B&NES Local Plan Partial Update/SPDs
Climate Emergency & Sustainability Scrutiny Panel
21st June 2021

Bath & North East Somerset Council

Improving People's Lives

Planning Policy framework update – helping to address climate & ecological emergency:

- Local Plan Partial Update
- Sustainable Construction & Retrofitting SPD
- Transport SPD

Role of the Local Plan Partial Update

Bath & North East Somerset Council

Improving People's Lives

SDS
2022 to 2042

New Local Plan
2022 to 2038

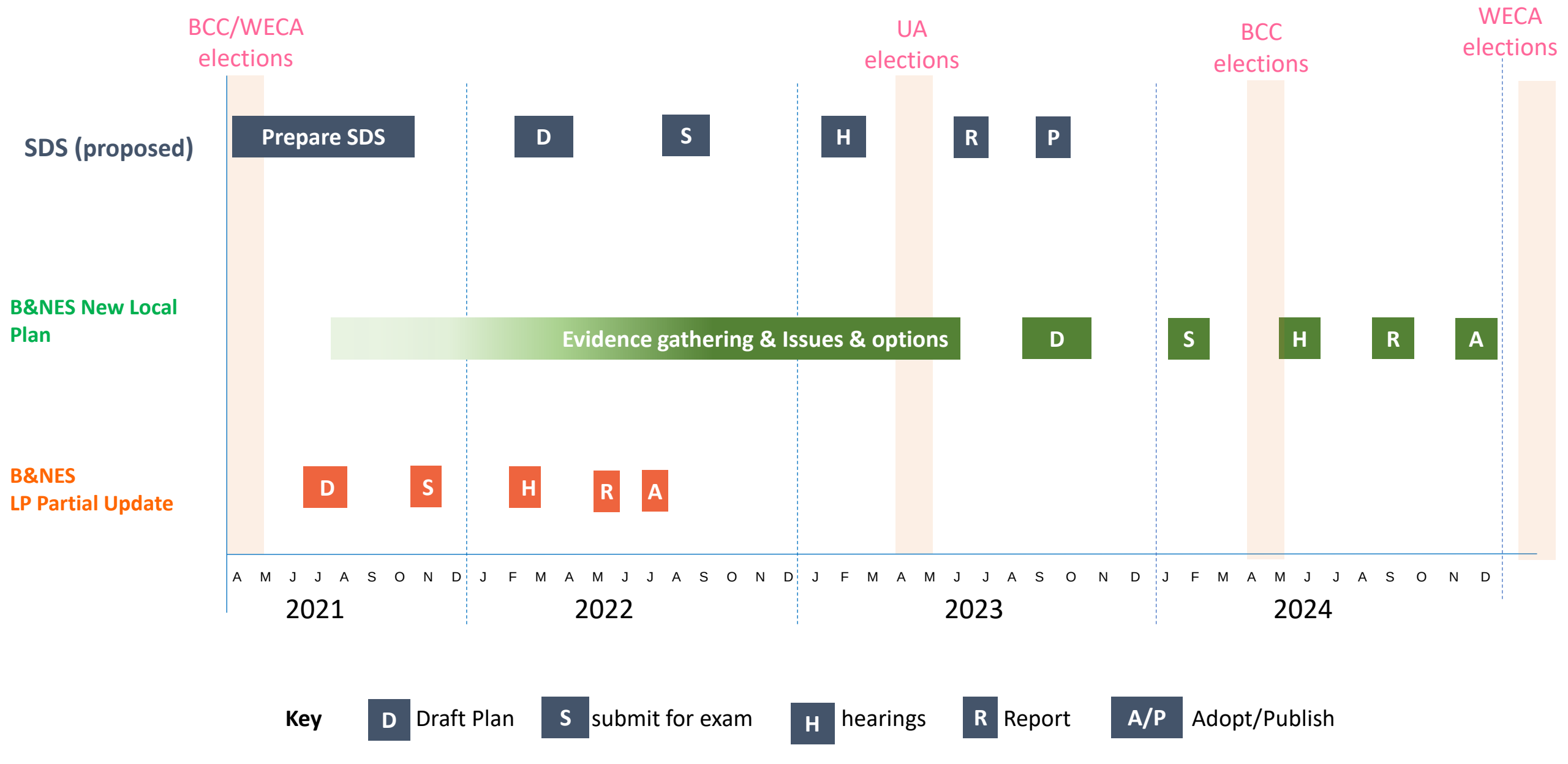
- New Planning Policy Framework to deliver the SDS
- New spatial Strategy
- New Plan period
- New targets e.g. the housing requirement, employment land, renewable energy, ecology
- Planning Reform

