

Guidance on the development of Heat Supply Agreements for District Heating schemes

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**SCOTTISH
FUTURES
TRUST**

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Executive Summary

This note provides guidance on **heat supply agreements (HSAs) for district heating schemes**. It supplements existing guidance on various aspects of heat networks published by [Scottish Futures Trust](#) (available from the [Heat Network Partnership for Scotland](#)) and others (see Section 4).

The guidance is aimed primarily at public bodies who are either developing their own heat networks, or acting as customers to networks operated by other organisations (whether public or private). However, much of the information is not specific to public bodies and will be of wider interest and relevance to developers, landlords (including residential social landlords), generators of surplus industrial heat, energy services companies and consultants.

The note identifies the different types of physical assets that comprise a heat network, and the important role of HSAs in allocating risks across the supply chain, from heat generator, through network operator to customers.

There are several variants of HSA, two but main types: a ‘bulk HSA’ or ‘network HSA’ regulates supplies between generators and network operators, whereas ‘customer HSAs’ regulate supplies to end users.

Although supplies of heat (or cooling) are similar in many respects to other utility type supplies, in heat networks there is a key difference, namely that the customer’s use of the energy supplied has a significant effect on the overall operational efficiency of the network. This is reflected in how HSAs and their tariffs are structured.

The note includes a summary of the key commercial issues that any HSA should address, and considers these from the perspective of both the customer and supplier. Such issues include:

- the standing and creditworthiness of the parties;
- the nature of the service to be provided;
- minimum service standards;
- remedies for poor supplier performance;
- customer and supplier responsibilities;
- calculation of charges;
- price review mechanisms;
- break points and termination;
- insurance and liability;
- dispute resolution; and
- arrangements upon the expiry of the supply period.

For heat supplies to domestic customers, network operators/heat suppliers will generally use their own template HSAs. The role of the Heat Trust in providing minimum service standards for domestic customers and microbusinesses supplied with heat by Heat Trust Registered Sites is considered.

For non-domestic supplies, particularly where an anchor load customer is involved, the agreements tend to be longer-term, lengthier and more complex. Further detail is provided on a broad range of commercial points that the HSA may be required to address, including the relationship of the HSA to other agreements, commissioning, guaranteed minimum heat off-takes, management of customer / supplier interfaces, and dealing with unexpected events and change in law.

1. Introduction

The Heat Network Partnership for Scotland (HNP) was established in 2013 and is led by Scottish Government. It co-ordinates support across a range of public sector agencies (including Resource Efficient Scotland, the Energy Saving Trust, Scottish Enterprise and Scottish Futures Trust) in order to accelerate the uptake of affordable low carbon district heating in Scotland.

Scottish Futures Trust (SFT) is one of the core HNP partners. As part of its wider role in working to increase the efficiency and effectiveness of infrastructure investment in Scotland, it provides commercial support to pathfinder projects to help develop and deliver district heating initiatives.

SFT has published a range of guidance on aspects of district heating (see section 4 for links):

- legal guidance on the powers of Scottish public bodies to generate or procure heat and electricity supplies, to supply heat and electricity to third parties, and the legal, regulatory and administrative constraints on these powers;
- delivery structures for heat networks;
- setting up energy services companies;
- VAT considerations for heat networks; and
- a high-level guide to district heating for local authority project sponsors.

This report supplements the existing suite of guidance by providing practical information on the development of heat supply agreements (HSAs) for heat networks. It draws on practical experience from both within Scotland and elsewhere in the UK. This includes experience from working with a number of projects being delivered under the Scottish Government's Low Carbon Infrastructure Transition Programme. Links to other relevant materials are given where relevant.

This report has been prepared by Scottish Futures Trust, with input from the following organisations: the Scottish Government, BEIS' Heat Network Delivery Unit, Heat Trust, Ramboll, Brodies LLP, QMPF LLP, Carbon Trust, Grant Thornton UK LLP, Atkins, Bevan Brittan LLP, Star Renewable Energy and SHARC Energy Systems. The contributions provided by these organisations are gratefully acknowledged.

1.1. Scope of guidance

This guidance note is intended as a point of reference for organisations in Scotland wishing to develop district heating schemes or participate in them as customers. It is primarily aimed at local authorities and other public sector bodies (consistent with SFT's remit), but should also be of interest to other organisations who commonly have a role in heat networks, including developers, landlords (including residential social landlords), generators of surplus industrial heat and energy services companies.

Section 2 provides an overview of HSAs, describes the different types of supply chain models in which they arise, and contains a summary of the key issues that should be addressed in an HSA. Section 3 provides more detailed information and analysis across a range of important commercial issues that should be considered when drafting, tendering, reviewing or negotiating HSAs (public bodies should note that procurement rules generally prevent them from directly awarding and from openly negotiating HSAs; further details are given in Section 2.3). It identifies a number of approaches that have been adopted to specific commercial points. Section 4 provides links to further sources of information and guidance.

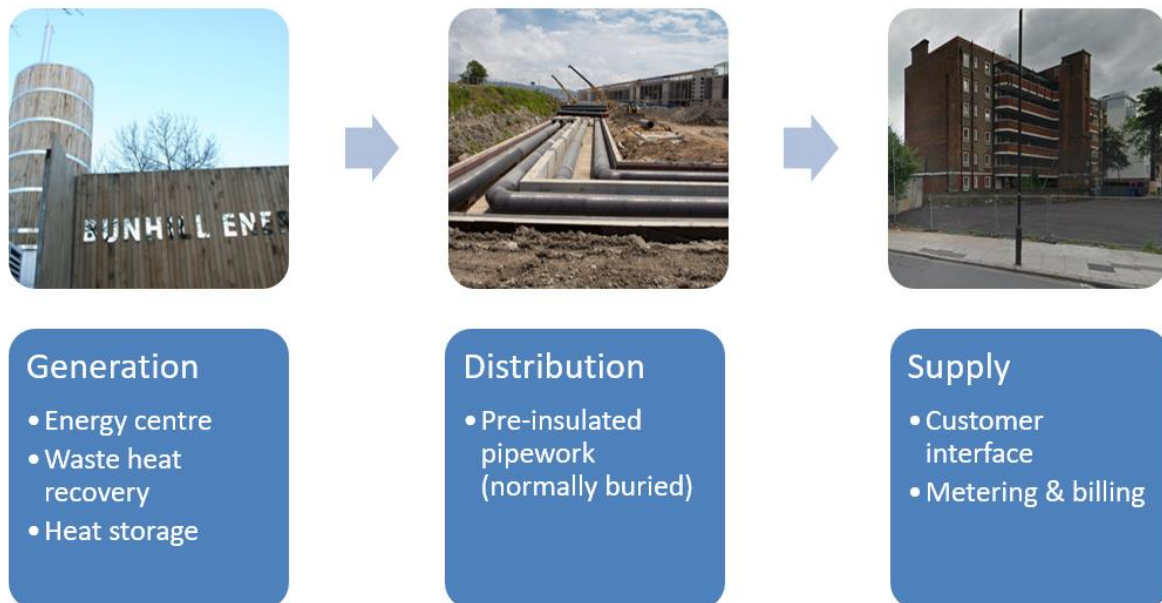
Disclaimer – this guidance represents general information and good practice, and does not constitute, and should not be treated as, professional advice, either from Scottish Futures Trust, or from any of the organisations that contributed to the development of the guidance. Users should always seek appropriate professional advice before entering into heat supply agreements.

2. Overview of heat supply agreements

2.1. Physical components of a heat network

The main physical assets of a typical heat network can be categorised as:

- **Generation** – the assets which produce heat for distribution. This will generally involve development, construction, operation and maintenance of an energy centre. Where the primary heat source to a network is surplus industrial heat (e.g. an energy from waste facility), an energy centre will normally still be required for back-up / top-up heat;
- **Distribution** – the main heat network infrastructure for the distribution of heat from the energy centre to the end customer(s). This usually requires the installation of a network of pre-insulated pipes, which transfers thermal energy in the form of steam, hot water or chilled liquids from the energy centre to the interface with the customer’s heat plant; and
- **Supply to customer plant** – the installation and operation of a heat interface unit / substation, which serves as the interface to the customer’s internal hot water pipe distribution network, and through which thermal energy is transferred from the primary distribution network to the customer building.



