



Department
of Energy &
Climate Change

Annex: Qualitative Research with the Non-Domestic supply chain for large Biomass installations

**A research project commissioned as part of the
Evaluation of the Renewable Heat Incentive**

December 2015

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URN 15D/424

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Executive summary

Introduction

The Renewable Heat Incentive (RHI) is the world's first long-term financial support programme for renewable heat. The scheme is designed to bridge the gap between the cost of fossil fuel heat sources and renewable heat alternatives, through financial support for owners of participating installations. The RHI was first introduced for non-domestic applicants (commercial, industrial, public sector, not for profit and systems heating multiple domestic dwellings) in November 2011 and was expanded to include domestic households in April 2014.

Scheme participants are paid a tariff per kilowatt hour of heat generated, with payments made quarterly for either seven years (domestic) or 20 years (non-domestic). Renewable heating technologies eligible for the scheme include biomass boilers, heat pumps and solar thermal systems. The non-domestic scheme also includes biogas, combined heat and power (CHP), and biomethane injection to grid.

The principal high level objectives of the RHI to date have been to:

- support the UK in meeting the 2020 renewable energy target;
- contribute to meeting carbon budgets as renewable heating systems deliver carbon savings compared to fossil fuel alternatives; and
- support the longer term 2050 decarbonisation target by building sustainable supply chains.

This particular strand of the evaluation focused on the supply chain for large biomass installations in the non-domestic sector (information on other elements of the evaluation are available at <https://www.gov.uk/government/collections/renewable-heat-incentive-evaluation>). It explored views on:

- How successfully the RHI has been delivered;
- How the large biomass installations market is adapting to the RHI;
- What impact the RHI is having on the large biomass installations industry; and
- What impact the RHI is having on the development of renewable heat technologies.

It also covered a number of new research themes that had emerged during the evaluation, such as those related to the technological dominance of biomass; the impact of the biomass tariff depression; and boiler sizing.

Interviews were completed with 19 organisations using a prioritised order with the interviews moving from installers to manufacturers once saturation in views was felt to be reached. Interviews were completed with 14 installer participants and five manufacturer participants. We achieved saturation in views with established installers and UK-based biomass distributors.

This report presents the views of participants interviewed for this research. It is structured around an assessment of the current market situation and the process of engaging with the RHI and the customer. Anonymised interviewee quotations are included to illuminate the research findings.

Key findings

The findings presented here are based on the views and experiences of participants working as part of the supply chain for large biomass installations in the non-domestic sector. Installer and manufacturer participants held a wide range of views on the large biomass installations market and the RHI. The key findings are summarised as follows:

- Significant growth in the biomass market since 2009 was reported by participants to be attributed to three key factors: the RHI, increased consumer and lender confidence and the historic increase in oil prices;
- There were contrasting views among participants as to whether demand would remain steady or reduce in the short term due to depression, coupled with factors related to oil and biomass fuel price fluctuations;
- Competition was reported by installer participants to have increased considerably as the market has grown. This was primarily attributed to new entrants coming into the market;
- Participants expected to respond to the lack of confirmed funding for the RHI from 2016 by either continuing business as usual whilst awaiting a policy decision, downscaling or withdrawing from the market or diversifying into other biomass-related services;
- The dominance of biomass in the renewable heat industry was confirmed by participants and attributed to the fact that biomass was perceived to be the easiest retrofit solution as well as being better suited to old, inefficient properties than other technologies;
- Participants believed that the RHI tariff for biomass was more generous when compared to the tariff for other renewable heat technologies;
- When sizing an installation participants reported that there was a 'sweet spot', just below 200kW to optimise RHI returns;
- Despite some perceived negative impacts such as depression impacting on installation quality and inappropriate boiler sizing, participants were generally positive about the perceived impacts the RHI has had on the sector; and
- Although participants had confidence and trust in the RHI, there were concerns that the scheme would not be around in its current form for much longer.

Degression

Expenditure on the RHI is controlled through a process called degression. Degression works by gradually lowering the tariffs that are paid to new applicants as more renewable heat systems are installed. Tariffs are only reduced as estimated spend on the RHI reaches certain expenditure thresholds or 'triggers', with the thresholds set at both technology, such as biomass, and scheme-level. Announcements confirming whether there will be tariff reduction are made on a quarterly basis, with one month's notice prior to a reduction taking place.

1. Introduction

The Renewable Heat Incentive (RHI)

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- support the longer term 2050 decarbonisation target by building sustainable supply chains.

