



Department for
Business, Energy
& Industrial Strategy

Low carbon heating metrics 2020: progress on developing a sustainable market

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Headline Assessment

Summary

The evidence presented here covers the year to April 2020. It is not expected that the COVID-19 pandemic will have significantly influenced the conclusions below. It is also the case that any impact from the announcement of the COVID-19 economic recovery stimulus schemes, such as the Green Homes Grant scheme, will not be evidenced here.

Economy wide surveys provide indicative evidence of a continued trend of growth in the overall value of the "renewable heat" sector. Evidence relating to individual technologies shows that market trends vary substantially between technology sectors.

Low Carbon Heat: Technology specific markets broadly follow the intentions of the recent reforms to the Renewable Heat Incentive scheme, with growth in deployment of larger installations that offer better value for money for government and domestic heat pumps which align with a longer-term decarbonisation strategy. Further growth in deployment of larger installations is expected over 2020/21 and 2021/22 as RHI applications for 'tariff guarantees' progress to installation. Reductions in deployment of smaller and domestic biomass boilers are observed, however, these are in line with the policy intention under the RHI scheme. BEIS will continue to monitor the status of the renewable heat market as RHI-successor policies are implemented over 2021 and 2022.

Heat Networks: We have seen a growth in the pipeline of networks supported by government schemes over the last year and since the reference period. The remaining funding available via the Heat Networks Investments Projects (HNIP) along with the upcoming launch of the Green Heat Network Fund, establishing a Regulator through the Future Market Framework and a possible future zoning policy are expected to build on the current momentum and create the conditions necessary to stimulate growth in heat network installations in future years.

Market sector summaries

Low Carbon Heat - Domestic

Change in year-on-year deployment

Stable

Summary of Progress

The domestic low carbon heat market has been stable over the year to March 2020 in relation to heat pumps, with a contraction in the market for biomass in line with expectations following changes to the RHI scheme.

General consumer awareness has been stable over the last few years, suggesting little growth in potential demand. A fall in the number of MCS-registered installers suggests supply chain capacity to deliver would need to be scaled up if significant demand were to be rapidly unlocked.

The extension of the domestic RHI scheme and the announcement of the Green Home Grants schemes are expected to be a significant influence on the market over 2020/21 and 2021/22.

Overall Progress

Note: The findings presented in this dashboard cover the period before the announcement of the Green Homes Grant schemes. Any market impact of any policy announcements after April 2020 will not be captured here.

Economy wide measures of activity relating to the "Renewable heat" sector have shown positive improvement since the start of the scheme, and over the last year. However, it is not possible to assess what proportion of this is attributable to the specific parts of the "renewable heat" market, or specific schemes, and findings can only be taken as indicative.

Consumer awareness of "renewable heating" rose in the early years of the RHI scheme, peaking in December 2014 where 3/4s of the population were aware of renewable heating systems. Awareness has fallen since 2016 at around 3/5s of the population, but has been roughly stable since then.

Heat Pumps

The evidence below pre-dates the announcement of the Green Homes Grant in July 2020.

- *Accredited installation numbers* have increased year on year, with a 11% increase in the year to April 2020.
- *Supply side indicators* suggest a mixed picture, with domestic heat pump specific figures showing growth in installer numbers. The number of MCS registered installers has remained stable in the year to end March 2020 (+4%), with an increase in the number of installers who are active and complete an installation (+26%). Since the start of the RHI there has been a reduction in the number of registered installers (-36%) but the number of active installers has remained stable (+3%). However, this could also be an indicator of smaller companies consolidating. Consumer complaints per installation have remained stable despite this reduction in installer numbers (-0.3% year to May 2020, -0.7% since first year of RHI).
- *Market efficiency and innovation indicators* suggest little progress to date, but potential for improvement in future. Domestic heat pump installation costs within the RHI have risen since the beginning of the RHI (+26%) but remained stable over the last year (+2%) with industry stakeholders predicting no change in the near future. Changes in installation costs may reflect the changing nature of installations taking place as the market moves beyond early adopters where heat pumps may have been a more straightforward installation.