The various physical assets have very different characteristics, lifespans, and risk profiles, and attract different classes of investors. For example, a renewable heat generator may expect to provide heat for the duration of the plant’s useful economic life, which may be linked to any support it receives, for example through the Renewable Heat Incentive scheme (currently 20 years), whereas the main heat distribution pipes could have a lifespan of 40 years or longer.

There are various types of commercial arrangements for how the different assets of a heat network can be owned and financed, and how services can be configured across the assets to supply end

users. SFT's Guidance on Delivery Structures for Heat Networks contains examples and case studies (see section 4 for details).

2.2. Types of Heat Supply Agreements

Corresponding with the different commercial models for heat networks, HSAs arise in a variety of settings. There are two main types: a '**bulk HSA**' or '**network HSA**' regulates supplies between generators and network operators, whereas 'customer HSAs' regulate supplies to end users.

The objectives of the parties to the HSA will vary according to which physical assets they own, where they sit in the contractual chain (i.e. heat generator, network operator, or customer) and their investment criteria.

The main district heating operators have their own standard form agreements. HSAs for domestic customers tend to be relatively short in length, although if the scheme is registered with the Heat Trust the supplier may be required to publish additional information relating to the scheme, and/or have a customer information pack including service standards and various policies (complaints handling policy, vulnerable customers, etc.).

The Heat Trust scheme also sets minimum service standards and customer protection requirements that it expects heat suppliers to meet in respect of supplies to domestic customers and microbusinesses. Registered Participants of the Heat Trust scheme agree to abide by these standards and requirements (set out in the Scheme Rules and Bye-Laws) for Heat Trust Registered Sites. Other heat suppliers (or other networks operated by Heat Trust Registered Participants) could adopt the same or similar service standards on a voluntary basis. (See also section 2.4 on the potential for additional regulation of district heating in Scotland.)

For non-domestic customers and bulk/network HSAs, agreements can be lengthier and more complex, particularly if the customer is a public sector body acting as an anchor load customer for the development of a new network. Service standards for such agreements will be different to those used in domestic HSAs.

Examples of the different contexts in which HSAs arise include:

- **Self-generation / self-supply:** an organisation (e.g. a local authority or residential social landlord) owns all the assets, i.e. generation equipment, distribution network, and interfaces to customer buildings. It effectively self-supplies to meet its own heat demand. In this situation an HSA may be a simple internal re-charging arrangement between departments of a local authority, or a template supply agreement between an RSL and individual tenants¹.

¹ The Heat Trust is currently consulting on amending the Scheme Rules to allow existing heat networks that do not use individual HSAs to register, providing that clear customer standards and terms of service for the heat supply are set out in a separate document (such as a Customer Charter). This could apply to a number of existing district and communal heating schemes currently operated by social housing providers and other landlords. extending the benefits of the Heat Trust to their customers. The consultation is available at <http://heattrust.org/index.php/scheme-modifications/consultations>.

A variant of this model is where multiple public sector bodies collectively own a heat network, which is used exclusively or predominantly to supply their own buildings. In this scenario, each public body will need to consider how it procures its heat supply.

One strategy would be for the parties to incorporate a special purpose vehicle / ESCo which they jointly own, i.e. each has a shareholding. Each public body enters into an HSA with the SPV/ESCO for heat supplies to its own buildings. If the SPV/ESCO is set up to be 'Teckal' compliant, the individual shareholders can award these HSAs to the SPV/ESCO without competition. This represents an exception to the normal requirement to hold a tender process. SFT's guidance on the powers of public bodies' relating to district heating contains further details (see section 4 for reference).

Self-generation / supply to third parties – a single organisation (e.g. a local authority) owns the generation assets and distribution network, and supplies heat to a combination of its own buildings and buildings owned by third parties. For example, a local authority installs a large CHP plant in a leisure centre and supplies excess heat to other authority buildings and neighbouring commercial premises.

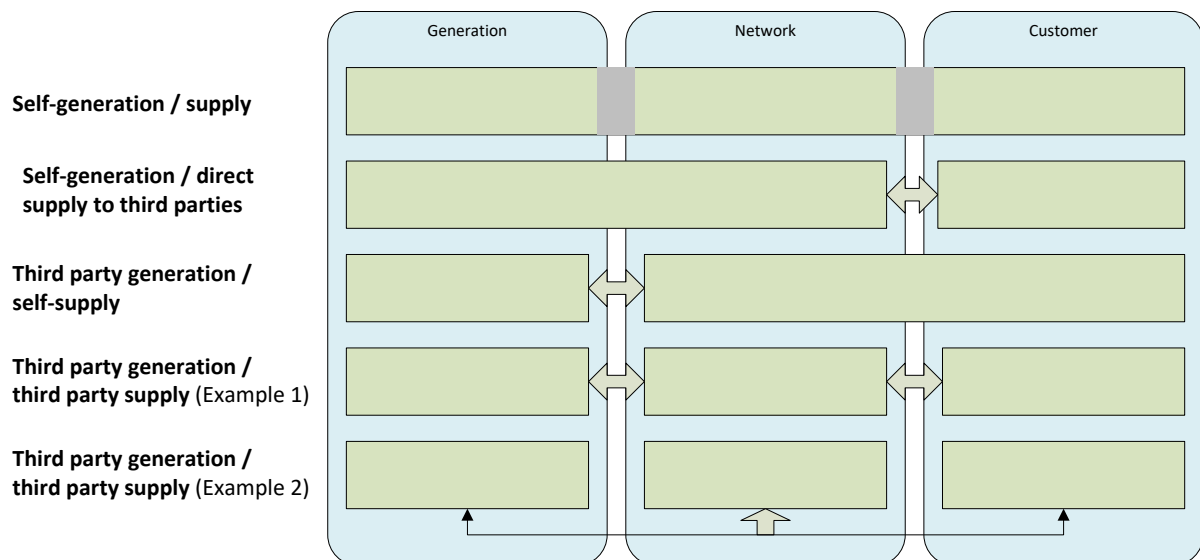
In this scenario, there will be formal heat supply agreements between the owner of the district heating assets (the authority) and the owners of third-party buildings (as well as less formal arrangements in respect of supplies to the authority's other buildings)².

- **Third party generation / self-supply** – in this situation the generation assets and distribution network are under separate ownership, and the network owner supplies its own buildings. For example, a local authority buys waste heat from an energy from waste facility and supplies a number of its buildings through its own distribution network. Here there will be a formal heat supply agreement between the owner of the generation assets and the owner of the network. This is sometimes referred to as a network / bulk HSA. There will also be less formal arrangements for the onward heat supply from the network to the network owner's buildings.
- **Third party generation / third party supply** – in this scenario, again the generation assets and distribution network are under separate ownership, but in this case the buildings supplied by the network are also under different ownership. There will be multiple different heat supply agreements, which could be structured in different ways:

² As the sector matures, a variant of this model may emerge, in which third-party building owners contract with a 'RetailCo'. The RetailCo would act as an intermediary between the heat network operator and building owners. The heat network operator acts as a wholesaler, with the retail function performed by RetailCo. This model is analogous to the markets for water and waste water services following separation of the wholesale and retail elements. It may be suitable where building owners wish to introduce an element of competition into the supply chain. RetailCo can be made subject to competitive market forces, and would use its buying power with heat network operators to drive up service standards to customers.