Local Plan Partial Update
To 2029 (adopt 2022)

- The Climate emergency (eg facilitate renewable energy regeneration, retrofitting, parking standards,
- The nature emergency (Biodiversity Net Gain)
- Address the shortfall in Housing Land Supply
- The green recovery (including Milsom Quarter and protecting employment land)
- Houses in multiple occupation
- University campuses and student accommodation
- Remove P&R sites from Green Belt
- Green Belt Villages

- **NB the scope and extent of changes of a partial update are limited**

Timetable



Key D Draft Plan S submit for exam H hearings R Report A/P Adopt/Publish

Key SPDs Timetable

Bath & North East Somerset Council

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1. Draft SPDs – consult alongside LPPU in August/September
2. Sustainable Construction & Retrofitting SPD – adopt autumn/winter
3. Transport SPD – adopt alongside LPPU

LPPU: Options Consultation feedback

- Around 2,350 comments (1,800 standard/petition style comments on Bath Rec or Whitchurch)
- Key relevant issues raised included:
  - Support for zero carbon development policy and reducing carbon via retrofitting
  - Flexibility needed in policies
  - Impact on viability/affordable housing delivery
  - Biodiversity Net Gain – maximise
  - Sustainable transport modes should be considered first, but don't be inflexible for rural areas

The Climate Emergency

LPPU will include policy changes addressing the 3 climate emergency priority areas for action:

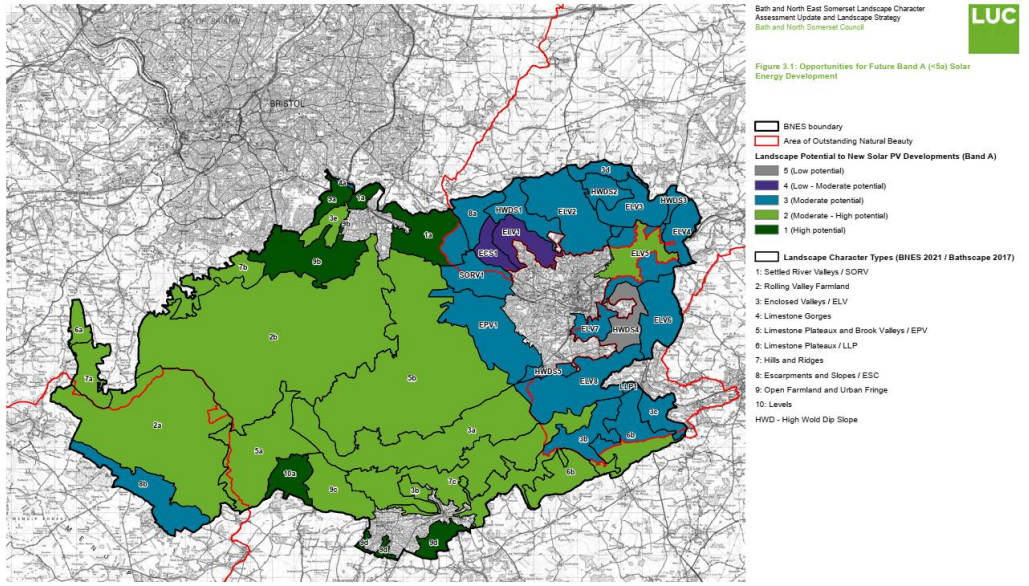
1. Energy efficiency improvements to buildings
2. Local renewable energy generation
3. Sustainable Transport - increased shift towards walking, cycling and mass transit

1. Energy efficient buildings

- A Zero Carbon policy for new build development – for residential buildings based on energy use requirements
- Retrofitting energy efficiency measures to existing properties to be required to achieve specified carbon reduction levels (supported by the SPD)
- Heating and Cooling Hierarchy – development to be required to:
  - Reduce energy demand
  - Residual energy to be met via renewable sources
- Whole Life Cycle Carbon Assessment

2. Renewable Energy

- Renewable energy/electricity targets in the Core Strategy (not being reviewed now)
- Facilitating delivery – positive strategy that seeks to encourage proposals of appropriate scales to the best locations
- Based on landscape sensitivity/potential and avoiding loss of important habitats
- Solar energy – seek provision that maintains/enhances biodiversity



3. Sustainable Transport

Update existing policies to:

