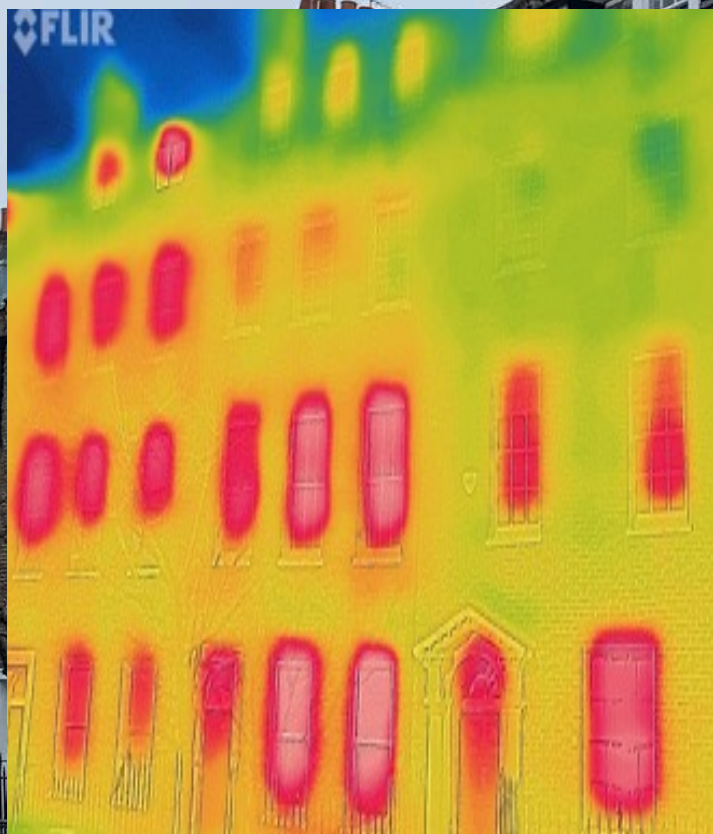


Climate Emergency Conservation Area Toolkit - England Executive Summary

A methodology to Audit Conservation Areas for Climate Emergency Housing Retrofit with a worked Conservation Area case study.



A report for politicians and policymakers
Architects Climate Action Network
4 December 2022

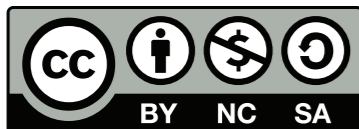


ACAN - ARCHITECTS CLIMATE ACTION NETWORK

is a network of individuals within architecture and related built environment professions taking action to address the twin crises of climate and ecological breakdown.

www.architectscan.org

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Author and Document Design

Christopher Procter RIBA is a director of Procter-Rihl architects in Islington, London. His practice is known for a seminal contemporary house in Brazil, winner of a RIBA Award in 2005. In 2017, twelve years after completion, this house became Listed, equivalent to the UK Grade II listing. Chris was the Course Leader in Technical Studies, MA Architecture, at the Royal College of Art for 8 years (2008-2016) where he brought sustainable studies to the course. In 2011, he took the Passivhaus Design course at the BRE, Building Research Establishment. He has been an active member of ACAN, Architects Climate Action Network since its founding in 2019 in the Existing Buildings and Planning Policy Groups. Climate Emergency Conservation Area Toolkit is launched from ACAN.

FULL DOCUMENT at

<https://www.architectscan.org/conservation-area-toolkit-retrofit-homes>

cover image

Infrared Camera photos of Georgian terrace, with winter outdoor temp 0c, indoor temp 21c shows large window heat losses, blue sky cold & red/white windows hot. Lightweight 1000 mile Aptera future electric car parked in front.

Reviewers

Adam Tilford
Alan Chandler
Alex Whitcroft
Alice Brown
Andrew Myer
Anna Woodeson
Chris Twinn
Jane Dann
John Preston
Julie Godefroy
Leyla Boulton
Lizzy Westmacott
Nigel Griffiths
Rob Prewett
Robert Milne
Robin Nicholson
Sara Edmonds
Seb Laan Lomas
Suzy Nelson
Tanuja Pandit
Will South

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Executive Summary

Why is this document needed?

AIMS - The aim of this document is to provide a toolkit with a worked example to update Conservation Area Guidance which will allow more complete Climate Emergency Retrofitting.

CONTEXT - With 20% of total UK carbon emissions coming from our 29 million existing households there is an urgent need to reduce carbon emissions in all housing stock including Conservation Areas. Revised CA guidance documents could address this, giving local people and neighbourhoods a clear direction.