Biomass

- *Market demand* for domestic biomass boilers has fallen following high levels of deployment in the early years of the RHI. Annual installation numbers have fallen 25% in the year to March 2020 and 87% since the beginning of the RHI. There has been a fall in the number of consumer complaints per installation in the year to May 2020 (-8%), breaking a previous trend of rising complaints since the start of the RHI scheme.
- *Supply side indicators* suggest decreases in the number of installers of domestic biomass boilers. MCS registered installer numbers have fallen in the last year (-9%) and have overall fallen since the beginning of the RHI (-64%). The number of active installers has grown slightly in the last year (+7%) but is still substantially below the beginning of the RHI scheme (-79%). However, reductions in both installer number measures could also be an indicator of smaller companies consolidating.
- *Market efficiency and innovation indicators* suggest little change. Installation costs within the RHI have remained stable over the last year (-4%) and since the first year of the RHI (-5%), with industry stakeholders not predicting any significant innovations or price changes in the near future.

Low Carbon Heat – Non-Domestic

Change in year-on-year deployment

Increase

Summary of Progress

In line with central intentions for the reforms to the RHI, deployment in the year to March 2020 has seen growth in the installation of larger capacity heat pumps. In contrast, the secondary policy intention of stimulating larger rather than smaller biomass installations have not been evidenced this year. Strong uptake of very large biomethane, biomass and heat pump installations from 'tariff guarantee' applications suggests a positive outlook over the coming 12 months, however, this cannot be confirmed until those installations are commissioned.

Costs have fallen across heat pumps and biomass boilers since the start of the RHI scheme, however, investors have mixed views regarding the potential for future reductions.

Overall Progress

- *Economy wide measures of activity* relating to "Renewable heat" and "Bioenergy" sectors have shown positive improvement since the beginning of the scheme, and over the last year. However, it is not possible to assess what proportion of this is attributable to the specific parts of the renewable heat market, or specific schemes, and findings can only be taken as indicative.
- *Market demand indicators* show mostly positive movement in line with recent reforms to the RHI which promote a shift to fewer but larger installations which are expected to offer better value for money. Heat pumps have seen the annual capacity installed under

the RHI increasing over the last year (51% increase) and since the first year of the RHI (367% increase). Among heat pump applications received, the average capacity has risen 70% over the last year. In contrast, annual capacity installed from biomass installations has fallen over the last year (-66%) and since the first year of the RHI (-25%), with average biomass capacity decreasing over the last year (-60%).

Biomethane for injection to the gas grid has continued to grow since the beginning of the RHI scheme, starting from a near zero starting point. Biomethane generation for the gas grid that has been paid for under the RHI continues to rise each year (6% over the last year) from a pre-RHI baseline of zero biomethane production for the gas grid. Biogas for heat installations under the RHI have slowed, with only 1 installation accredited in the year to March 2020.

The strong pipeline of applications for tariff guarantees, although not confirmed until actually installed, provide a positive outlook for market activity over the coming 12 months, particularly in biomethane which make up 43% of granted tariff guarantee applications (as of end March 2020).

- *Market efficiency and innovation indicators* show a positive outlook going forward for heat pumps, where industry stakeholders are predicting cost reductions, with more uncertainty for the anaerobic digestion market. This continues a trend of heat pump installation cost reductions over the last year (-1%) and since the first year of the scheme (-19%). In contrast, biomass running costs are expected to increase slightly in future (primarily due to feedstock costs), however there is evidence of year on year reduction in biomass installation costs under the RHI (-15%) and a reduction in costs since the start of the RHI (-34%).

Heat Networks

Change in year-on-year deployment

Increase

Summary of Progress

The heat networks project pipeline has significantly grown in comparison to 2018/19 and over the last year. This aligns with the development of the Heat Networks Investment Project (HNIP) main scheme which launched in 2018 and has since held quarterly investment rounds. HNIP has offered funding to several applicants and the continued support of the Heat Networks Delivery Unit (HNDU) to local authority, creating a strong public sector pipeline.