Research aims

This research project sought to understand the views and experiences of the supply chain for large biomass installations in the non-domestic sector. It aimed to understand perspectives on the following high level research questions relating to the supply chain:

- How successfully has the RHI scheme been administered and delivered?
- How is the large biomass installations market adapting to the introduction of the RHI?
- What has been the impact of the RHI on the renewable heat industry, large biomass installations supply chain and investment community?
- What has been the impact of the RHI on the development of renewable heat technologies?

Additionally, a number of new research questions and themes emerged as the policy was developed over the course of the evaluation. These predominantly related to the development of biomass technologies. The questions included:

- How has depression of the biomass tariffs impacted the biomass supply chain?
- What are the causes of large numbers of biomass boilers between 190kWth and 199kWth being deployed?
- Why are biomass boilers more popular than heat pumps and solar thermal technologies?
- What impact has the planned introduction of the sustainability criteria for biomass had on the fuel supply market?
- What is the outlook on the renewable heating market beyond the RHI?

Methodology

For this research, individual in-depth qualitative interviews were completed with 14 biomass installer participants and five biomass boiler manufacturer participants. A sample of participants was drawn from publicly available information and RHI non-domestic applicant data provided by DECC. An approach email explaining the research was sent to participants who had agreed to be re-contacted, and follow-up recruitment calls were conducted with potential participants who had not opted out. Telephone interviews were arranged for a convenient time with those who agreed to take part in the research.

Semi-structured telephone interviews were carried out between February and March 2015. Interviews were conducted using a topic guide and lasted around thirty minutes, and were audio recorded and transcribed verbatim. The qualitative data were managed and analysed using Framework, a case and theme-based approach to qualitative analysis. For further details on the methodology see the [technical annex](#).

How to interpret qualitative data

This report shows the range and diversity of views and experiences among those interviewed. As this is qualitative research, we have not reported the number of people who hold a particular view as it bears no indication of the extent to which these views are held in the wider population. Any numerical inference would be misleading or inaccurate as the sample was not designed for this purpose.

Interview quotations and case illustrations have been used where appropriate. Quotations have been attributed to participants using descriptive categories relevant to this research. Additional descriptive information has been included where this might help illuminate a finding and does not breach anonymity. All case illustrations use pseudonyms to safeguard anonymity.

Challenges and limitations

All research has limitations and it is important these are acknowledged so readers can appraise the extent to which findings can be generalised and replicated. These are summarised below:

Sampling Coverage

- There are a wide range of actors involved in the supply chain for large-scale biomass installations and this created a challenge in terms of sampling coverage.
- Interviews were undertaken with organisations working in the biomass supply chain as it was expected to have a more populous and varied supply chain.
- As all participants worked within the biomass industry, it was to be expected that on the whole they held a positive view on the dominance of biomass within the renewable heat market and the non-domestic RHI.

Participant Recruitment

- There was not a ready-made sampling frame as a large number of biomass installers offer services to both the domestic and non-domestic market.
- As part of the recruitment process, we identified that nine of the 14 interviews were completed with installer participants registered with the MCS.
- Given that the majority of biomass manufacturers are based in mainland Europe, interviews were typically held with UK-based biomass distributors.

Participant Availability

- Recruiting participants was challenging as many installers were busy in the period prior to the reduction in the tariff for small biomass installations.
- Participants that responded positively included those that were already actively engaged in the wider development of the industry or saw the research as a means to voice concerns about the scheme.
- It was difficult to recruit businesses that were relatively new to the industry or that are less engaged in the wider industry.
- As the above indicates, while every effort was made to achieve a rich and diverse sample, certain perspectives will be missing from this research. This includes biomass installers that are relatively new to the market and biomass manufacturers that are based in mainland Europe.

Biomass Installers

Installers are seen as being a key actor in the biomass supply chain. Typically responsible for the sizing and design of biomass systems, installers are usually the principal contact with the client. As well as installing the biomass boiler and ancillary equipment, installers often provide on-going servicing and maintenance.

Biomass Manufacturers & Distributors

Manufacturers sit at the top of the supply chain, developing and building biomass boilers. The majority of biomass manufacturers are based in mainland Europe. Many of these companies have partnerships in place with UK-based 're-sellers', known as distributors. These distributors import boilers into the UK from the manufacturer for sale on the UK market. In many cases, distributors have partnerships in place with installers to supply biomass boilers.

Report Structure

The report has been structured so that it aligns with the key themes arising from the interviews with biomass installers, distributors and manufacturers. The structure is as follows:

- **Market Situation** – this section captures views on the current market situation with regards to biomass. It also includes an assessment of what changes have occurred in the biomass market since 2009, when the RHI was first announced; and
- **RHI Scheme and the Customer** – this section captures views on the process of engaging with the RHI and the customer. It also examines opinions on aspects of the RHI including the metering requirements and the wider impacts of the scheme.