- Strengthen focus on sustainable travel
- Ensure development transport choices are required to place sustainable modes first
- Increased linkages between transport, health, equality and inclusivity
- Embed Liveable Neighbourhoods measures and principles
- Ensure active travel benefits of Green Infrastructure are delivered
- Require ULEV charging infrastructure provided in new development

Preparation of a new a Transport SPD (Walking & Cycling design, Travel Plans, Ultra-Low Emissions Vehicles, Parking (with parking ratio standards)

P&R sites in the Green Belt

Removal of the Park & Rides sites from the Green Belt (if exceptional circumstances to change the Green Belt are accepted by the Inspector) and broadening their role to become transport interchanges with solar canopies.

The Ecological Emergency

- Updating adopted nature conservation policies so that they even better protect irreplaceable habitats and facilitate nature recovery
- Bringing forward a new policy (in advance of the national requirement) for developers to deliver at least 10 % Biodiversity Net Gain as part of development

The green recovery & employment land

- Stronger protection for industrial sites across B&NES
- Increased protection for office uses within Bath
- Designation of a site in the Locksbrook area as creative industry hub
- Allied to government changes in the use classes order local policy will be amended to provide greater flexibility for a mix of town centre uses/active frontages in the Milsom Quarter
- Changes to Somer Valley Enterprise Zone – facilitating delivery

Supplementary Planning Documents

- Transport SPD:
  - Parking
  - Ultra Low Emissions Vehicles
  - Walking & Cycling Infrastructure Design
  - Travel Plans

- Sustainable Construction & Retrofitting SPD

Parking standards

- Retain zonal approach to parking standards, but increase number of zones to better reflect differences in accessibility across B&NES.
- Residential (Origin) Parking changed to Maximum Standards
  - Achieve low car developments where conditions exist to do so, i.e. excellent accessibility, car clubs, Controlled Parking Zones
  - Avoid over-provision, as can occur with minimum standards.
  - Sufficient parking to limit risk of overspill.
- Destination parking (e.g. employment, leisure, retail) retained as Maximum Standards. Levels adjusted to reduce unnecessary car usage.
- Accessibility Analysis for each site to reflect local context.