Overall Progress

- *Heat networks pipeline*: The 2020 Q2 Capex pipeline demonstrates a total project capex value of £1.7bn: £98m is under construction/completed and £891m relates to HNIP projects. This demonstrates an increase of 36% from the same period last year. We have also seen a number of low-carbon heat networks come forward for HNIP funding.

- *Market indicators:* Market intelligence is continuously being gathered by BEIS – we expect to provide more insight as the market grows and more costs data are available to benchmark against.
- *Consumer awareness* has remained stable over time. Consumer awareness has remained unchanged over the last year (-2%) and since the beginning of the policy (+2%). Consumer complaints data covering the whole market is currently unavailable, however, heat trust data which represent a subset of the market suggest consumer complaints have decreased over the period.

Progress over the previous 12 Month period

NOTE: BEIS will keep these indicators under review as policy develops. Both the indicators and data sources may change in future iterations.

Key to RAG assessments

RAG	Definition
Green	Indicator suggests progress in development of a more sustainable renewable heat market since the beginning of the reference policy
Amber	Indicator provides some evidence of progress in development of a more sustainable renewable heat market since the beginning of the reference policy
Red	Indicator provides little/no evidence in development of a more sustainable renewable heat market since the beginning of the reference policy
Grey	Data not applicable or not available for this technology

Assessment Factor	Ref	Indicator	Indicator source	Renewable Heat - Domestic	Renewable Heat - Non Domestic	Heat Networks
Market Demand Indicators						
A. Installation numbers	A1	Number / Capacity of low carbon heating systems installed	* BEIS Scheme application data - including Renewable Heat Incentive, Heat Networks Investment Project and follow-on policies where appropriate	Green	Amber	Amber
A. Installation numbers	A2	Amount of biomethane produced	* Renewable Heat Incentive	Not applicable	Green	Not applicable
B. Product quality and reliability	B1	Consumer complaints associated with low carbon technologies	* Renewable Energy Consumer Code (RECC) and Home Insulation & Energy Systems Contractors Scheme (HIES) Complaints Data * Heat Trust consumer complaints data	Green	Not applicable	Amber
C. Consumer awareness and perceptions	C1	General consumer awareness of low carbon technologies	* BEIS Public Attitudes Tracker - awareness of renewable heating systems and heat networks.	Amber	Not applicable	Amber

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Assessment Factor	Ref	Indicator	Indicator source	Renewable Heat - Domestic	Renewable Heat - Non Domestic	Heat Networks
Market Supply Indicators						
D. Availability of certified / skilled installers	D1	No. of registered MCS certified installers	* MCS Data	Amber	Not applicable	Not applicable
D. Availability of certified / skilled installers	D2	No. of MCS installers carrying out an installation in the last year	* MCS Data	Green	Not applicable	Not applicable
E. Overall market activity	E1	Total turnover of organisations working in the Low-Carbon Heat sector	ONS Low Carbon and Renewable Energy Economy Survey	Amber	Amber	Amber
E. Overall market activity	E2	Total number of employees working in the Low-Carbon Heat sector	ONS Low Carbon and Renewable Energy Economy Survey	Green	Green	Green
Market Efficiency and Innovation						

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Assessment Factor	Ref	Indicator	Indicator source	Renewable Heat - Domestic	Renewable Heat - Non Domestic	Heat Networks
F. Cost Reduction	F1	Median capital costs both for technology purchase and installation (based on cost per unit of installed capacity)	* Renewable Heat Incentive Application Data * Heat Networks application data where and when appropriate	Amber	Green	Not available
G. Supply chain efficiency and innovation	G1	Progress in improving cost efficiency in the supply chain (e.g. as a result of product or process innovation, increased economies of scale, reduced costs of inputs)	* Consultation with manufacturers / sector bodies and market intelligence	Amber	Amber	Not available

Progress since the beginning of the reference policy

NOTE: BEIS will keep these indicators under review as policy develops. Both the indicators and data sources may change in future iterations.