2. Market Situation

Changes in Demand Since 2009

Changes to the level of demand

Participants reported having witnessed significant growth in demand for renewable heat technologies since 2009. Uptake was reported to have been slow initially, and then grew significantly between the end of 2011 and early 2014. This followed the launch of the non-domestic RHI and the domestic RHI in 2011 and 2014 respectively.

“...the RHI and the interest that it stimulated began to kick in probably back end of 2011, beginning of 2012 where things really started to get silly. And we were very, very busy 2012 and 2013 and the first half of 2014. And then it tailed off... our turnover has become much lumpier since depression started in June of last year.” (Director, Biomass Boiler Installer)

Factors influencing growth in the biomass market

The installers that participated in the study attributed this growth in demand to the following factors:

- The RHI scheme;
- Increased consumer and lender confidence; and
- The historic increase in oil prices.

It was felt by participants that customers appeared to be financially motivated to install biomass boilers, rather than driven by a shift in environmental considerations and motivation. Participants stated that customers were looking for financial security and energy security, and protection from their dependence on oil and the risk of future price rises.

“I think personally looking back over the last couple of years I'd definitely put the RHI as the main driver. I think the oil came behind [the RHI as a driver] when we had oil at \$120 a barrel going back a short period of time; that was probably the number 2 [driver].” (Director, Biomass Boiler Distributor)

Expectations for demand going forward

Two contrasting perspectives on demand were discussed by participants. A group of participants expected demand to continue at current levels, while others expected a reduction in demand. Participants felt that demand patterns rather than levels may change, suggesting that the reduction in the small biomass tariff might lead customers to install lower cost biomass boilers. Alternatively, the market might shift away from small biomass boilers and towards the medium-and-large-scale biomass market.

“...as the tariffs come down on both the commercial and the domestic RHI, they're going to look more and more at what they call the affordable [biomass] boilers.” (Director, Biomass Boiler Distributor)

Among those participants who expected demand to reduce, views on the extent and speed of the reduction that could be experienced in the future differed. These ranged from suggestions that demand would reduce steadily without a significant impact on the market, to expectations that the degeneration of the small biomass tariff would have a substantial impact on demand, especially when combined with other economic factors.

“...the milk prices have dropped; oil prices have dropped; and the tariff has dropped. It's like a perfect storm.” (Principal Engineer, Biomass Boiler Installer)

Small Biomass Tariff

The RHI is divided into tariff bands to provide differing levels of support for different renewable heat technologies. The biomass tariff is further divided into three 'sub' bands, as follows:

- Small biomass: less than 200kWth;
- Medium biomass: 200kWth and above; less than 1000kWth; and
- Large biomass: 1000kWth and above.

Changes in the Installer Market Since 2009

Changes to the level of competition in the biomass market

Installer participants reported that there had been a considerable increase in competition in the market. This was attributed to new entrants such as plumbing and heating engineers and solar PV installers looking to expand their businesses and starting to install biomass boilers. Participants suggested that, following the solar PV boom, biomass was the next lucrative market. This was put down to the rapid growth in demand, and a significant number of new entrants being attracted to the market.

Positive and negative impacts on the biomass market were reported by participants as a result of increased competition. With more companies in the industry, installer participants suggested that biomass was being marketed to a wider audience which led to more consumers becoming aware of the technology and shopping around for installers. Installer participants believed that this had helped them win more work.

However, the view from installer participants that had been in the industry since before the introduction of the RHI was that the increased competition has had a negative impact on the market. This was because some new entrants were considered not to possess the necessary experience of installing and maintaining biomass boilers which in turn impacted on installation quality.

“We know what we are doing but that is an ongoing massive headache in the industry. There are too many people that do not have a clue what they are doing. They are going in with much lower prices than they really cost to do, making a complete balls up of it and then, you know leaving this horrible trail of destruction in their wake.” (Technical Director, Biomass Boiler Distributor)

Observed changes in the cost of biomass installations

There were contrasting views between installer participants who had experienced a reduction in costs and those who had not. The price of biomass boilers was reported to have remained static as they are typically sourced from established markets in Europe. Where installer participants had seen cost reductions these were attributed to the greater availability of equipment, better buying power, increased order volumes and the ability to deliver more projects for the same efficiency.

There was a perception among installer participants that other installers in the market were compromising on the quality of equipment and installations in order to cut costs to win work in a more competitive market. Established businesses reported having to squeeze margins in order to win work without compromising on quality.