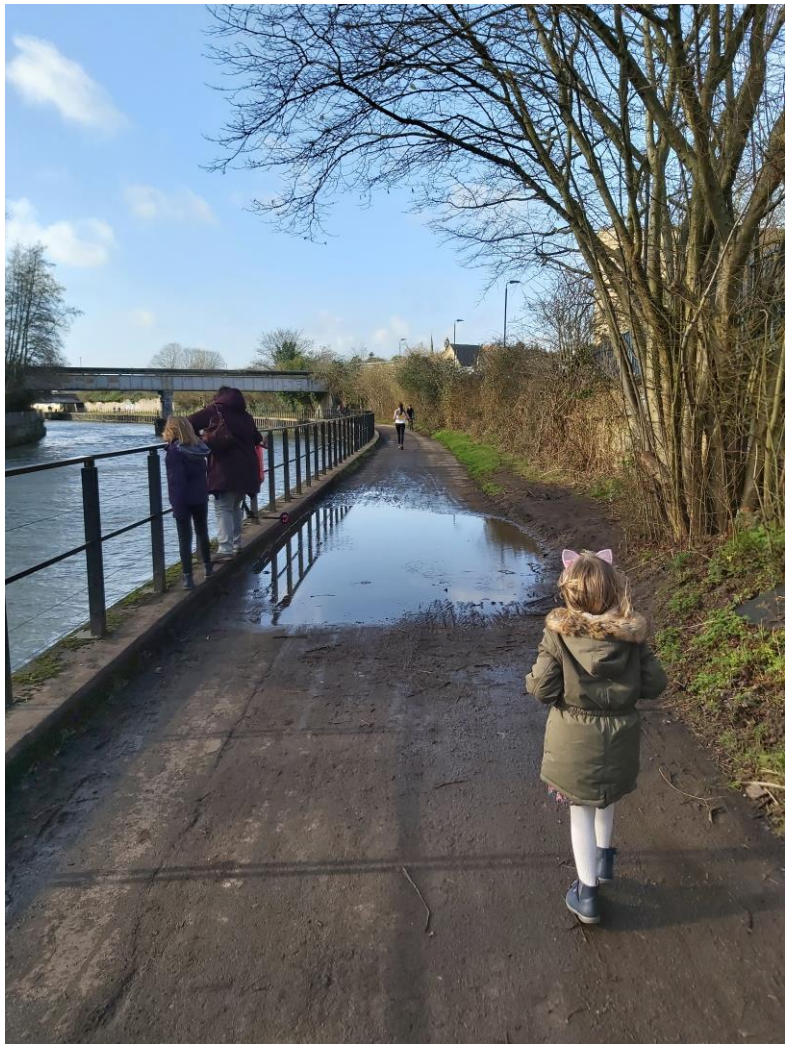
Ultra-Low Emissions Vehicles

- Specifications for standards for connections and sockets.
- Suitable capacity in electricity network, may involve sub-stations.
- Avoid petrol/diesel cars abusing EV spaces.
- Ensure adequate access for all road and pavement users, e.g.
  - Avoid trailing leads and trip hazards
  - Minimise street clutter
  - Design out conflict between vehicles and pedestrians

Walking & Cycling Infrastructure Design

- Accessibility
- Safety and Security
- Comfort
- Legibility

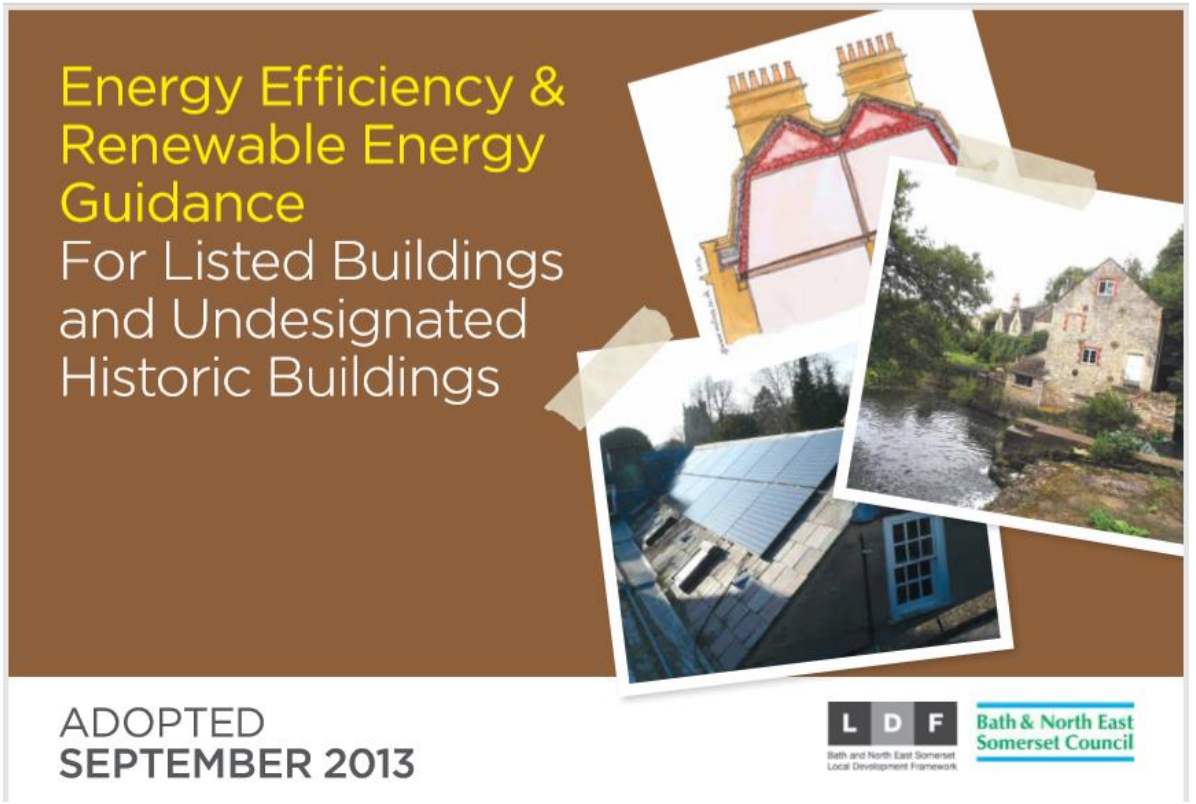
SPD sets out what is required under each of the categories above, for walking, cycling and other micro-mobility modes, and signposts to Best Practice design standards to be applied.



Travel Plan Guidance

- Establishes types of Travel Plan (Full, Interim, Framework and Statement) and thresholds at which they are required.
- Sets expectations on content of a TP without being overly prescriptive, which can result in generic submissions.
- Establishes “Delivery Options.”
- Monitoring, remedial action, and enforcement.