The 2021 'LETI Climate Emergency Retrofit Guide' estimates that heritage or architectural constraints involve 25% of all UK homes. The LETI Retrofit Guide and the follow up LETI Retrofit Guide- Part 2, detail retrofit options for the majority 75% non-constrained homes with a lesser analysis of the 25% constrained. Further study of heritage areas can address specific issues which would allow deeper retrofit and carbon savings. Heritage or architecturally constrained homes emit more carbon than typical homes, therefore at quarter of all homes they contribute **more than 5% of total Carbon emissions**. This is a percentage that can't be ignored on the road to Net Zero nationwide.

2019 was a turning point for UK climate change planning policy. In Feb 2019, England NPPF, National Planning Policy Framework 2019, highlights the environment in planning policy and in June 2019, the UK amended the 2008 Climate Change Act with the landmark legal requirement to reach Net Zero by 2050.

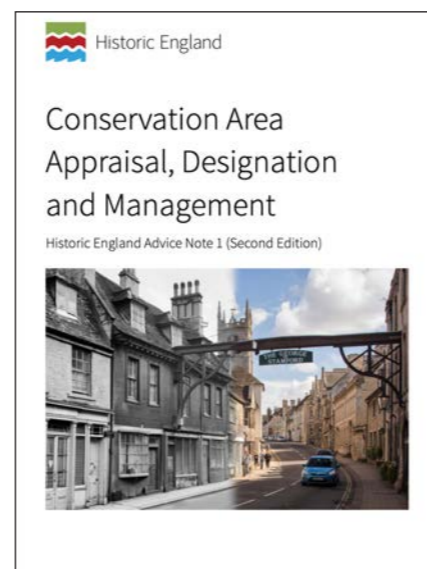
For Conservation Areas 2019 also brought in change. In February 2019, following years of best practice from some Local Planning Authorities, Historic England released 'Conservation Area Appraisal, Designation and Management -second edition, Historic England Advice Note 1', February 2019, which advocated a Positive/Negative Building Audit with detailed mapping to be part of LPA required Conservation Area Appraisal. In July 2019, the UK government released PPG Planning Policy Guidance document (23 July 2019) which further recommends this type of appraisal required, "A good appraisal will consider what features make a positive or negative contribution to the significance of the conservation area, thereby identifying opportunities for beneficial change or the need for planning protection." (see page 17 & appendices pages 129-137)

This new Appraisal methodology of Conservation Areas we have classed in this report as **second generational** because of a switch from protection of heritage to identification of harm and opportunity for beneficial change. Unfortunately most councils have not completed these positive/negative Building Audits of their Conservation Area Buildings. Many CA documents are also quite old therefore: updated guidance can address both heritage and beneficial change for climate mitigation. Conservation Areas



LETI Climate Emergency Retrofit Guide, 2021,

<https://www.leti.uk/retrofit>



Historic England, Feb 2019

<https://historicengland.org.uk/images-books/publications/conservation-area-appraisal-designation-management-advice-note-1/>

with their unique Guidance Documents allow councils to tailor policy with precise local knowledge. In London the collective of London Councils commissioned a 'Retrofit London Housing Action Plan' July 2021, which clearly sets out needs for Local Planning and Conservation Area Reform, see following pages.

The housing stock in England is diverse; therefore typology templates with complementary planning policy are best determined at a local level. Some Local Authorities carry a much heavier Carbon Burden because they have high levels of the Borough within Conservation such as: 52% (Bath), 50% (London Borough of Islington) or 78% (London Borough of Westminster). These Councils need to be more radical. At time of writing, 338 out of 409 UK councils have declared a climate emergency, and 270 of these have written a Net Zero Plan. 27 London Councils have declared Net Zero by 2030, only 8 years away.

Building Element Audits of: roofs, walls, and windows, which we have classed in this report as **third generational** can be used for: possible solar panels, external wall insulation, and double or triple glazing retrofits. This follows from current good practice of this proactive and finer grain analysis such as found with L. B. of Westminster's roof audit map (page 21).

This toolkit outlines three steps to use to analyse existing Conservation Areas, **plus a fourth step Action Plan**. It demonstrates how the toolkit could be used through a worked example, London Borough of Islington Conservation Area 13, with the proposed 3 generational steps. Every Conservation Area will be different, typologies and elements need to be adjusted locally.

Step 1 - Designation, 1st generation Designation.

Review boundary map and the current Guidance Documents. Is there an Article 4 Direction (removing permitted development)?

Step 2 - Appraisal, 2nd generation Building Appraisals.