Key to RAG assessments

RAG	Definition
Green	Indicator suggests progress in development of a more sustainable renewable heat market since the beginning of the reference policy
Amber	Indicator provides some evidence of progress in development of a more sustainable renewable heat market since the beginning of the reference policy
Red	Indicator provides little/no evidence in development of a more sustainable renewable heat market since the beginning of the reference policy
Grey	Data not applicable or not available for this technology

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Assessment Factor	Ref	Indicator	Indicator source	Renewable Heat - Domestic	Renewable Heat - Non Domestic	Heat Networks
Market Demand Indicators						
A. Installation numbers	A1	Number / Capacity of low carbon heating systems installed	* BEIS Scheme application data - including Renewable Heat Incentive, Heat Networks Investment Project and follow-on policies where appropriate	Amber	Amber	Amber
A. Installation numbers	A2	Amount of biomethane produced	* Renewable Heat Incentive	Not applicable	Green	Not applicable
B. Product quality and reliability	B1	Consumer complaints associated with low carbon technologies	* Renewable Energy Consumer Code (RECC) and Home Insulation & Energy Systems Contractors Scheme (HIES) Complaints Data * Heat Trust consumer complaints data	Amber	Not applicable	Amber
C. Consumer awareness and perceptions	C1	General consumer awareness of low carbon technologies	* BEIS Public Attitudes Tracker - awareness of renewable heating systems and heat networks.	Red	Not applicable	Amber
Market Supply Indicators						

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Assessment Factor	Ref	Indicator	Indicator source	Renewable Heat - Domestic	Renewable Heat - Non Domestic	Heat Networks
D. Availability of certified / skilled installers	D1	No. of registered MCS certified installers	* MCS Data	Red	Not applicable	Not applicable
D. Availability of certified / skilled installers	D2	No. of MCS installers carrying out an installation in the last year	* MCS Data	Amber	Not applicable	Not applicable
E. Overall market activity	E1	Total turnover of organisations working in the Low-Carbon Heat sector	ONS Low Carbon and Renewable Energy Economy Survey	Green	Green	Green
E. Overall market activity	E2	Total number of employees working in the Low-Carbon Heat sector	ONS Low Carbon and Renewable Energy Economy Survey	Green	Green	Green
Market Efficiency and Innovation						

Low carbon heat: progress on developing a sustainable market

Assessment Factor	Ref	Indicator	Indicator source	Renewable Heat - Domestic	Renewable Heat - Non Domestic	Heat Networks
F. Cost Reduction	F1	Median capital costs both for technology purchase and installation (based on cost per unit of installed capacity)	* Renewable Heat Incentive Application Data * Heat Networks application data where an when appropriate	Amber	Green	Amber
G. Supply chain efficiency and innovation	G1	Progress in improving cost efficiency in the supply chain (e.g. as a result of product or process innovation, increased economies of scale, reduced costs of inputs)	* Consultation with manufacturers / sector bodies and market intelligence	Not applicable	Not applicable	Not applicable

Methodology

Aims of the dashboard

The dashboard presents evidence to track the overall progress of the low carbon heat market. This publication should not be used to assess the impact of individual government policies or interventions. Individual policies are assessed in policy specific evaluations.

Progress over the previous 12 Month Period - insight into the recent progress in the low carbon heat market is assessed using changes observed in comparison to the previous 12 months. This assessment compares data over the 2019/20 financial year (April to March) with data over the 2018/19 financial year (unless stated otherwise).

Progress since the beginning of policy - insight into the longer term progress in the low carbon heat market is assessed using changes observed since the start of the current dominant policy in each low carbon heat market.