- **Example 1:** the heat generator supplies heat to the network operator under a network / bulk HSA, and the network operator sells the heat to end users under individual customer HSAs.
- **Example 2:** the heat generator contracts directly with end-users for the supply of heat under a customer HSA. Both the end-users and the heat generator pay the network operator connection charges to connect to the network operator’s pipe, and a ‘use of system’ charge to use its pipe to transfer heat from the energy centre to the end users. This is sometimes referred to as a ‘PipeCo model’.

The main supply models are summarised below:



The key consideration in all of these scenarios is how the risks associated with the supply of heat are allocated among the various asset / business owners. In order to minimise the overall cost of heat to end users, and ensure the scheme remains commercially viable, the basic principle is that risks should always be allocated to the party best able to manage them.

In some cases, risk will naturally sit with one party. For example, performance risk should sit with heat suppliers and ultimately be passed back to equipment suppliers / technology providers. Other risks are normally shared, for example force majeure, which regulates the contractual effects of events which are beyond either party’s control.

One of the key purposes of an HSA is to capture that risk allocation, thus providing clarity as to each party’s rights and obligations, and clear remedies if either party fails to comply with its obligations.

Key questions that HSAs should address are summarised in Table 1 below. Each question is considered from the separate perspectives of the customer and supplier.

Where third party investors and funders are involved in a heat network, they will also have a significant interest in HSAs: the revenues from heat sales are the primary means by which returns to investors and repayment of debt will ultimately be made. Investors and funders will therefore carry out detailed financial due diligence on HSAs, to ensure that there is sufficient confidence in, and security over, project cash flows.

Question	Customer perspective	Supplier perspective
Who am I contracting with?	<p>What is the supplier's financial standing and track record?</p> <p>Who is the supplier of last resort?</p> <p>Is the scheme registered with the Heat Trust (for supplies to domestic customers and microbusinesses)?</p>	<p>Is the customer creditworthy?</p> <p>For how long is the customer prepared to sign up for?</p>
What is the nature of the service to be provided?	<p>Will the supply meet total demand (peak load), or just base load?</p> <p>What temperatures will be achieved?</p> <p>What equipment will be installed in the buildings to be connected?</p>	<p>Is resilience to be provided through the network, or by retaining customer plant?</p> <p>What flow temperature is needed?</p> <p>What return temperature can be achieved?</p>
What are the service standards?	<p>Which elements of the service are crucial, and are these captured in appropriate KPIs?</p>	<p>Are service standards realistic?</p> <p>Can they be maintained over the course of the supply period?</p>
What happens if service standards are not met?	<p>Is there a performance framework, so that KPI failures are monitored, reported & compensated?</p> <p>Does this incentivise good performance?</p>	<p>Consider how KPIs will be monitored / evidenced, and potential exposure for KPI failures.</p> <p>Avoid 'hair triggers' for termination.</p>
What are the main customer and supplier responsibilities?	<p>Payments for supplies.</p> <p>Maintenance of customer plant and equipment (e.g. HIU/internals).</p> <p>Provision of access for maintenance and meter readings.</p> <p>Achieving specified return temperatures.</p>	<p>Provision of heat supply.</p> <p>Metering, billing and payment procedures.</p> <p>Maintenance of plant / equipment.</p> <p>Compliance with agreed interface procedures.</p> <p>Complaint handling & resolution.</p>
How will the physical interfaces between the network and the customer property operate?	<p>Will the supplier own assets in the customer property?</p> <p>What level of disruption will be incurred?</p> <p>Will space be lost in customer's building?</p>	<p>Are lease terms / access arrangements acceptable?</p> <p>Is there a suitable route to bring a connection into the property?</p>
How will the control interfaces between the network and customer property operate?	<p>What control will the supplier need over the customer's heating systems?</p> <p>What information will be shared with the supplier, and how will it manage data protection?</p>	<p>What control information does the generator need to provide to the customer's heating system?</p>

<p>What is the price, and how is this calculated?</p>	<p>What are the components of the charge – e.g. connection charge, standing charge and variable charge?</p> <p>Is there a minimum off-take, and is it set at a realistic level?</p>	<p>Does the tariff structure allow for recovery of fixed costs (connection charge, standing charge) and variable costs (volumetric element) and provide an acceptable rate of return on investment?</p>
<p>How often can prices be varied, and how will this be calculated?</p>	<p>Is there transparency around how and when prices can be reviewed?</p> <p>Will the tariff remain affordable and deliver value for money over the full term of the agreement (including when new technical solutions are developed)?</p>	<p>Does the price review formula allow margins to be maintained in the event of changes in underlying costs (e.g. fuel, operation, maintenance)?</p> <p>Is the frequency of reset sufficient to manage interim price fluctuation risk?</p>
<p>How long is the agreement for, and can it be terminated early?</p>	<p>Is there a minimum term?</p> <p>When does the service start – are there conditions?</p> <p>Are there break points or automatic renewals?</p> <p>Under what circumstances can the agreement be brought to an end?</p> <p>Are there adequate protections for supplier default (e.g. is there a supplier of last resort)?</p>	<p>Minimum term needs to be sufficient to recover initial capital investment.</p> <p>Is there appropriate compensation for early termination?</p>
<p>What happens in the event of a dispute?</p>	<p>Is there a clear dispute resolution procedure, with escalation and time-scales?</p> <p>Is there a right to redress through the Energy Ombudsman?</p> <p>Are processes for disconnection of heat supply reasonable / transparent?</p>	<p>Consider internal customer management and complaint handling processes.</p> <p>Registration of a scheme with the Heat Trust allows customers of the scheme (domestic, and micro-businesses) to raise an unresolved complaint with the Energy Ombudsman).</p>
<p>What happens at the end of the agreement?</p>	<p>Is there scope for extending the supply period?</p> <p>Is a new procurement required?</p> <p>What notice period is required?</p> <p>What happens to the heating plant /equipment?</p> <p>Is the supplier responsible for disconnecting / removing any plant/equipment?</p>	<p>Consider notice periods and procedures for final meter readings and access to customer property to disconnect/remove equipment.</p>

Table 1 – Key points that Heat Supply Agreements should address

2.3. Procurement considerations

Detailed commentary on the impact on HSAs of different legal regimes is outwith the scope of this guidance. However, SFT's guidance on "The powers of Scottish public bodies to generate/procure heat and electricity supplies etc." includes analysis and commentary on various legal considerations relevant to HSAs, including the impact of public procurement law, state aid, competition law and limits on trading powers for a range of Scottish public bodies. This is available on the Heat Network Partnership's website (see section 4 for reference).

In relation to procurement, the key point to note is that the energy requirements of a public body are within the scope of public procurement law. There is no exception for energy purchased from a district heating scheme: where a public body buys heat through an HSA (as a customer) the agreement is treated as a 'supply contract' for the purposes of the procurement regulations. Public bodies must therefore consider the process by which they award HSAs to ensure legal compliance.

Note, however, that there are exceptions available under the utilities procurement rules. These might apply for a public body operating a district heating network that supplies heat to other organisations when they buy heat in bulk from a heat generator to supply that network.

SFT's legal guidance also includes a range of procurement strategies that could be adopted in a range of scenarios relating to the purchase of heat and electricity from district energy networks.

2.4. Regulation of district heating

District heating is not currently regulated to the same extent as other utilities. There is currently no statutory regulator for heat networks, whereas (for example) the gas and electricity markets are regulated by OFGEM, and the water and waste water sectors are regulated by the Water Industry Commission for Scotland and, in England and Wales, OFWAT. However, certain regulatory regimes (in addition to public procurement, state aid etc., referred to above) are still relevant to HSAs, including general consumer protection law.

The Heat Network (Metering and Billing) Regulations 2014 are relevant to HSAs. The regulations implement the requirements in the EU Energy Efficiency Directive with respect to the metering and billing aspects of the supply of distributed heat, cooling and hot water.

In November 2017 the Scottish Government published proposals for consultation on the regulation of district and communal heating³. This includes policy proposals relating to consumer protection, minimum technical standards and requirements for district heating operators to be licensed, and to obtain consents to develop networks. Should the proposals be taken forward, this may also have an impact on HSAs.