Review the UK PPG and Historic England recommended Building Audit Appraisals which rank all buildings in the CA by Negative, Neutral, Positive or Listed categories. Carry out a Building Audit Appraisal if missing or old, with new mapping/photos.

Step 3 - Element Appraisals, New 3rd generation Appraisal.

Determine local typologies and suitable local elements for appraisal using individual element positive/negative mapping. Some councils have started this. Quantify data and building address recommendation lists.

Step 4 - Action Plan appropriate planning policy to implement.

This report does not replace individual 'Whole House Retrofit Plans', however, it aims to enable a transparent planning process with proactive local guidance, saving homeowners & planners work. Councils will be able to update old current CA guidance and generate new detailed design Supplementary Planning Document (SPD) for Net Zero retrofit elements of the particular building types in their locality.

Findings

Islington CA13

The worked example shows many surprising opportunities for carbon reduction compatible with heritage.

22% of Buildings are Negative, Neutral, or Damaged Positive, with potential for deeper retrofit, such as new insulated façades which can reduce harm if designed to the heritage context .

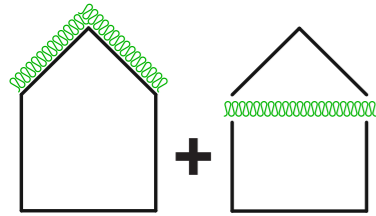
44% of solid walls are suitable for wrapping the building mass with External Wall Insulation.

19% of Buildings are suitable for capping with new highly insulated additional floors or roofs.

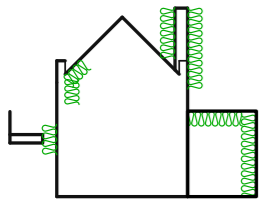
31% of Roofs are suitable for Solar Panels.

75% of Buildings may be suitable for Double or Triple Glazed windows, which if added to the existing 14% double glazed would make double glazing total of 89% in CA-13!

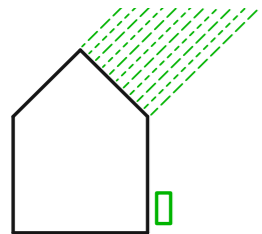
2.3 Element Audit Appraisal



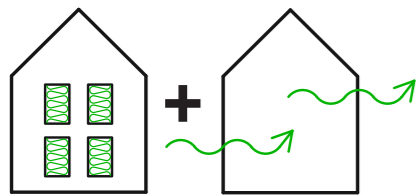
2.3.1 Roof Extensions, Woolly Caps & Scarves
Roof Insulation & Cold Bridge Junction Strategy
 Roof or additional storey extension



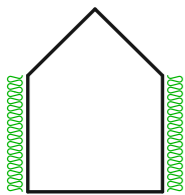
2.3.2 Projecting Features, Ear Muffs
Compact Form & Cold Bridge Strategies
 Garden extensions, chimneys, parapets, balconies



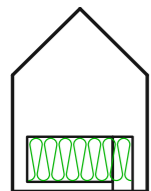
2.3.3 Renewables, Bask in the Sun
Solar & Heat Pump Strategy
 Solar panel and heat pump layout and location



2.3.4 Windows, Eyeglasses
Double or Triple Windows with Ventilation Strategy
 Replacement windows



2.3.5 Walls, Woolly Jumpers
External Insulation vs Internal Insulation Strategy
 Public/private realm wall insulation



2.3.6 Shopfronts, Leg warmers
Particular local types - Shopfront Window/Door Strategy
 Double glazed shopfront windows

Detailed analysis of each Element on following pages 32-127

Toolkit -STEP 3 worked example LB of Islington CA13

In CA13, 163 of the 173 buildings are residential, although some of these are mixed residential with shopfronts on the ground floor. This study focuses on this majority (residential and the mixed use residential/shopfronts) as they all have common building elements. The 10 other buildings would be determined on a case by case basis.

Six element types plus two (complementary) were identified as: roofs (+cold bridge junction), projecting elements, solar, windows (+ventilation), walls and shopfronts. The first five would be universal across all Conservation Areas as they are common features but shopfronts may not be universal. Planning considerations may be needed for the two complementary aspects: coldbridge roof junctions due to parapet redesign or eave extension, and ventilation due to window upgrades which require visible facade airbricks/grilles or window trickle vents.

The Toolkit process is an audit stock take of each element with detailed mapping and photographic survey of variations of type. Current planning guidance for beneficial change of this element was then studied with changes recommended along with Building Reg 2021 for impact on the current planning policy. Some elements have city or national resource data that can be used such as the Solar Opportunity map data for London.