Where possible, metrics draw on data from the first quarter of each policy referenced below. This is deemed as the most appropriate reference period as the low carbon heat market has seen significant market activity in the anticipation of the launch of the relevant schemes, rendering a pre-policy baseline inappropriate. Similarly, interest continued to pick up quickly after launch, meaning a baseline drawing on a period several months into the scheme is also inappropriate. Therefore, where possible, referencing the first quarter of the current dominant policy allows tracking of progress over the life of that policy, without making conclusions about effectiveness in comparison to a baseline. Where data availability does not support this for specific metrics, data for the first 6 months, or first year of the dominant policy are used. The indicator summary below specifies which baseline is used.

Reference policies used are:

- Domestic renewable heat is assessed from the start of the domestic Renewable Heat Incentive, launched in April 2014
- Non-domestic renewable heat is assessed from the start of the non-domestic Renewable Heat Incentive, launched in November 2011
- Heat Networks is assessed from the start of the Heat Network Investment Project pilot, awards made in April 2017 "

Source of indicators

This publication collates data from a range of evidence sources. For details on the data collection methodologies the original source should be consulted.

The data processing undertaken to provide these outputs includes only combination of categories of data (e.g. 'air source heat pumps', 'ground source heat pumps' and 'water source heat pumps' combined into 'heat pumps') and calculation of period averages/totals.

The indicator overview below provides the source of evidence for each metric.

Market definitions

The following market definitions are used:

- Domestic renewable heat includes air and ground source heat pumps, biomass boilers and solar thermal water heating.
- Non-domestic renewable heat includes air, ground and water source heat pumps, biomass boilers (including CHP), solar thermal water heating, biogas and biomethane installations.
- Heat Networks include district heating networks for both domestic and non-domestic customers. Communal heating networks are currently out of scope of policy interventions.

Interpreting RAG ratings

RAG ratings are provided for each of the indicators and low carbon markets. RAG ratings are the most appropriate way to present progress where the indicators are drawn from various sources using various measures, and where markets definitions cover multiple individual technologies.

Green and red ratings indicate a consistent improvement or decline (respectively) in that market. An amber rating indicates one of two possibilities, either a) there is no change across the market, or b) there is a mixture of improvement, decline or no change within the market with no direction dominating.

RAG ratings based on percentage change have been determined using a 5% rule whilst those based on percentage point change have been determined using a 1 percentage point rule. Any change between +5%/-5% or +1%/-1% will be rated as Amber.

Indicator Overview

Market demand indicators

Assessment Factor - Installation numbers

Indicator reference - A1

Indicator name: Number / Capacity of low carbon heating systems installed

Source: BEIS Scheme application data - including Renewable Heat Incentive, Heat Networks Investment Project and follow-on policies where appropriate

Policy areas covered: Low carbon heating and Heat Networks Investment Project

Potential direction of travel:

If the annual number/capacity of low carbon heating systems installed increases, then this indicates increased consumer demand. Annual installation numbers will eventually plateau, however, it is not currently possible to predict when this will be.

GREEN = Ongoing increase in annual number of installations compared to previous 12 months/beginning of policy

AMBER = Mixed increase/decrease OR No change in annual number of installations compared to previous 12 months/beginning of policy.

RED = Reduction in annual number of installations compared to previous 12 months/beginning of policy

Baseline used to assess progress since beginning of policy:

- Renewable Heat = Average monthly installations over first quarter of renewable heat incentive.
- Heat Networks = Number of heat networks prior to Heat Networks Investment Project pilot reported via OPSS in 2015.

Factors for interpretation:

The data sources chosen capture only government subsidised installations, not the wider market. This approach is chosen as available industry 'whole market' data is not verified and could contain biases as it relies on manufacturer self-reports. 'Whole market' data will be reviewed alongside scheme data to identify any conflicting trends.

Plant installation numbers alone are not sufficient for the non-domestic scheme. The RHI policy has been reformed to focus deployment on fewer but larger installations. Capacity of

installed installations is used as a better indicator to understand the growth of the non-domestic sector. Biomethane is excluded as capacity is not comparable to other technologies

RHI data is reported using commissioning date, not RHI accreditation date. To account for the time lag in installations being accredited a proportion of applications still pending (neither accredited or rejected/withdrawn) are included in these indicators. The proportion included is based on the historic accreditation rate for each technology. For this reason the statistics will differ from the published RHI statistics which report by scheme application/accreditation date.