“ ...we have had to reduce margins so that we at least are moving some way towards the sort of prices that customers are likely to be quoted by other companies using cheaper components. We have also had to get much better at selling and explaining why our installations are that bit more expensive and we have had to become very, very efficient. And we run the business now with the minimum number of staff that we possibly can in order to, to deliver the service that we offer. **”** (Director, Biomass Boiler Installer)

Impacts on employment and business planning

Installer participants stated that they had employed more staff since the introduction of the RHI due to increased demand. The level of employment corresponded to the size of the business. Smaller businesses involved in the research tended to use sub-contractors to meet fluctuations in demand, rather than recruit permanent staff. Uncertainty about the RHI beyond 2016 and future demand for biomass boilers was reported to have made business planning and recruitment decisions challenging for installer participants.

“ The RHI and fuel prices have an impact on how we grow the business, and what level of risk we are prepared to take. **”** (Director, Biomass Boiler Installer and Distributor)

The number of new employees amongst manufacturer participants varied from companies that had not employed permanent staff but had increased the number of installer partners to those that had increased employee numbers significantly in response to increased demand.

Market Outlook

Participants' views relating to the market outlook for the renewable heat industry ranged from confidence in the market, regardless of the future of the RHI, to considerable concern. Uncertainty surrounding the outlook for the renewable heat market was driven by four types of issue, namely:

- The lack of confirmed funding for the RHI from 2016;
- Fluctuations in oil prices;
- Increasing cost of biomass fuel; and
- Availability of timber resources in the UK.

Perceived impacts of depression on future demand

Two views on the influence of price changes to the RHI tariff for small biomass boilers were discussed by participants. First, participants stated that depression would result in the market shrinking back to the level seen before the introduction of the RHI. In contrast, other installer and manufacturer participants were optimistic, stating that depression could lead to more demand in the medium-and-large-scale markets. More established businesses suggested that depression could have a positive effect on the market as 'opportunistic organisations' disappear.

“ I think we are optimistic about it. At the moment it is becoming a more mature industry. Our view is that quite a lot of smaller opportunistic companies that were here to make a quick buck will probably disappear. **”** (Director, Biomass Boiler Installer and Distributor)

Participants' approach to future business planning

When looking forward, participants responded that they were either looking to:

- Continue business as usual;
- Downscale or withdraw from the market;
- Diversify to include different types and sizes of biomass systems, fuel supply and forestry management to increase levels of UK-sourced biomass; or
- Expand the business.

Participants who were planning to restructure or withdraw from the market explained that this was due to uncertainty surrounding the long-term future of the market. This was reported by both well-established businesses and those that were relatively new to the market.

“ *We are absolutely flooded with biomass installers so the rate at which degression has hit small biomass has been devastating to us. And in fact we are in the process at the moment of restructuring the business to cope with the dramatic reduction in the amount of business there is out there.* **”** (Director, Biomass Boiler Installer)

Participants who stated that they were beginning to diversify away from the core market of biomass installation, distribution or manufacturing were also motivated by the uncertainty surrounding future policy. Some installer participants stated that they were diversifying into different types and sizes of biomass systems as they expected the degression of the small biomass tariff to cause the market to transition towards higher capacity installations, such as district heating systems. Other forms of diversification included fuel supply, woodland management, servicing and maintenance.

“ *...for biomass installations we are planning to scale back the business because at the moment we cannot see a long-term future for the heating installation business. Where we are expanding is in the fuel supply and forestry. We have just purchased some forestry harvesting equipment to bring managed forestry into production.* **”** (Director, Biomass Boiler Installer)

Methods of diversification were also referenced by the manufacturers and distributors. This included distributors looking to develop and manufacture their own products. Distributor participants also stated that they were looking to provide maintenance services for biomass boilers outside of their own product range.

For those businesses looking to grow their business, participants cited the following as barriers to expansion:

- Uncertain policy;
- Future oil price;
- Difficulties recruiting staff trained to the appropriate level; and
- Organisational capacity.

When looking to finance expansion, participants stated that they have historically used their own capital rather than bank finance, as investor confidence had been low when the industry was new. More recently, participants reported that investor confidence in biomass had increased and investors were now more willing to lend.

“ *It is now something that is recognised by financiers as well, and you have seen that from the finance offering on biomass boilers in the early days. People were very cagey and now, it’s fairly swift and a relatively simple procedure to get finance in place.*

I think if we knew that growth in the industry was going to continue for, x number of years then I think we would expand the business more securely. ” (Director, Biomass Boiler Distributor)

Technological Dominance

Participants perceived the greater take up of biomass boilers over other renewable heat technologies was due to four key factors:

- A perception that biomass was easier to install and retrofit;
- Customer familiarity with boiler technology;
- Biomass is more suited to older, inefficient buildings; and
- RHI tariff.