A clear definition of planning principles relevant to each element is required, therefore this study sets out definitions for meanings of the Public Realm, Significance, and Roof Heights.

The toolkit encourages the collection of detailed sample technical drawings and manufacturer lists to complement audit research. Details are very helpful as previous planning diagrams are unclear and often not aligned to other regulation. This precision will result in streamlining future planning for homeowners and planners necessary for a more rapid roll-out of retrofit to meet the climate emergency.

This detailed audit of at least one CA in the borough will guide the next step, **Step 4 ACTION PLAN.**

Numerical audit data enables policymakers and officers to take appropriate policy action to meet both Net Zero commitments and updated Heritage Appraisals. The Action Plan on following two pages reviews planning tools which may be appropriate.

London Borough of Islington Local Plan 2021-22 (red indicate authors emphasis)

The Islington Local Plan section 8.3 states,
 “Mitigate the impacts of climate change...**Islington’s character may need to evolve in order to meet these needs.**”
 ...“As part of evolving character protection of **the historic environment must be reconciled with the environmental.. needs and aspirations of people.**”

FINDINGS LB Islington CA13

19% of Buildings are suitable for capping with new highly insulated additional floors or roofs.

12% of Buildings are suitable for roof extensions without chimney projecting features.

31% of Roofs are suitable for Solar Panels.

75% of Buildings are suitable for Double or Triple Glazed window replacements.

44% of solid walls are suitable for wrapping the building mass with External Wall Insulation.

100% of shopfronts are suitable for double glazed shop facade windows.

2.4 ACTION PLAN Toolkit -STEP 4

Existing planning procedures are too slow for the climate emergency. London Borough of Islington has enacted Article 4 Directions in many of its CAs which put all this development through an under-funded planning system. **Currently with approx. 4000 planning applications per year, if all conservation homes would apply for planning over the next 8 years (to 2030) there might be an additional 4000 applications/year, an unrealistic doubling of the system, not counting increases in other building applications.** Short of rescinding Article 4 Directions allowing permitted development on unlisted homes, councils can precisely define by address development on both listed & unlisted properties by rewriting individual CA Article 4 Directions and Guidance Docs. Alternatively a quick, efficient method may be using Consent Orders, to target change borough-wide as RBKC is doing^{3&4}.

DEFINITIONS

1 'Planning Permission' Local Authority grants an application for development. Planning permission is needed for any building work that falls within the legal definition of 'development'. Works which 'materially affect the external appearance of the building'. This excludes 'like for like' or repairs except in the case of Listed Buildings which need listed building consent for all works.

2 'Listed Building Consent' Local Authority grants application for works to a Listed building.

3 'Permitted Development' National Grant of automatic planning permission. Householder (dwelling house but not flats) permitted development for minor works such as window or door replacement as long as they are of 'similar visual appearance'.

4 'Article 4 Direction' This will remove permitted development rights within part or whole of the Conservation Area. Article 4 of the Town and Country Planning (General Permitted Development) (England) Order 2015. Approximately 15% of all English Conservation Areas are under Article 4 Directions. Of all Article 4 Directions approx. 74% are blanket with 26% specific buildings only.¹

5 'Listed Building Heritage Partnership Agreement' This is an Agreement between a local planning authority and the owner(s) of a listed building or group of listed buildings which grants listed building consent. It allows the local planning authority to grant listed building consent for the duration of the Agreement for specified works of alteration or extension (but not demolition).

These remove the need for the owner(s) concerned to submit repetitive applications for listed building consent for works covered by an Agreement.

6 'Local Listed Building Consent Order' LLBCOs are made by local planning authorities and grant listed building consent for works of any description for the alteration or extension (but not demolition) of listed buildings in their area, Planning Act 1990. This means that owners and developers do not need to submit repetitive applications for listed building consent for works covered by an Order. **The Royal Borough of Kensington & Chelsea was the first in the country in March 2022 to issue Consent Orders for Solar Panels³ on Grade II and II* properties and now, November 2022, the borough is intending double glazed windows.⁴ Port Sunlight issued a Consent Order in 2015 for double glazed windows on rear facades LLBCO 2015.⁵**

7 'Local Development Consent Orders' LDO from 2004. NPPF 2021 paragraph 51, 'Local planning authorities are encouraged to use Local Development Orders to set the planning framework for particular areas or categories of development where the impacts would be acceptable, and in particular where this would promote economic, **social or environmental gains** for the area.'² These can provide the counterpart of LLBCOs of best practice for unlisted buildings in both Conservation Areas and borough-wide.