³ Scotland's Energy Efficiency Programme: Second Consultation on Local Heat & Energy Efficiency Strategies, & Regulation of District & Communal Heating. <https://consult.gov.scot/energy-and-climate-change-directorate/lhees-and-dhr2/>.

In December 2017 the Competition and Markets Authority (CMA) launched a study into domestic heat networks (covering district and communal heating) to review how well the market works and if households are getting a good deal. The study will consider the following broad themes:

- whether customers are aware of the costs of heat networks both before and after moving into a property;
- whether heat networks are natural monopolies and the impact of differing incentives for builders, operators and customers of heat networks; and
- the prices, service quality and reliability of heat networks.

The outcome of the CMA study may ultimately lead to regulation of certain aspects of domestic HSAs.

2.5. Relationship between HSAs and property agreements

An HSA is one element of a complex contractual matrix that underpins the development and operation of heat networks. Commentary on the other types of agreement relevant to heat networks is outwith the scope of this guidance, except to draw attention to the fact that for new developments incorporating heat networks, developers sometimes use title conditions in property agreements (e.g. for the sale or transfer of land, or lease / sub-lease arrangements) to impose obligations on owners / tenants (and future owners / tenants) of plots within the development, restricting the types of heating systems that can be used. This is done to de-risk the investment by the developer (or a partner energy services company) in the heat network: by limiting the type of heating systems that can be used within the development, it provides more certainty around heat demand, the revenues from which will underpin the required investment in the infrastructure.

2.6. Relationship between heat, cooling and electricity

This guidance is focussed on the commercial principles underpinning heat sales through a district heating scheme. The same or similar principles generally apply to cooling, but for brevity only heat is generally referred to in this note.

Electricity sales are relevant to heat networks based on combined heat and power (CHP). Generation, transmission, distribution and supply of electricity are extensively regulated (the details are outwith the scope of this guidance). For the purposes of this note, the key point is that electricity sales can provide a separate revenue stream that supports the overall investment case, and which can affect the balance of risk/reward required for an HSA (e.g. level of guaranteed minimum heat off-take).

2.7. Contract monitoring

It is important that public bodies entering into HSAs (as with all contracts) put in place appropriate procedures to monitor performance following contract signature. In particular, if the public body is receiving a heat supply, it should ensure that: service standards are maintained by enforcing the KPI regime; the price review mechanism is properly applied; there is a clear contractual basis for any claims; and that any contract variations are duly authorised and recorded in writing.

3. Commercial considerations for heat supply agreements

This section provides guidance on key commercial considerations relating to HSAs, from the perspective of both parties. Detailed drafting of clauses is not provided: the guidance is intended to be of a general nature, and parties to an HSA should always take appropriate professional advice. Heads of Terms for various types of HSA are provided in HNDU's Project Development Guidance.

3.1. Parties to the HSA

Before considering the detailed terms of an HSA, it is important to understand, and carry out appropriate due diligence on, the proposed counterparty.

Heat networks involve a substantial up-front capital investment in infrastructure. This investment ultimately has to be repaid through the sale of heat, i.e. from customer charges contracted under HSAs. There have been instances where significant investments have been made, only for an **'anchor load customer'** to close down (e.g. where a large private sector heat off-taker becomes insolvent), or in the case of development sites, for construction of customer buildings to be significantly delayed (so delaying their availability to take a heat supply), leading to so-called 'stranded assets'.

To minimise this risk, investors will look to secure long-term revenue streams from one or more key anchor load customers before releasing any capital investment. They will also carry out due diligence on the proposed counterparty (and on the HSA itself). From an investor perspective, public sector bodies can make ideal customers, as they have significant estates, an ongoing need to retain key buildings with large heat loads (e.g. hospitals, schools, colleges, administrative offices) and are generally considered to be highly creditworthy.

From a customer perspective, due diligence on the supplier is also required. As a minimum, customers should consider the supplier's track record and whether it has appropriate assets / balance sheet to perform its obligations and meet any potential liabilities under the HSA. Suppliers will typically establish special purpose vehicles (SPVs) for particular projects. The assets, liabilities and risk for the project will all be ring-fenced within the SPV, with little or no recourse to the parent company. Customers should therefore consider what resources the SPV will have (or have access to) to ensure continuity of service and/or to meet a potential future claim. This could include arrangements for a supplier of last resort, a parent company guarantee (if available), and insurance cover.

3.2. Conditions precedent

Depending on the nature of the HSA, there could be a number of conditions that need to be satisfied before one or both parties wish the main provisions of the HSA to come into force. These are known as conditions precedent. Their purpose is to ensure that the parties have all the ancillary rights they need to carry out the project in addition to those bestowed by the HSA. They typically include:

- the acquisition of land rights for the project, for example the execution of a ground lease for an energy centre and wayleaves (rights to run services across or under another person's land) for buried heat mains;
- the grant of planning permission for the network and/or energy centre; and
- the grant of other consents / licences⁴ (e.g. water abstraction rights for heat pumps).

The main provisions of the HSA will not come into legal effect until the last of these conditions precedent has been satisfied (or waived by the relevant party). The HSA will usually provide a long-stop date, such that if there are any remaining conditions precedent that have not been satisfied (or waived), either party can terminate the agreement without liability to the other.

3.3. Commissioning

For new networks, or the addition of new loads to existing networks, there will be a commissioning period when plant and equipment is tested prior to the network becoming fully operational or commencement of heat supply to new customers.

The customer will need to be given due notice of this, so that the commissioning tests can be carried out at a time where disruption to heating supplies is kept to a minimum. The customer may wish to be given an advance copy of the supplier's proposed commissioning plan, and an opportunity to comment on it before it is finalised. The customer may also wish to witness the commissioning tests, and/or be given copies of commissioning certificates for its records. The HSA should record the procedure agreed between the parties in respect of this period.

This guidance assumes that installation will be the subject of a separate agreement between the parties, such as a connection or installation agreement. If not, then installation obligations may also need to be included in the HSA, including access rights, and the timing, manner and standard of any installation works to be carried out.

3.4. Nature of service

The nature of heat supplies under HSAs varies depending on the supplier, generation technology and commercial arrangements (which, for large customers, may be individually negotiated), with critical differences between them, for example temperature, carbon content, volume and security of supply. **It is fundamental that the agreement is clear as to the nature of the service to be provided.**

From a customer perspective, key considerations include:

- the **carbon content** of the heat to be supplied. Decarbonising its heat supply may be a key driver for a customer to connect to a heat network, so the customer needs assurance from the supplier that low carbon generation plant will be prioritised over other forms of heat

⁴ Note that under policy proposals recently published for consultation by the Scottish Government on the regulation of district and communal heating, district heating operators may in future need to be licensed to operate networks in Scotland, and may need to obtain a consent to develop schemes. See section 2.4 for further information.

generation (e.g. gas boilers, which would normally only be used to provide back-up / top-up to the primary, low carbon, heat source), or may seek an annual limit on carbon per kWh of heat provided;

- whether the **network supply (flow) temperature** is compatible with the customer buildings to be connected. If the operating regime is low temperature (as will increasingly be the case as networks use low carbon or waste heat as generation sources)⁵, customer buildings may need to be adapted and/or their operating regime adjusted, to allow compatibility with the network. If this is required, the HSA should specify who is responsible for these changes;
- whether the **network return temperatures** can be achieved by the customer heating system. As above, customer buildings may need to be adapted to achieve agreed return temperatures.
- whether the network will provide all of the space heating and hot water needs for a building (i.e. will meet its **peak load** requirements), or will only meet a **base load** requirement, in which case the customer will need to retain its own boiler plant to top up the supply from the network in times of peak demand;
- whether the supplier will provide **back-up capacity / resilience** should the primary generation equipment fail (this will normally be from gas boilers in the energy centre providing redundancy for the low carbon generation assets), or the customer is expected to maintain its own back-up plant. Back-up capacity would normally be provided from the network, but there are examples where customer plant is maintained for this purpose. In this situation, the heat tariff should be lower, to reflect the fact that the customer will not realise the savings from avoided plant maintenance / replacement costs that it would achieve if the network was providing 100% redundancy. If the heat supply from the network fails, the operator should provide **temporary heating plant** (e.g. portable electric heaters), and compensate the customer for the increased costs associated with their operation (e.g. additional electricity).
- whether **control systems integration** is required to optimise operations and ensure uninterrupted supplies to customers. This may require telemetry between the generator and customer plant, and hence needs to be compatible with Building Management Systems.

