane - gasification or pyrolysis*	All	Yes	N/A
Biomethane - anaerobic digestion*	All	Yes	N/A

\* Biomethane producers will be required to follow fuel measurement in all circumstances so that we can verify the energy content of the gas injected

# Sustainability reporting

- Solid biomass plants =>1MW (not MSW)
- Includes:
  - Type / Form
  - Mass
  - Country of origin
  - Whether a waste/ by-product
  - Land use since 2005

Currently reporting only, but Government consultation on mandatory criteria

**CHANGES**



# Change in ownership

- Ownership of an RHI accredited may be transferred – the new owner will be entitled to future RHI payments
  - The outgoing owner must inform us ownership is being transferred (within 28 days of the date of the change)
  - We will need to ensure the incoming owner is eligible as a participant
  - The incoming owner must be entered as participant within 12 months of the change of ownership occurring

# Change in capacity

- Ofgem must be notified of any plant being added to an RHI installation/heating system
- Additional capacity
  - Same technology and same heating system installed within 12 months of existing RHI installation = 1 installation (additional capacity)
  - Installed over 12 months of existing RHI installation = 2 installations (additional plant)
- Additional capacity/plant may affect eligibility requirements for the original RHI installation – eg combined capacity relevant for tariff band / eligibility

## Other changes

- Must inform Ofgem of other major changes to installation
- Eg affecting metering requirements or tariff rate

**COMPLIANCE, ENFORCEMENT,  
DISPUTES**

# Compliance and enforcement

- One of our functions in administering the scheme will be to **monitor and enforce compliance** with the upfront and ongoing requirements of the RHI as outlined in the Regulations.
- In deciding whether to take enforcement action, we will **take into consideration** all the circumstances surrounding the non-compliance. These will include:
  - Seriousness of the non-compliance and the duration
  - Whether the participant voluntarily reported the non-compliance
  - Reasons why the non-compliance occurred and any mitigating circumstances
  - Whether there is a history of non-compliance by the participant
  - Whether the participant has gained financially through the non-compliance
  - The conduct of the participant after the non-compliance has been discovered

# Enforcement

- There is a range of enforcement action that we may exercise under the Regulations, including:
  - Temporarily withhold periodic support payments
  - Suspend periodic payments
  - Permanently withhold or reduce periodic support payments
  - Revoking the accreditation or registration of a participant
  - Recouping overpaid periodic support payments

# Dispute resolution

- Complaint against a decision made by us under the scheme = internal review process
  - 1<sup>st</sup> stage = formal review
  - 2<sup>nd</sup> stage = statutory review
- Complaint against how you have been treated by Ofgem/how we operate/how we have performed
  - Ofgem complaints process

Next steps...



## **Website**

<http://www.ofgem.gov.uk/rhi>

## **General Eligibility etc Queries**

RHI.Enquiry@ofgem.gov.uk

0845 200 2122

## **Guidance Response (only)**

RHIguidanceconsultation@ofgem.gov.uk



# *ofgem* E-Serve

Promoting choice and value  
for all gas and electricity customers