Ease of installation

Installer participants attributed the dominance of biomass to the perception that it was easier to install than other renewable heat technologies, particularly as a retrofit solution. This view was held both by installer participants that only installed biomass and those that installed a range of renewable heat technologies. This was primarily because a biomass boiler can be integrated into an existing ‘wet’ heating system. As such participants described biomass as a like-for-like replacement for a conventional heating system. In their view, this is in contrast to heat pumps which, as suggested by installer participants, typically require significantly more work and additional capital to retrofit or solar thermal which installer participants believed could only meet a relatively small proportion of heating needs.

Customer familiarity with technology

Customers’ familiarity with boiler technology and wood fuel was also identified as an influencing factor by participants. Customers appeared to be more comfortable when replacing a conventional boiler with a biomass boiler which was perceived to be because both technologies are a ‘fire in a box’. Heat pumps and solar thermal were considered to be relatively new technologies in comparison. Customers were also described as being less familiar with how heat is generated from technologies such as this. This was particularly the case for heat pumps which installer participants described as requiring a far more complex heating system when compared to a biomass boiler.

Suitability of biomass boilers

Installer participants felt that biomass is more suited to older buildings which are more inefficient. This included older houses and non-domestic properties, particularly those in rural locations. In contrast, installer participants perceived heat pumps to be most efficient and cost-effective in energy efficient new buildings.

“ *The fundamental problem we have in this country is the fabric of our buildings are so poor that they are not suitable for heat pumps. So, biomass, in terms of how it can integrate with the property, is a far easier direct swap against an oil or an LPG boiler, so there is far less need for additional work. I think obviously the financials do have some effect in that the small biomass rate was attractive and, you know, it’s relatively easy for somebody to understand, it’s a fire in a box.* ” (Director, Biomass Boiler Installer)

Influence of RHI tariffs

The RHI tariff for biomass was considered to be more generous when compared to the tariff for other renewable heat technologies. It was felt that this gave biomass an advantage over other technologies as there was a greater financial incentive. It was viewed that installation costs were typically lower for biomass than for other renewable heat technologies. In particular, heat pumps were considered to be more expensive than biomass, as excavation works and high levels of insulation may be required. Installer participants stated that these factors affected the upfront cost and created greater financial incentive for customers to opt for biomass over other technologies.

“ *You can get better returns from biomass because the tariff structure was more generous.*
(Technical Director, Biomass Boiler Installer and Distributor)

”

Impact of the growth of biomass on the renewable heat market

The dominance of biomass in the renewable heat market was perceived to have had the following positive impacts:

- Helping the UK to move away from fossil fuels and towards sustainable, home-grown fuels;
- Greater rural employment due to greater demand for wood fuel; and
- Better woodland management.

Participants highlighted that poorly installed and/or specified boilers were beginning to have a negative impact on the market. As discussed above, installer participants had witnessed poor installations as a result of projects being carried out in a hurry to meet degression deadlines or due to inadequate training in the industry.

“ *...we've seen rushed jobs and we're now starting to see issues come out of the woodwork. I think there is a very, very significant risk of a lot of bad press in the next year as things start to go wrong with some of these installations that people rushed into or installed based on price.* **”** (Director, Biomass Boiler Installer)

Size of Heating Units

Two overarching factors were considered to have affected the sizing of biomass boilers: heat load and financial gain. A number of issues were identified as falling under sizing for financial gain, as discussed below.

Sizing on the basis of heat load

Participants stated that they were involved in the sizing of biomass boilers for customers and that the heat load and operational requirements for the specific property was an important factor when sizing a biomass boiler. Sizing was either assessed by the installer or through third party consultants who undertook the heat load assessment. In both instances participants stated that heat load was calculated using an approved heat loss calculation.

Sizing for financial gain

The non-domestic RHI small biomass tariff has a threshold of less than 200kW, above which it reduces. As a result, participants stated that there was a 'sweet spot' just below 200kW for sizing systems to maximise the financial gain. Installer participants had either themselves installed c.199kW to optimise RHI returns rather than install efficient systems best suited to the heat load, or were aware of instances where this had happened. To achieve this, installers had either over- or undersized biomass boilers by leaving conventional boilers in place for peak demand¹ or installing multiple small scale boilers instead of one medium or large-scale system.