The Heat Networks Investment Project hosts regular funding rounds from Spring 2019 until 2021/22 with monitoring of funded applications through to operation ideally up to 2030. The Office for Product Safety & Standards report the number of heat networks in the UK every 4 years, with the most recent being December 2015.

Indicator reference – A2

Indicator name: Amount of biomethane produced

Source: BEIS Scheme application data - including Renewable Heat Incentive and follow-on policies where appropriate

Policy areas covered: Low carbon heating

Potential direction of travel:

If the annual production of gas increases, this indicates the health of both the installation supply chain as well as supply of feedstocks.

GREEN = Increase in annual gas production compared to previous 12 months/beginning of policy

AMBER = No change in annual gas production compared to previous 12 months/beginning of policy.

RED = Reduction in annual gas production compared to previous 12 months/beginning of policy

Baseline used to assess progress since beginning of policy:

- Renewable Heat = average biomethane produced over first quarter of policy.
- Heat Networks = Not Applicable

Factors for interpretation:

- Biomethane installations have very large and varied capacity. There is also a dependency on the availability of feedstocks which influences the production of biogas. The use of gas production in this indicator overcomes both of those issues.

- Where reductions in annual biogas production for heat are observed, data regarding production for fuels will be cross-checked to assess if alternative uses of biogas are becoming more dominant.

Assessment Factor – Product quality and reliability

Indicator reference – B1

Indicator name: Consumer complaints associated with low carbon technologies

Source:

- Renewable Energy Consumer Code (RECC) and Home Insulation & Energy Systems Contractors Scheme (HIES) Complaints Data
- Heat Trust consumer complaints data

Policy areas covered: Low carbon heating and Heat Networks Investment Project

Potential direction of travel:

If the number of beneficiaries reporting issues decreases, relative to the scale of technology deployment, then this indicates greater product and installation quality (an important component of market demand)

GREEN = Reduction or maintenance in annual number of consumer complaints compared to previous 12 months/beginning of policy

AMBER = No change in annual number of consumer complaints compared to previous 12 months/beginning of policy.

RED = Increase in monthly consumer complaints sustained for 12 months/beginning of policy

Baseline used to assess progress since beginning of policy

- Renewable Heat = average number of complaints over first year of policy, as proportion of total installations in that year.
- Heat Networks = Heat Trust consumer complaints 2016

Factors for interpretation:

- Rising numbers of complaints need to be considered alongside the qualitative insight from stakeholders (see below). Low carbon heat is currently in the early adopter phase, where consumers may be more willing to accept challenges in installation. As installations widen the changing nature of consumers may result in changes in complaints, without actually indicating quality/installation concerns.
- Evidence on consumer complaints for heat networks is currently limited to the voluntary Heat Trust scheme, which covers approximately only 10% of customers in the heat network's market. Therefore, this complaints data is not representative of the whole market.

Assessment Factor – Consumer awareness and perceptions

Indicator reference – C1

Indicator name: General consumer awareness of low carbon technologies

Source: BEIS Public Attitudes Tracker - awareness of renewable heating systems and heat networks.

Policy areas covered: Low carbon heating and Heat Networks Investment Project

Potential direction of travel:

If the general public's awareness of low carbon technologies increases, then this indicates better consumer awareness (an important component of market demand) of those technologies

GREEN = Overall trend of an increase in consumer awareness compared to previous years

AMBER = No change in the overall trend in consumer awareness compared to previous years

RED = Overall trend of a decrease in consumer awareness compared to previous years

Baseline used to assess progress since beginning of policy

- Renewable Heat = the earliest available data is from November 2015 (wave 15)
- Heat Networks = survey conducted in March 2017 (wave 21)

Factors for interpretation:

Maximum levels of awareness will depend on future policy direction, for example expecting national level awareness where policies continue to focus on 'Off gas grid' homes is unlikely. Analysis of awareness by property location or type will be carried out to understand further

The BEIS public attitudes tracker uses a random location sampling approach rather than a fully random probability sample. This method, as well as changes to question ordering, limit the accuracy of wave to wave comparisons. For this reason the overall trend in awareness findings has been reported without statistical findings.