These issues might be considered as technical points – and in the HSA some of these points would be recorded in a technical schedule. However, they are fundamental to the commercial agreement, and should be discussed early in the customer-supplier relationship.

⁵ To optimise network efficiency, the operator will wish to maximise the ‘delta T’, i.e. the difference between the flow and return temperatures, and may include provisions in the HSA to incentivise customers to minimise return temperatures.

3.5. Service standards

HSAs are the primary means by which investors ultimately recover and make a return on their investment in heat networks. Given the substantial up-front capital investment that is required in the energy centre and/or network, HSAs for anchor load customers will usually be long-term agreements. It is therefore of critical importance that there are clear **minimum standards of service** which the customer is entitled to expect, and a **mechanism by which these can be enforced**.

For schemes which are registered with the Heat Trust, there is a set of minimum standards prescribed in the Scheme Rules that the supplier must adhere to. These are based on service standards analogous to those used in the gas and electricity markets, and include the following elements:

- **temperature and pressure** – sufficiency of supply; flow and return temperatures;
- **continuity of service** – 24/7 availability other than for interruptions to supply;
- **interruptions of supply** – planned / unplanned / multiple interruptions, and the time period after which guaranteed service payments will be made to customers if supply is not restored;
- **notice periods** – for planned interruptions;
- **billing & metering** – back-billing, meter inspections;
- **complaints** – complaint handling & resolution;
- **accounts** – setting up and closing customer accounts; and
- **vulnerable customers** – maintaining supply to vulnerable customers.

Registration of a scheme with the Heat Trust provides a set of *minimum* service standards; it is open to customers to agree higher standards with suppliers. The Heat Trust standards are 'live', i.e. monitored and revised from time to time, the intention being to drive up service standards over time.

Service standards need to be considered on a project-specific basis. In projects in which SFT has been involved, services standards for non-domestic HSAs have included:

- **availability** – availability of heat supply from the network (i.e. a minimum availability figure, in which the heat supply should be available without interruption over an agreed period);
- **temperatures** – hot water and space heating temperatures within agreed tolerances;
- **pressures** – within agreed tolerances;
- **planned interruptions** – number / duration of interruptions;
- **notice of planned interruptions** – whether sufficient advance notice of interruption provided to the nominated customer representative;
- **unplanned interruptions** – number / duration over a defined period;
- **notice of unplanned interruptions** - whether interruptions are notified to nominated customer service representative within agreed period;
- **response times** – whether supplier meets agreed response times for different categories of unplanned interruptions, for example:
 - **emergency** – significant system failure / outage; potential to impact integrity of building; potential health and safety impact; potential to require temporary closure of the building;
 - **critical** – system continues to function but risk of damage to plant / systems;
 - **minor** – issues that do not materially affect operations; and
 - **ad-hoc** – works that can be carried out at a mutually acceptable time.

- **metering and billing** – frequency of meter readings; correct procedures used;
- **carbon reductions** – whether average carbon content of heat is within agreed tolerance;
- **noise** – within agreed tolerance;
- **vibration** – within agreed tolerance;
- **community benefits** – whether any contracted community benefits have been delivered within agreed time-scales.

Other potential considerations / formulations for service standards could include:

- **delivery speed** - of hot water;
- **system losses** – to ensure that the costs of system inefficiency are not passed on to customers;
- **plant efficiency** - kW output / kW input versus stated plant efficiency; and
- **energy mix** - low carbon heat source versus gas boiler back-up.

In the case of a network operator, it may be a party to two HSAs: a network HSA, under which the network operator purchases heat on a wholesale basis from a third-party generator; and a customer HSA, under which the network operator retails the heat to end users. The key point here is that the service standards in the customer HSA need to be backed off against corresponding standards in the network HSA. The network operator will be liable for meeting delivery temperatures, availability levels etc. to end users, but does not have complete control over these elements. Therefore, the risk needs to be passed down to the heat generator, who will, in turn, back off its risk through warranties with equipment manufacturers (e.g. guarantees provided by heat pump or CHP manufacturers).

This has practical consequences for negotiations or tenders for HSAs: for new-build schemes, network operators will normally negotiate both network and customer HSAs in parallel; for existing schemes, the network operator's ability to negotiate with new customers or heat generators will be constrained by the service standards contained within existing HSAs with generators and customers respectively.

3.6. Monitoring and enforcement of service standards

The purpose of service standards is twofold: to provide clarity as to the level of service the customer is entitled to expect from the supplier; and to incentivise the supplier to maintain a high standard of service over the full term of the agreement. In order to fulfil these purposes, the service standards need to be monitored, and any failures to achieve the agreed standards (service failures) should have tangible consequences for the supplier. Consideration should therefore be given to:

- **Monitoring** – the HSA should specify which party is responsible for monitoring compliance with service standards, how this will be done and the manner and frequency of reporting. For some service standards, the supplier will be best placed to monitor compliance, but the customer may require a right to audit the supplier's compliance with its own processes.
 - **Deductions / compensation** – failure to achieve agreed service levels represents a lower standard of service than the customer has contracted for, and should therefore result in a lower level of payment, or compensation being paid to the customer. The level of deductions / compensation needs to be carefully considered: it should be high enough to incentivise the supplier to improve / maintain its performance, but not operate as a penalty (in which case, deductions may be unenforceable). Consideration should be given to the situation where failure of a heat supply could result in temporary closure of a building, and
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whether a larger deduction should be made or compensation payable to reflect the customer's loss (e.g. lost revenue due to closure of a leisure centre). From the supplier's perspective, it (and/or its funders) may wish to cap its overall liability for deductions in a given period (e.g. annually) and/or in aggregate over the term of the contract.

- **Relief** – it may be appropriate to grant relief from deduction in certain situations, e.g. events affecting the service that are beyond the supplier's reasonable control.
- **Termination** – aside from applying deductions from payments, consideration should be given to whether repeated poor performance by the supplier should lead to a right for the customer to terminate the agreement for default. This could be triggered by the occurrence of a certain number of service failures over a defined period, and would normally involve a process whereby the supplier is served a notice requiring it to improve performance, and (in some cases after a final warning notice) if the supplier is still in default, the customer can bring the agreement to an end. The supplier (and/or its funders) will wish to ensure that any customer right to terminate for poor performance is not a 'hair trigger', and allows for a period in which the supplier can rectify its default or improve performance before termination takes effect.

3.7. Calculation of charges

A key element of any HSA is transparency around charging arrangements. Heat charges, and the structure of different elements of such charges, depend on a number of factors, and must be carefully modelled on a project-specific basis. This is a specialist area, and financial advice should be taken.

There are normally several components to a heat tariff:

- **connection charge** – a one-off charge representing the cost of providing a new connection from the network to the customer. In some cases the charge will be modelled on a developer's avoided cost of implementing an alternative heating supply in a new development. Connection charges are sometimes waived or discounted to attract new customers (particularly where the network operator is seeking to secure the required anchor load customers to ensure the scheme is financially viable), or borne by developers as part of the overall utility package for a plot;
- **fixed element** – an annual fixed amount, similar to a standing charge for other utilities, and typically calculated on a £/day basis per customer type. The charge represents the cost of installing, maintaining and eventually replacing the infrastructure used to bring the heat

(and/or cooling) to the customer from the energy centre⁶. The charge is independent of the amount of heat / cooling used by the customer over the year; and

- **variable element** – a volumetric based charge (in p/kWh or £/MWh) which varies according to the amount of heat consumed by the customer, as recorded by a heat meter⁷.