“ ...if you actually worked to the financial case you would find that you were better off installing a 199 kilowatt boiler and either leaving the existing fossil fuel boilers in to handle peak load, or wait a year and then install the second biomass boiler. So you've got the higher tariff on the first installation and the lower tariff on the second installation. ”
(Director, Biomass Boiler Installer)

Manufacturer participants also perceived c.199kW boilers to be more popular. Some participants felt that boilers were potentially being re-badged at 199kW for the UK market. Participants stated that the same boilers could have a higher capacity in mainland Europe.

“ 250-kilowatt boilers have been rebadged to 199kW for the British market. So all the boilers made in Europe are brought to the UK and badged at 199kW. So basically it is a false market, really. ” (Director, Biomass Boiler, Heat Pump and Solar Thermal Installer)

Installer participants expressed contrasting opinions to sizing for financial gain. On the one hand, they reported that they may have to resort to this approach to win work, particularly given the current high levels of competition in the market. However, other installer participants explained that they avoided sizing on this basis as it would not deliver the most efficient system. Participants expressed frustration that the RHI was being exploited, in some cases, for financial gain by generating excess heat rather than meeting the heating demands in the most efficient way possible.

Influence of Degression on the Biomass Market

A positive perceived impact of degression was the anticipated shift in the market from small-scale boilers to medium-and-large-scale systems. As the small biomass tariff reduces, it was felt that it will be less financially lucrative to install small systems, as discussed above. Participants stated that this should lead to more boilers being sized correctly and encourage more individual larger boilers than multiple small boilers for a site.

“ ...in some ways the degression of the smaller tariff, and the levelling out of the small to medium biomass tariffs, has helped because it is now making people a bit more pragmatic about how much heat they actually need. ” (Director, Biomass Boiler Distributor)

¹ Customer confidence was also cited by installers as a reason why some customers retained their conventional system as a 'back-up'. Once the boiler was operational and performing well customers tended to become more confident in the technology. As a result, some customers had the conventional boilers removed after a short period following the installation of the biomass system.

Where challenges were reported by participants they centred on:

- Reduction in demand;
- Quality of installations; and
- Business planning.

Changes to demand as a result of depression

Although participants viewed the scheme as being a success overall, they were starting to experience falling demand as a result of the most recently announced tariff depression. Projects were starting to become borderline viable as margins tightened due to equipment costs not having fallen. Participants that believed the tariffs had been set too high initially stated that the large percentage drops in the tariffs had meant significant peaks and troughs in demand either side of a tariff depression being introduced. These participants stated that it would have been preferable to have a lower tariff initially, with smaller step changes over time.

“ *It would have been much better to have set the initial tariff at two-thirds to three-quarters of where it was initially set. It would have been much more sustainable. Instead of having this huge surge in biomass installations for a couple of years, and with the tariff dropping off so dramatically - it is tailing off almost to nothing.* **”** (Director, Biomass Boiler Installer)

Impact of biomass tariff depression on installation quality

Participants stated that the one-month notice period for tariff reductions had resulted in some clients for small-scale boilers being rushed into making poorly informed decisions. This included decisions such as which installer to use or the type of product to install. The medium-and-large scale markets had not been affected in the same manner according to participants, as there had not been the same tariff reductions.

These tight timescales were also reported to have impacted on installation quality. Participants stated that the typical time taken for an installation exceeded a month. In order to meet deadlines for depression, installers had to install more quickly. This was perceived to have resulted in mistakes and shortcuts in the installation. Some installer participants that offered higher quality and high specification biomass boilers stated that they struggled to compete in the market.

“ *I think now there are a number of companies struggling desperately to find work. They are chasing an ever decreasing number of enquiries and as such are putting quotes in that actually do not reflect what the job requires to be done, and you know that they are going get a job at a very, very low price and then the job is going to be done poorly or they are going to go back to the customer with extras.* **”** (Managing Director, Biomass Boiler Installer)

Effects of quarterly depression on business planning

Installer participants also stated that the one-month window between the announcement of a tariff depression and the reduced tariff being implemented was too short. With insufficient time to react to the changes, participants stated that this was affecting business planning and resourcing requirements as a result of peaks and troughs in demand.

“ *The tariff was too high to start with, and dropping it quickly, it has been boom and bust. It doesn't give confidence in the installers. You cannot factor in ongoing work, because you do not know what is going to happen. You are not told there is going to be a tariff drop until a month before it happens. By that time it's too late to do anything about it.* **”** (Principal Engineer, Biomass Boiler Installer)

Manufacturer participants held similar views, stating that customers were placing pressure on their installers to commission an installation before a tariff depression was introduced. This had a knock-on effect on manufacturers and distributors, driving tension up the supply chain.