Sustainable Construction/Retrofitting SPD



Summary of the Scope of Review

- Combining the SPDs
- Updating the presentation (photos, illustrations and format)
- Creating a website format
- Updating the wording – more positive focus on what can be achieved & how
- Updating the technological information
- Adding a new section on fuel poverty/affordable warmth

Combining the SPDs: Example 1

4 Retrofitting options for your home

Ground Source Heat Pump

Cost score ££

Environmental score

L BC PD

❶ Ground source heat exchange systems can connect to existing heating and hot water infrastructure, although will work best with efficient radiator and underfloor heating installations.

The size of the heat exchanger and buffer tank will depend on the building size, insulation level and the amount of hot water likely to be used.

❷ A typical heat exchanger is the size of a domestic appliance and the buffer tank similar to a hot water storage cylinder.

❸ Ground loops can be laid a as 'slinky' pipe in a shallow trench, as a compact cassette or in a deep borehole.

The size and type of installation will depend on space available and ground conditions.

So what is it?

Ground Sourced Heat Pumps use the solar heat energy stored in the ground to provide heat and hot water for a home. They are an alternative to conventional boilers.

The systems use a simple refrigerant circulated within a pipe which that is laid below ground. A small amount of heat from the ground is transferred into the fluid and this passes to a heat exchanger; which in turn stores the heat in a 'buffer' tank of warm water.

The below ground pipe or ground loop can be laid in a shallow trench or a deep borehole, dependant on space and ground conditions.

The heat exchanger is typically the size of a floor mounted boiler and can be located away from an external wall.

Ground sourced heat exchangers can provide water at lower temperatures and are suitable for domestic hot water systems. They can also serve the more efficient radiator or underfloor heating systems which operate at lower system temperatures.

In Summer months it may be possible to reverse the flow of the heat exchanger and use the heating system to cool the building.

How effective is it?

Ground sourced heat pumps do not burn fossil fuels and are classed as renewable technology. However, the system does require electricity to operate.

The equipment is simple, well established and has a good service life. A heat exchanger with a high efficiency should be used where possible.

Particularly useful where a home is off gas-grid they can deliver 75% savings in heating and hot water costs.

The equipment is simple, well established and gives a good service life. A heat exchanger with a high efficiency should be used where possible.

The system requires electrical energy to operate but with a well insulated building and other energy efficiency measures can deliver savings around 75% on heating and hot water cost.

What does it cost?

For an average home the cost of a GSHP installation will be around 50-75% more than a conventional boiler. This can be considerable higher if boreholes are required as these are typically £1500-2500 each to drill.

Archeological Issues

The boreholes required by many GSHP systems can potentially have a extremely damaging impact on archaeological deposits and structures. If you are concerned that you may live in an archeologically sensitive area, and would like advice about how to avoid causing such damage you can contact the Council's planning department for advice.

Original SC&R SPD: Ground Source Heat Pump Page

Ground source heat pump

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Is listed building consent required?

Listed Building Consent **is required** for a ground source heat pump, where it involves alterations to the listed building

Guidance position

The LPA supports the installation of ground source heat pumps where there is no detrimental impact on the architectural or historic interest of the building and any below ground archaeology

Guidelines and factors that will be considered during the determination and assessment process

- Heat pumps are generally not recommended to replace gas boilers, as running costs and CO_2 emissions are similar – they are therefore best used in off-gas areas
- In Bath there is a significant concentration of known and potential archaeology which would be adversely affected by the required ground works and disturbance – prior to works commencing an archaeological assessment should be undertaken by a suitably qualified and experienced professional
- Any proposed boreholes need to have regard to the **County of Avon Act (1982)** which protects the source of the Bath hot springs (please contact the Council for more detailed information and advice)
- Care should be taken when drilling boreholes adjacent to any particularly fragile structure, to avoid damage from vibrations
- Older properties often contain microbore pipework, which may need to be replaced as it is not usually compatible with a heat pump. Care should be taken when planning pipe runs to avoid damaging historic interiors
- When used for space heating, heat pumps work most efficiently with under-floor heating. This is unlikely to be appropriate where there are significant, undisturbed, historic floor surfaces which could be harmed from being lifted. However where there is not the case such as where there is a poor quality modern, replacement flooring material or there is convincing evidence that a historic floor has been previously lifted and re-laid the installation of under floor heating may be possible. In which case it is highly recommended that limecrete is used which can be used in conjunction with insulation and under floor heating systems whilst allowing the transfer of moisture

Original LB&HB SPD: Ground Source Heat Pump Page

Example 1: page format of combined SPD

Ground Source Heat Pump

NEW ILLUSTRATION REQUIRED: Ground source heat pump showing connection loop.