Market supply indicators

Assessment Factor – Availability of certified / Skilled installers

Indicator reference - D1

Indicator name: Number of registered Microgeneration Certification Scheme (MCS) certified installers

Source: MCS data

Policy areas covered: Low carbon heating

Potential direction of travel:

If the number of certified installers increases, then this will enable increased market supply

GREEN = Increase in the number of registered installers compared to the previous 12 months/beginning of policy

AMBER = No change in the number of registered installers compared to the previous 12 months/beginning of policy.

RED = Reduction in the number of registered installers compared to the same time in the previous 12 months/beginning of policy

Baseline used to assess progress since beginning of policy

- Renewable Heat = monthly average of installers registered in first quarter of policy.
- Heat Networks = Not Applicable

Factors for interpretation:

There are 'MCS equivalent' schemes which we are currently not able to track, but that RHI applicants could sign up to as well.

MCS is not relevant for most non-domestic scheme installations

This indicator should be read alongside D2 which reviews the number of installers actively installing heating systems.

This indicator should also be read against A1 - this indicator does not capture where installers are consolidating, D2 may show a reduction in installer companies but an overall increase in installations would suggest installers are doing more installations per company.

Heat Networks are reviewing the appropriate types of installers for their market and may require consideration of a wider skillset (e.g. civil engineers, electricians)

Use of MCS is relevant up to 2021 as it is required by RHI for smaller scale installations; after RHI closes the relevance of MCS data will be reviewed.

Indicator reference – D2

Indicator name: Number of MCS installers carrying out an installation in the year

Source: MCS data

Policy areas covered: Low carbon heating

Potential direction of travel:

If the number of certified installers actively installing products increases, then this will enable increased market supply

GREEN = Increase in the number of active installers compared to the same time in the previous year/beginning of policy

AMBER = No change in the number of active installers compared to the same time in the previous year/beginning of policy

RED = Reduction in the number of registered installers compared to the same time in the previous year/beginning of policy

Baseline used to assess progress since beginning of policy:

- Renewable Heat = monthly average of installers carrying out an installation in first year of policy.
- Heat Networks = Not Applicable

Factors for interpretation:

Covers only domestic retrofit installations, definitely not larger non-domestic and probably not new build domestic

A falling number of installer companies may be evidence of a consolidating market, not a contracting one. Need to review against installation volumes.

Heat Networks are reviewing the appropriate types of installers for their market and may require consideration of a wider skillset (e.g. civil engineers, electricians)

Assessment Factor – Overall market activity

Indicator reference - E1 and E2

Indicator name: Total turnover of organisations working in the Low-Carbon Heat sector **and** Total number of employees working in the Low carbon heat sector

Source: ONS Low Carbon and Renewable Energy Economy Survey

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/finalestimates/2018>

Policy areas covered: Low carbon Heat and wider low carbon economy - no mention of Heat Networks (unless low carbon powered)

Potential direction of travel:

These indicators should be read together to assess market changes.

If there is growth across both turnover and employees this is very positive sign of a developing market which is growing for the future.

An increase in number of employees would signal the market is investing in their organisations in the expectation of market growth, but without increased turnover it would suggest that market demand has not yet started to increase.

An increase in turnover without an increase in employees would signal a short term benefit, with existing organisations working harder but not investing in their business for the long term. It could also signal an increase in productivity.

GREEN = Increase in turnover and employees compared to the previous year's survey/beginning of policy

AMBER = Increase in employees but not turnover OR Increase in turnover but not employees compared to the previous year's survey//beginning of policy

RED = reduction in turnover and employees compared to the previous year's survey/beginning of policy

Baseline used to assess progress since beginning of policy = earliest available data is from 2015

Factors for interpretation:

Breakdown available for bioenergy (includes biomass and other biofuels), renewable heat, and renewable heat and combined power.