An aspect of pricing that is often poorly understood is the **distinction between the cost of fuel (e.g. gas) and the cost of heat**. When considering connecting to a heat network, customers should compare their ‘business as usual’ (BAU) cost of heat with projected costs under the HSA. The BAU cost should take into account not just fuel costs, but also other costs associated with the provision of heat. For most customers⁸ this will include boiler efficiency, annual boiler maintenance / servicing costs, and an annualised charge for boiler replacement. These will become avoided costs if the building connects to a heat network (although a Heat Interface Unit will also incur maintenance / lifecycle replacement costs), and should be factored into the value proposition for the customer.

There are a number of approaches to structuring tariffs, the details of which are outwith the scope of this guidance. For example, some suppliers offer a lower price to customers who can deliver a lower return temperature. This optimises the ‘delta T’, i.e. the difference between flow and return temperatures for the building connection, which helps overall network efficiency. Others may be offered a tiered tariff, with a lower tariff for meeting base load requirements, and a higher tariff for peak load. For the purposes of this note, the key point is that the charging arrangements in an HSA should be transparent and sensitivity tested under a wide range of scenarios.

For bulk / network HSAs and non-domestic HSAs involving **anchor load customers**, it is common for there to be a **guaranteed minimum annual heat off-take**. This means that if the customer’s demand falls below an agreed minimum, it will still be liable to pay for the minimum amount as if it had used it. The purpose of this is to de-risk the supplier’s investment in the energy centre and/or network infrastructure. An investor would otherwise face a level of demand/market risk that it may consider unacceptable. Setting a guaranteed minimum off-take gives the supplier (and its investors) confidence that irrespective of the customer’s actual demand in a given year, it will receive sufficient income from the customer to cover its fixed costs (including debt service)⁹.

From the customer perspective, signing up to a guaranteed minimum annual heat off-take requires careful consideration. In particular, the customer must be confident that it will retain the building

⁶ The fixed element can also be set at a level to ensure there is enough income from the scheme to meet the base financing costs associated with this infrastructure.

⁷ The Heat Network (Metering and Billing) Regulations 2014 focus on billing for district and communal heating based on actual consumption (i.e. metered supplies) where it is cost effective and technically feasible to do so.

⁸ In domestic rented properties, for example, generally tenants are not responsible for boiler maintenance /servicing or replacement.

⁹ It may be possible to take into account other sources of revenue when setting a guaranteed minimum annual heat off-take. For example, for CHP solutions some of the power revenues could be considered ‘guaranteed’ if underwritten by suitable power purchase agreements.

during the period in which the minimum off-take arrangement is in place, and that the guaranteed minimum is set at a level that is comfortably below the projected annual heat demand for the building, taking into account any planned change of use of the building (e.g. sub-letting areas within the building) and/or energy efficiency improvements to be carried out.

When calculating any shortfall payments in a given year, the minimum off-take should be adjusted downwards to reflect any periods during which the heat supply from the network was unavailable, or could not be provided in accordance with the agreed specification (flow temperatures, pressures etc.).

Consideration should also be given as to whether a shortfall payment in one year could be offset by payments in other years in which actual heat supplied had exceeded the guaranteed minimum. This would help to mitigate the customer's risk of having to make shortfall payments.

3.8. Price reviews

District heating schemes should be cost competitive for the customer not only at the date of signing the HSA, but throughout the term of the agreement.

As noted above, many non-domestic HSAs will be with anchor load customers, and underpinned by long-term contracts. Customers will therefore need comfort that charges will remain affordable and continue to represent value for money. This is equally true for domestic HSAs: customers may be in a development supplied by district heating where the only realistic alternative means of providing a heat supply is via electric heating (i.e. there are no gas connections to individual domestic properties within the development). In this scenario, customers are potentially vulnerable to sudden increases in charges from district heating suppliers. They may not be able readily to switch to an alternative supplier, and may have little means of redress as regulation of the heat market is currently far less extensive than for other utility sectors. Whilst the Heat Trust provides a set of minimum standards for customers (domestic / microbusinesses) belonging to networks registered with the scheme, it does not (and cannot) regulate customer charges.

Hence transparency around how and when (e.g. time-based and/or triggered by events) the supplier can reset charges is essential in HSAs. Different suppliers approach this in a variety of ways, and customers should take appropriate financial advice in relation to individual schemes. Examples of approaches include:

- capping charges at a level equivalent to the cost of an alternative heat supply, or at an agreed discount (e.g. x%) to an alternative. For example, some tariffs track gas prices;
- indexing schemes in accordance with published price indices, e.g. CPI; and
- using a blend of indices, to reflect the supplier's underlying cost drivers (e.g. fuel prices, transport costs, labour costs) etc. For example, it is not uncommon for fixed costs / standing charges to be indexed using a different formula to that used for variable charges.

It is important to carry out sensitivity testing on any price review mechanism, to ensure that the charges will remain cost competitive under a variety of scenarios.

In particular, consideration should be given to how the tariff will remain cost competitive in the long term, including in circumstances where the primary generation technology is changed part-way through the supply period (e.g. gas CHP replaced with heat pumps), or if the price of the comparator (e.g. gas) is no longer competitive with other forms of heat supply.

In the short term, linking heat charges to gas prices in the GB gas network may seem attractive to customers, because gas is currently relatively inexpensive and the most common counterfactual. However, as technology develops and carbon prices change or if the mix of gases in the gas network changes, gas may no longer be an appropriate benchmark, and a long-term HSA linked to gas prices may not deliver long-term value for money to the customer.

3.9. General supplier obligations

In addition to the specific service standards / KPIs that the supplier is required to meet, the HSA will usually require the supplier to provide the services in accordance with a number of general standards. These typically require that the services be performed in accordance with:

- all applicable laws and regulation (including, but not limited, to health and safety);
- any consents (e.g. planning permissions, building warrants);
- using reasonable skill and care;
- good industry practice and relevant certification schemes (which should be defined in the agreement, and would include minimum / recommended standards set out in the CIBSE Code of Practice for Heat Networks, and any related certification scheme(s));
- other relevant guidance (e.g. relating to the operation of heat pumps); and
- customer policies (e.g. health and safety policy), including any updates to these made during the course of the agreement.

Note that these should be independent and cumulative obligations – i.e. the supplier should be required to comply with each element. Compliance with such standards would not usually be expressed as KPIs; hence non-compliance would not generally entitle the customer to make deductions from payments. It would, however, constitute a breach of contract, and if sufficiently serious or persistent, and not remedied by the supplier, could entitle the customer (after due process) to terminate the HSA.

3.10. General customer obligations

The customer will normally be subject to a number of specific duties under an HSA. Their extent will depend on the nature of the HSA, in particular whether the customer is domestic or non-domestic.

Typical customers responsibilities include:

- maintaining in good condition any plant and equipment for which the customer is responsible (e.g. its own internal hot water distribution network, and any equipment in plant rooms on the customer side of the defined interface with the supplier's equipment);
 - operating the customer heating system to minimise return temperatures;
 - notifying the supplier of any proposed changes to the customer's plant and equipment that may impact the supplier;
 - providing access to the supplier (or its authorised agents) to allow meter readings, and the maintenance, repair and replacement of the supplier's equipment;
 - taking reasonable steps to avoid physical damage to the supplier's equipment;
 - notifying the supplier of any damage to equipment or fault that comes to its attention – e.g. an apparently faulty heat meter; and
 - notifying the supplier of any changes to its policies that may affect the supplier – e.g. health and safety policy.
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The HSA may also specify that authorised customer personnel may carry out particular operations in relation to the supplier's plant, for example to shut it down in the event of an emergency and/or re-start equipment following shutdown.