Supply Chain

Contractual arrangements between installers and distributors

Contractual arrangements between distributors and installers appeared to be working well. Installer participants who had partnerships in place with distributors believed the arrangement resulted in better prices, installer training and product guarantees.

“ *They give us unqualified backup and support and their equipment is superb.* **”**
(Managing Director, Biomass Installer)

Installer participants who chose to remain independent were attracted by not being tied to a small number of products through a single UK distributor. Although this had the potential to provide more freedom of choice over a broader product range, it also meant that they did not always receive the preferential terms such as better prices and product guarantees.

Integration of the supply chain

Participants described some vertical integration as installers expanded their businesses to become distributors. Evidence of supply chain integration between manufacturers and distributors was very limited. Participants attributed this to the fact that the majority of boilers were supplied by established European companies.

Availability of equipment

The availability of equipment was only impacted by depression, according to participants. Depression created spikes in demand which reduced the availability of equipment and could leave installers waiting longer for boilers than normal. To accommodate this, distributor participants stated that they had increased stock in the month or so leading up to depression.

Warrantees and guarantees

Warrantees and guarantees appeared consistent across the supply chain. Participants stated that most manufacturers provided one-to-five-year warranties for their equipment. This was passed directly on to customers. This was in addition to one to two year labour guarantees which were provided by the installer.

Some installer participants noted instances where contractual arrangements had not been fulfilled by their distributors. This included distributors failing to honour warrantee periods, which subsequently resulted in legal action by the installer.

3. The RHI Scheme and the Customer

Awareness of the RHI and Roles Relating to the RHI Process

Customers awareness of the RHI

Installer participants reported that they had either made customers aware of the RHI or that customers were already aware of the RHI. For customers that were already aware of the RHI, installer participants usually calculated the benefits of the RHI. Participants reported that their customers represented a wide range of public and private organisations across many sectors, with no apparent difference by customer type in terms of their level of involvement during the decision to purchase a biomass system.

“ 40 percent of clients know about the RHI. It is usually an outline understanding that there is some money in it. **”** (Managing Director, Biomass Boiler Installer)

Involvement of installer participants in the RHI application process

Installer participants that commented on the RHI application process considered it to be complex, with Ofgem raising queries that were often of a technical nature. As a result, participants reported that they typically supported their customers through the RHI application process. The level of support reflected their customers' capabilities in completing their applications themselves. At a basic level, participants supported their customers by providing technical information and documentation in support of their RHI application. At a more comprehensive level, their support related to providing ongoing support to their customers throughout the application process until accreditation was received. However, there were examples of participants that used to support their customers with completing their applications but had stopped providing this service due to the significant administrative burden being placed on their businesses.

“ We have done some applications for clients but stopped providing this service as it was too time consuming. We now only advise our clients and provide the technical documentation. **”** (Technical Director, Biomass Boiler Installer)

Management of ongoing RHI obligations

Installer participants did not typically provide support to their customers in relation to their ongoing obligations with the RHI once their application had been accredited. Where support was provided by participants, this included advice provided to customers regarding their continued compliance with the RHI Regulations. Participants that took meter readings on behalf of their customers only provided this service until their customers were sufficiently confident to take and submit meter readings themselves.

“ We talk them through the first couple of meter readings until they're comfortable taking and submitting the meter readings themselves. **”** (Technical Manager, Biomass Boiler Installer)

Opinions on the RHI

Impact of the RHI on customer demand

Participants stated that given the relatively low cost for customers when using conventional heating systems, the RHI offsets the costs of installing and using biomass boilers. This resulted in biomass becoming an economically viable alternative to fossil fuel systems. Installer participants were concerned that degeneration would result in biomass becoming less attractive when compared to conventional heating systems, negatively impacting on customer demand.

“ *Without the RHI, we would have probably done 10 per cent of those that we have installed.* **”**
(Chief Executive, Biomass Boiler Installer)

Manufacturer participants responded in a similar vein to installer participants, stating that the introduction of the RHI had removed the financial risk, by providing support for end-users to make the switch from fossil fuels.

“ *The RHI has had direct impact by taking the financial risk out and giving the purchaser of the equipment extra support to do something that can be quite disruptive. It has taken away a reliance on something that they have had for a long time, and moving into a new sort of energy generating system.* **”** (Distributor, Biomass Boilers)

Furthermore, the introduction of the RHI demonstrated support from the government and provided credibility to the industry. The scheme design was also considered to be sensible. Providing an incentive that was based on heat used, rather than installation costs ensured that people were using the technology. However, as the RHI was paid over 20 years, this meant that it was mainly geared towards those with access to capital to cover the upfront cost - in particular, those with the means to invest in multiple small biomass boilers to maximise their RHI returns.