Sample survey which relies on organisations self-identifying as working in these sectors.

Coefficients of variation for the indicators used in this dashboard suggest a high potential for variation in the survey estimates. For this reason the figures should be used as indicative only. The changes in turnover over time are large enough that the changes reported here are more reliable than the changes in employee numbers.

The survey also includes the number of organisations in the sector, however ONS advise that this is not a reliable measure, primarily due to double counting concerns.

Market Efficiency and Innovation indicators

Assessment Factor – Cost Reduction

Indicator reference - F1

Indicator name: Median capital costs both for technology purchase and installation (based on cost per unit of installed capacity)

Source:

- Renewable Heat Incentive Application Data
- Heat Networks application data where and when appropriate

Policy areas covered: Low carbon heating and Heat Networks Investment Project

Potential direction of travel:

If capital costs reduce, then this indicates low carbon technologies are becoming increasingly cost competitive with alternative options.

Increases in technology costs require further analysis. This could be a sign of reduced market competition, but it could also be a sign of installations taking place in a more diverse set of properties.

GREEN = Reduction in median installation costs in a year compared to previous 12 months/beginning of policy

AMBER = No change in median installation costs in a year compared to previous 12 months/beginning of policy

RED = Increase in median installation costs in a year compared to previous 12 months/beginning of policy

Baseline used to assess progress since beginning of policy:

- Renewable Heat = monthly average of installation costs in first 6 months of policy.
- Heat Networks = average installation costs of installations prior to the Heat Networks Investment Project pilot

Factors for interpretation:

Renewable Heat

- Some concerns about accuracy of applicant data on costs - questions altered for future to improve accuracy, and retrospective survey may be useful
- Definition using cost per kW installed capacity will allow for year-on-year comparison, recognising that the products will change
- Ideally need to separate installation costs for just the new technology from wider installation activity e.g. upgrading radiators to work well with HP installation, enabling works for heat pumps etc - this is not currently possible
- Need to consider alongside changes in quality / satisfaction as cost reduction could come at the expense of quality / increasing quality of installations could increase costs
- Costs will vary between e.g. one householder buying vs a Registered Social Landlord buying 1000 for its properties.
- Follow-on indicator required when RHI closes.

Heat Networks

- Detailed costs data is available, however, little reduction is expected over the life of the Investment Project due to the number of networks being supported.
- Follow-on metric needed when HNIP closes, which could include repeating the heating systems costs survey

Assessment Factor – Supply chain efficiency and Innovation

Indicator reference - G1

Indicator name: Progress in improving cost efficiency in the supply chain (e.g. as a result of product or process innovation, increased economies of scale, reduced costs of inputs)

Source: Consultation with manufacturers / sector bodies and market intelligence

Policy areas covered: Low carbon heating and Heat Networks Investment Project

Potential direction of travel:

If firms are improving cost efficiency of manufacturing processes, then this indicates the technology will become increasingly cost competitive to alternative options in future

GREEN = Increase in market confidence through investment in their own processes or improved economies of scale compared to previous year/beginning of policy

AMBER = No change in market confidence through investment in their own processes or improved economies of scale compared to previous year/beginning of policy

RED = Organisations actively reduce investment in their own business in favour of other technologies compared to previous year/beginning of policy

Baseline used to assess progress since beginning of policy = stakeholders interviewed are asked to provide perceptions based on comparisons to before the policies

Factors for interpretation:

Need to understand broadly the extent to which firms are looking at this and see potential to make improvements, and the factors that underlie this.

Will be more relevant for some than others depending on maturity of global market

Data from Heat Networks Investment Project will provide insight up to 2021/22, however significant changes in this indicator are expected to arise after that period. Follow-on data sources will be sought at this time.

This publication is available from: www.gov.uk/government/publications/low-carbon-heat-progress-on-developing-a-sustainable-market

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