What is it?

Ground Source Heat Pumps use the solar heat energy stored in the ground to provide heat and hot water for a home. 'Ground source' can mean boreholes, slinkies or a 'water source' (open-loop connection to aquifer, lake, or river).

They are an alternative to conventional boilers, but operate at lower temperatures, so note that they can be unfeasible without insulation improvements or changes to heat emitters. They are not a direct alternative to combination boilers, as hot water storage must be introduced.

As they operate at lower temperatures, they are well-suited to large heat emitters such as underfloor heating or over-sized radiators.

How effective is it?

Ground sourced heat pumps do not burn fossil fuels and are classed as renewable technology. However, the system does require electricity to operate. Carbon efficiency depend on how green your electrical supplier is.

Guidelines to improve efficiency:

- Buildings should be well-insulated and the GSHP should be combined with other energy efficiency measures.

What does it cost?

For an average home, the upfront cost of a GSHP installation will be more than a conventional boiler. You should also be aware of potential additional costs of changes to heat emitters or the addition of hot water storage.

Compared to Air Source Heat Pumps, Ground Source Heat Pumps potentially have lower maintenance and replacement costs, although the upfront cost tends to be higher.

Insert: Photo of installed ground source heat pump

Potential issues to be aware of:

- Boreholes can have a detrimental impact on archaeology. Slinkies, an alternative to boreholes, can be even more intrusive. An archaeological assessment should be undertaken by a professional prior to work commencing.
- Ecology issues such as tree roots and any effect on the temperature of the soil should be checked by a professional prior to work commencing. The ground array designer should size the array to avoid temperatures that would be detrimental to roots.
- Consideration should be given to the location of the internal plant which take up a large amount of space and could require you to break through building fabric. They do not require a flue or gas supply, but do require a flow and return pip connection from the ground outside into the house.

Heritage Assets

Is listed building consent required?

Listed Building Consent is required where it involves alterations to the listed building.

Guidelines for Heritage Assets:

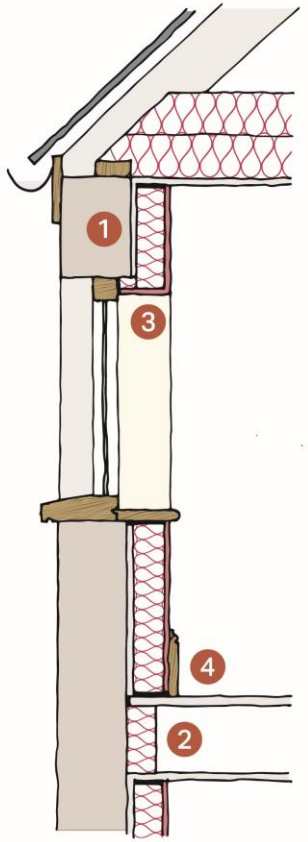
- Boreholes need to have regard to the County of Avon Act (1982) which protects the source of the Bath hot springs (contact the Council for more detailed advice)
- Older properties often contain microbore pipework, which may need to be replaced as it is not usually compatible with a heat pump. Care should be taken when planning pipe runs.
- When used for space heating, heat pumps work most efficiently with underfloor heating. This is unlikely to be appropriate under undisturbed, historic floor surfaces. However, where this is not the case, such as where there is a poor quality modern, replacement flooring, the installation of under floor heating may be possible. In which case it is recommended that limecrete is used which can be used in conjunction with insulation and under floor heating systems whilst allowing the transfer of moisture.
- Care should be taken when drilling boreholes adjacent to any particularly fragile structure to avoid damage

Further Guidance:

- Energy Efficiency and Historic Buildings Solar Electric (Photovoltaics): https://historicengland.org.uk/images-books/publications/eehb-solar-electric/heag173-eehb-solar-electric-photovoltaics/
- Also see Useful Resources and Further Information section on page X for more information.

Review of the Presentation

- Each sustainable intervention will be accompanied with an illustration and/or photograph
- All images will be technically up-to-date
- Close-up images of building envelope and fabric details will be added
- Creating a web-based format of the SPD



Images showing two of the new SPD illustrations – the style and colour palette will follow this consistent format