Effects of delayed RHI accreditation

There were a range of views regarding the administration of the RHI. Installer participants that had positive experiences stated that the application process worked well. However, those that had negative experiences stated that the process was very slow, with the requirements having changed over time. Manufacturer participants stated that the process takes too long, with customers investing in biomass and making finance repayments while waiting for accreditation.

“ *The whole process takes so long nowadays because there are so many applicants. It can take six months for an application to be accredited.* **”** (Manager, Biomass Manufacturer)

Level of confidence and trust in the RHI

The general consensus amongst installer participants was that they had considerable confidence and trust in the RHI. The scheme had been viewed as a success as it had kick-started the market. Participants stated that their customers used to lack confidence, believing that the RHI was too good to be true. However, they had grown in confidence over time as they had become familiar with the RHI and the benefits that were available to them.

“ *I have got a huge amount of confidence in the scheme. I would be concerned if a change of government withdrew or changed it dramatically.* **”** (Managing Director, Biomass Boiler Installer)

Participants that did not have confidence and trust in the RHI stated that the scheme had created an industry that could not survive without subsidies.

“ *I trust the scheme, but I just do not think it is going to be around in its current form for long enough. I wish it was going to be here for longer. If it is around, I do not think it will be offering customers the same level of viability.* **”** (Technical Director, Biomass Boiler Installer)

Manufacturer participants echoed similar sentiments, stating that they had a great deal of confidence and trust in the RHI. However, this was being affected due to the uncertainty in advance of the change of government and the consequential uncertainty in funding for the RHI.

The importance of metering requirements

Installer participants considered the metering requirements essential to provide reassurance about how the RHI funds were being allocated. As RHI payments are made on the basis of metered heat used, there were participants that stated that oversized boilers that did not perform as expected would be revealed over time as RHI payments would be lower as a result.

“ *The quarterly meter readings make sense. All these people who have oversized their boilers are going to show themselves up in their quarterly meter readings.* **”** (Manager, Biomass Boiler Installer)

Installer participants who expressed reservations about the scheme design believed that the payment model encouraged some customers to produce more heat than required. An example cited was where building occupiers were told to cool their building by opening windows rather than turning the heating down as the building owner wanted to maximise their RHI returns.

The metering requirements were initially perceived to be complicated by installer participants. However, the requirements had been relaxed over time and this had made things easier. It was felt that this simplification had created risks regarding the heat loss calculations. The run hours could be revised in the model to reduce heat losses when compared to metering at point of use.

The importance of the metering requirements was also understood by manufacturer participants, who stated that metering ensured that RHI participants were rewarded for the heat they generate. This meant that emphasis was placed on system operation and efficiency.

Manufacturer participants stated that there was initially confusion over what to meter and this sometimes meant over-metering to ensure compliance. The current requirements were considered to be more logical and realistic, especially for simple installations.

“ *The metering requirements are a good thing. I think that initially they were a bit excessive. Then there was an announcement on simplification of heat meters, which made a lot of sense. So I think it is good that people are rewarded for their heat generation and that they have to produce it to be paid for it.* **”** (Director, Biomass Boiler Manufacturer)

Wider benefits of the RHI

Installer participants that recognised the wider benefits of the RHI perceived that the positive impact of the RHI on their businesses would be having a similar effect in other areas. Participants believed that rural communities would be beneficiaries as woodland was planted and fed into the biomass supply chain, creating jobs and enhancing biodiversity. Biomass was also helping to educate people about the environmental benefits and cost savings from not using conventional heating systems and installing more efficient biomass boilers.

“ Wood chip boilers would encourage people to manage their own wood. The majority of our woodchip customers produce their own chip. And so we understand that they are more inclined to manage their woodlands properly. ” (Managing Director, Biomass Boiler Installer)

Installer participants also recognised that the RHI had enhanced the use of renewable energy through effective woodland management. This brought benefits through the utilisation of local renewable sources and diverting wood fuel from landfill. Biomass was also considered to be providing wider benefits to the environment by tackling climate change and ensuring energy independence. In addition, people were being encouraged to think about how they heat their buildings. This was driving energy efficiency improvements which were creating further opportunities.

“ The wider benefits are for the environment through carbon emissions reductions. The more we become energy independent, the better we will also be as a nation. ” (Director, Biomass Boiler Manufacturer)