3.11. Metering and billing

Metering and billing of heat networks are regulated under the Heat Networks (Metering and Billing) Regulations 2014 (as amended). The HSA needs to set out the relevant arrangements – who will be responsible for metering, frequency of readings, ownership of the meter, and procedures in the event of a suspected faulty meter. In relation to the latter, there should be an agreed process in the HSA for estimating the consumer's heat consumption if a meter is faulty.

It may be more appropriate for disputes involving meter readings to be referred for expert determination, with an expert appointed by (say) CIBSE, rather than following the normal dispute resolution procedure (see section 3.16 for other considerations relevant to disputes).

For customers served by a shared heat meter (e.g. in blocks of flats), landlords should give consideration to sub-metering arrangements and fair distribution of charges amongst customers, ensuring that arrangements are in line with the obligations relating to individual meters (or heat cost allocators) and associated billing, as set out in the Heat Networks (Metering and Billing) Regulations (as amended) (see section 2.4).

3.12. Supplier / customer interfaces

There will typically be several physical interfaces between the plant and equipment owned by the supplier, and that owned by the customer. The HSA should:

- specify the plant and equipment to be provided by the supplier, and any plant that the customer must provide (e.g. internal hot water distribution network, radiator panels) and will be responsible for maintaining;
- provide access rights for the supplier to maintain any of its plant that is to be located in the customer's property, and times when such access can be obtained;
- clearly define the physical interfaces, which, in the case of a network HSA, will usually be a delivery point and a return point identified by heat exchangers and a heat meter. Ideally these should be specified on a plan incorporated into a schedule;
- clearly define the control interfaces, which, in the case of a network HSA, will usually be at the heat substation or heat interface unit; and
- specify where title (i.e. ownership) and risk in relation to the heat supply is transferred from supplier to customer.

3.13. Insurance

As noted above, there will be physical interfaces between the plant and equipment to be provided by the supplier, and the customer's existing plant. There is a risk that either party could cause loss or physical damage to its own property, to the other party's property, or cause injury. The HSA should:

- specify which party is responsible for insuring against certain risks - relevant policies would normally include property damage insurance and public liability insurance;
 - state any required minimum levels of cover for each policy;
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- state any requirements for either party to provide evidence of cover to demonstrate that the required policies are in place with adequate levels of cover; and
- state the minimum period of time for which policies should be held following the expiry or termination of the agreement.

If the project assets are damaged or destroyed by an insured risk, the parties should consider whether to include an economic reinstatement test in the HSA. This allows for consideration of whether it is economically viable to apply insurance proceeds to reinstate the damaged or destroyed assets (which may not always be the case). The parties should seek appropriate advice from their respective insurers.

3.14. Change of law

As non-domestic HSAs tend to be relatively long-term agreements, it is likely that during the term of the agreement there will be changes to regulation and legislation affecting the heat network. This could result in more (or less) capital expenditure being required, or an increase (or decreases) in operating costs for the energy centre and/or network. The HSA should regulate how the risk (and benefits) of such cost increases (decreases) is to be allocated between the parties.

In general, for short-term commercial contracts between the public and private sector, the contractor will price for known future changes in law and accept the risk in relation to other changes in law; the contractor's exposure is limited due to the short duration of the contract. For long-term contracts, the public sector generally shares in this risk, on the basis that changes in law are within the public sector's control, and it is difficult for the contractor to price for unknown future changes in legislation¹⁰.

The same principle applies to HSAs. However, the public sector should not take all change in law risk; the contractor should still price for known future changes (e.g. draft bills or statutory instruments that are not yet in force) and absorb general changes in law (e.g. changes in corporation tax). A public sector body should, however, consider on a value-for-money basis sharing with the contractor the costs of complying with future changes in law requiring increased capital expenditure.

3.15. Break points and termination rights

As noted above, district heating involves substantial up-front capital investment, which is then recovered through user charges under HSAs. For anchor load customers, these will usually be long-term agreements. The duration (or term) of an HSA will commonly be aligned with an incentive scheme (e.g. non-domestic Renewable Heat Incentive¹¹), around which the investor's business case

¹⁰ This is particularly relevant in the context of the Scottish Government's consultation on regulation of district and communal heating (see section 2.4), published in November 2014, which, if taken forward, may require legislation to give effect to the policy proposals.

¹¹ The term of the HSA could also be linked to the expected useful economic life of key items of plant (e.g. CHP engines).

will be driven. Hence currently an HSA for 20 years for anchor load customers is not uncommon¹². From a customer perspective this represents a long-term commitment - hence the need to be certain that the building(s) will be retained over the full term of the agreement, and that its/their demand is accurately modelled (with appropriate sensitivity testing) having regard to any planned changes in use and energy efficiency improvements to be made.

It is usually possible to discuss and agree **break points** into an HSA, but if the customer is an anchor load customer for the network, it may need to compensate the supplier to exercise an early termination option (assuming the supplier is not in default)¹³. Compensation / breakage costs should reflect the direct costs and losses that the supplier will suffer as a result of the early termination, and (depending on the structure of the project, and subject to commercial negotiation) could include some or all of the following¹⁴:

- the balance of outstanding third-party debt (including any early redemption fees);
- the balance of outstanding shareholder debt;
- repayment of equity; and
- the net present value of forecast dividend payments from the date of termination to the end of the contract term¹⁵.

The parties should consider whether they wish the HSA to renew automatically at the end of the agreed initial term, and if so how long any extension endures. If the customer is a public body, it will need to ensure that any extensions to the initial term are contemplated in the procurement process for the HSA. Otherwise, the extension may, for the purposes of procurement law, be deemed to be a direct award of a new contract and likely to be in breach of the relevant regulations.

The parties should discuss and agree the circumstances under which the HSA can be brought to an end (i.e. **termination events**) before expiry at the end of the agreed term. In addition to break points (discussed above), a number of other situations should be contemplated:

- **default:**

¹² Payments under the non-domestic Renewable Heat Incentive are for 20 years. Note that the RHI scheme will close for new applications in 2020/21.

¹³ Inclusion of break points without compensation increases investor risk and hence cost of capital. As district heating involves significant up-front capital investment, a higher cost of capital will translate to higher fixed / standing charge costs for customers.

¹⁴ If the public body is one of several anchor load customers, it should only bear an appropriate proportion of these liabilities. These options are most common where an SPV is being used for the project with third-party debt / investors.

¹⁵ These should be discounted at an appropriate rate to reflect the time value of money and the uncertainty that anticipated future profits would have been realised (but for the early termination). These options will be different for non-project financed solutions, but the general principle of compensation for loss and perhaps some element of lost future revenue / profit should be considered.

- **supplier default** could arise from repeated failure to achieve the required service standards, or a material breach which (if capable of remedy) has not been remedied within the required time frame;
- **customer default** would most likely arise from non-payment, and should only occur after service of notice of late payment that did not result in settlement of the outstanding amount within the required time frame;
- **insolvency** – if either party becomes insolvent, or unable to pay its debts, or commences or is the subject of a formal insolvency process etc.;
- **force majeure** – if a cause beyond the reasonable control of a party prevents it from performing some or all of its obligations under the HSA, and the event continues beyond an agreed period (for example, 6 months), either party will usually be able to terminate the agreement;
- **change of control** – if there is a change of control of one party, whereby the entity which acquires control of that party is deemed unsuitable for one of a variety of prescribed reasons;
- **bribery** – acts prohibited under anti-bribery legislation.

Although these are standard termination events for general commercial contracts, consideration should be given as to how they would apply in the context of an HSA, particularly in relation to the supplier default scenario, and the practical consequences of termination.

For example, in some projects, **step-in rights** have been used to allow one party to take control of the other party's project assets and continue to operate the scheme. This will not always be appropriate, but should be considered.

3.16. Disputes

If the heat network is a Heat Trust Registered Site, the Scheme Rules require:

- the supplier to provide certain minimum information relating to its complaint handling process to all customers of the scheme;
- the supplier to respond to complaints within a certain period (8 weeks);
- a process by which the customer (if they are a domestic or microbusiness customer) can refer a dispute to the Independent Complaint Handling Service (the Energy Ombudsman).

Customers are not required to use the Independent Complaint Handling Service; they are free to seek a legal remedy if they consider it more appropriate.

For schemes not registered with the Heat Trust, and for customers that fall outside of the remit of the Heat Trust (currently domestic and micro businesses) for Heat Trust Registered Sites, the HSA should include a process for resolving disputes. This will depend on the nature of the customer, i.e. whether domestic or non-domestic. If non-domestic, the dispute resolution procedure could follow the usual model for commercial contracts, i.e. escalation to senior management, and then to either litigation or another form of dispute resolution.

Certain types of dispute, for example relating to meter reading and calibration of meters, could be referred for expert determination, with the expert appointed by an accredited engineering body (e.g. CIBSE).

3.17. Arrangements upon expiry of the HSA

Arrangements on expiry will depend on the nature of the project, and whether the intention is to disconnect the property at the end of the initial supply period, or enter into a new HSA (which may require a new procurement exercise) and continue to take a supply from the heat network.

District heating operators will normally wish to operate their heat networks in perpetuity, gradually expanding the network, connecting new heat sources and customers, renewing physical assets as they approach the end of their useful economic life and deriving economies of scale.

If a domestic customer does not wish to renew its HSA, there should be a pre-agreed set of actions to be carried out to ensure an orderly transition. The process and time-scales for taking final meter readings, issuing a final bill, disconnecting the heat supply and removing any equipment belonging to the supplier should be clear. The Heat Trust sets standards on this.

The process for a network HSA may be more complex, as it may also involve decommissioning and removal of generation plant and equipment from the network operator's site, demolition of the energy centre building and making good any damage to property. This work will need to take place whilst minimising disruption, and could involve substantial expenditure, so responsibility for these actions (and liability for their costs) should be clearly allocated.

3.18. Other provisions

For non-domestic HSAs, the following is a brief summary of other provisions typically used:

- **Exclusivity of supply** – the supplier may require the customer not to obtain heat from another supplier during the term of the HSA (particularly if the customer is an anchor load customer for the heat network).
- **Force majeure** – the parties may wish to specify the events which would constitute force majeure. These are events which are accepted as being beyond the control of the parties, and the occurrence of which may delay or prevent the performance of obligations by one or both parties. Providing the affected party tries to overcome the effects of the event, it is granted relief from the consequences of non-performance. If the event continues beyond an agreed period, either party can usually terminate the agreement without liability to the other (see section 3.15).
- **Disconnection** – the HSA should set out the circumstances under which the supplier can disconnect the customer's heat supply. This will usually be limited to non-payment (following due process), emergencies, maintenance or as a result of a legal requirement.
- **Disaster Recovery Plan** – the supplier may be required to have in place procedures to be followed after the occurrence of an event which significantly affects the service.
- **Limitation and exclusion of liability** – both parties will normally wish to limit their liability to each other. The supplier may seek to cap deductions under the performance regime in a given period (e.g. annually) and both parties may require an overall cap on liability for the duration of the contract. The parties may also agree to exclude liability for indirect or consequential loss, though this should be considered on a case by case basis in light of the

potential losses that may arise (e.g. losses arising from the temporary closure of a customer building resulting from the supplier's failure to provide a heat supply).

- **Authorised personnel** - the parties may wish to designate named supplier personnel who will be authorised to enter the customer premises to carry out inspections, maintenance and repairs. Similarly, there may be specific customer personnel who are authorised to carry out certain actions on the supplier's plant (e.g. shutdown in the event of an emergency).
- **Record maintenance / audit** – where one party is a public body, it may require the other party to maintain records relating to the administration of the HSA for a defined period to comply with record management policies. It may also require a right to audit records periodically.
- **Management reports** – the supplier may be required to provide certain information to the customer at pre-defined intervals (this would include reporting on KPIs, but may include other information relating to the contract).
- **Intellectual property** – to the extent that intellectual property (IP) is used in the performance of the services, the supplier would normally warrant that it is the owner or licensee, and the customer may require a standard indemnity in respect of any third-party IP claims.
- **Use of subcontractors** – the customer may wish to limit the supplier's use of sub-contractors, and in any event may wish to stipulate that sub-contracting does not relieve the supplier of its responsibilities under the HSA. A public sector customer may also wish to include provisions relating to working and employment conditions for the supplier's staff / contractors.
- **Public sector contracts** – where either the customer or supplier is a public body, additional provisions will need to be considered (as with any other public sector commercial contract) such as freedom of information, bribery and corruption, equality and diversity, compliance with policies and provision of community benefits.

4. Further information

Additional information is available from the following sources:

- [Heat Network Partnership for Scotland](http://www.districtheatingscotland.com) (<http://www.districtheatingscotland.com>):
 - [Scottish Futures Trust Guidance on Powers of Scottish public bodies to generate/procure heat and electricity supplies, to supply heat and electricity to third parties, and the constraints on those powers](http://www.districtheatingscotland.com/wp-content/uploads/2015/12/DistrictHeatingLegalPowerReportV2Nov2014.pdf)
(<http://www.districtheatingscotland.com/wp-content/uploads/2015/12/DistrictHeatingLegalPowerReportV2Nov2014.pdf>)
 - [Scottish Futures Trust Guidance on Delivery Structures for Heat Networks](http://www.districtheatingscotland.com/sites/default/files/SFT%20DH%20Delivery%20Structure%20Report%20%28v1%20-%2016%20Mar%202015%29_0.pdf)
(http://www.districtheatingscotland.com/sites/default/files/SFT%20DH%20Delivery%20Structure%20Report%20%28v1%20-%2016%20Mar%202015%29_0.pdf)
 - [Scottish Futures Trust Guidance on establishing Energy Services Companies \(ESCOs\)](http://www.districtheatingscotland.com/wp-content/uploads/2017/10/SFT-ESCO-report-v1-16-March-2015.pdf)
(<http://www.districtheatingscotland.com/wp-content/uploads/2017/10/SFT-ESCO-report-v1-16-March-2015.pdf>)
 - [Scottish Futures Trust Guidance for Local Authority Project Sponsors](http://www.districtheatingscotland.com/wp-content/uploads/2015/10/DH-Sponsors-project-guide-v1.8.pdf)
(<http://www.districtheatingscotland.com/wp-content/uploads/2015/10/DH-Sponsors-project-guide-v1.8.pdf>)
- **HNDU Detailed Project Development Guidance** – available from the [Heat Networks Delivery Unit](https://www.gov.uk/guidance/heat-networks-delivery-unit) (<https://www.gov.uk/guidance/heat-networks-delivery-unit>), Department for Business, Energy and Industrial Strategy. The guidance contains a series of template Heads of Terms for the following types of heat supply agreements:
 - Bulk Heat Supply Agreement (HoT 12)
 - Residential Heat Supply Agreement (HoT 13)
 - Housing Association Heat Supply Agreement (HoT 14)
 - Commercial Heat Supply Agreement (HoT 15)
- **Code of Practice for Heat Networks CP1/2016**, published by [CIBSE](https://www.cibse.org) (<https://www.cibse.org>)
- [Heat Trust:](http://heattrust.org/) (<http://heattrust.org/>)
 - [Scheme Rules](http://heattrust.org/images/docs/Scheme%20Rules%202017.pdf) (<http://heattrust.org/images/docs/Scheme%20Rules%202017.pdf>)
- [Energy Ombudsman](https://www.ombudsman-services.org/sectors/energy) (<https://www.ombudsman-services.org/sectors/energy>)
- [The Heat Network \(Metering and Billing\) Regulations 2014](http://www.legislation.gov.uk/uksi/2014/3120/made)
(<http://www.legislation.gov.uk/uksi/2014/3120/made>)

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