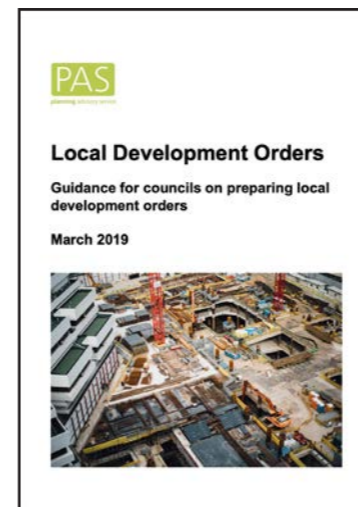
8 'Neighbourhood Development Order' & 'Community Right to Build Order' developed by Neighbourhood Forums which modify the Local Plan through a local referendum. NPPF 2021 paragraph 52, 'Local planning authorities should take a proactive and positive approach to such proposals, working collaboratively with community organisations to resolve any issues before draft orders are submitted for examination'.²

Planning Mechanisms to bring about change

Supplementary Planning Guides, Local Development Orders, Local Listed Building Consent Orders

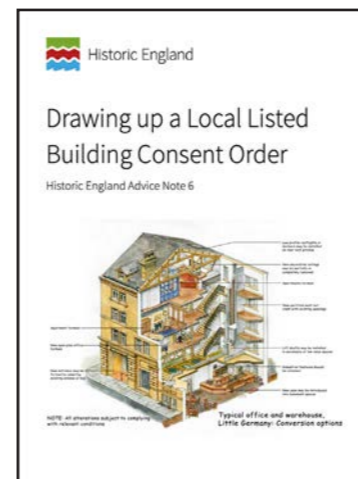
Step 4 Toolkit, review Local Authority Local Plan and document production schedule and recommend documents that need upgrading for any NetZero commitment, i.e. LB Islington Timetable below.

LB Islington - Indicative Timetable for Documents (Local Development Scheme, Sept 2021)
Conservation Area Design Guidelines, Replace on ongoing basis. **Most are 2002 (20 years old) so need revision!**
SPD-New Net Zero Carbon draft Summer 2022 - final Late 2022. **Dates not met. Will there be sufficient detail?**
SPD-Environmental Design, Oct 2012, Replaced wholly or partly by Local Plan and New Net Zero SPD
SPD-Urban Design Guide, Jan 2017. **Inaccurate Guidance, see p 46,48,61. No review scheduled, needs to be updated. missing are**
Local Development Consent Orders & LLBCO develop Orders borough-wide listed and unlisted best retrofit practices



2019 Guidance LDO

<https://www.local.gov.uk/sites/default/files/documents/LDO%20Guidance%20Document%20March%20202019.pdf>



2015 Guidance LLBCO

<https://historicengland.org.uk/images-books/publications/drawing-up-local-listed-building-consent-order-advice-note-6/heag009-listed-building-consent-order-an6/>

RECOMMENDATIONS England

Local Development Orders & LLBCOs

Immediately start developing these orders, to reduce the circumstances in which developments need planning permission for both unlisted and listed buildings. Separately these can be written for Solar, External Wall Insulation, Window replacement, Chimneys, Parapet walls, and other measures. See LLBCO 2022 RBK&C (solar² and windows)³, and LLBCO 2015 Port Sunlight, (windows, doors & gates).⁴

SPD- Net Zero & Urban Design Guides

to be written as detailed Pattern Books to supplement CA Guides using experts and community group input. These to go beyond current SPD with complete house typology solutions, detailed technical drawings and manufacturers' lists. These may change over time but should be regularly updated for best contemporary practice of retrofit and heritage construction. Details are very helpful as previous planning diagrams are unclear and often not aligned to other regulation. This precision will result in streamlining future planning for homeowners and planners necessary for a more rapid roll-out of retrofit to NetZero.

Conservation Area Appraisals

All Conservation Area Documents to be progressively updated with new Appraisal Management Plans with Building and Element Audits as per this toolkit. (for Islington - Cross Street CA13 to be updated immediately with this study data as a test case, see appendices page 157 for CA13 Draft Document).

³ <https://www.local.gov.uk/case-studies/royal-borough-kensington-and-chelsea-local-listed-building-consent-order>

⁴ <https://www.rbkc.gov.uk/newsroom/pioneering-policy-could-mean-warmer-greener-listed-homes>

⁵ <https://www.wirral.gov.uk/planning-and-building/planning-permission/port-sunlight-local-listed-building-consent-order>

¹ Survey commissioned for the English Historic Towns Forum, <https://www.htvf.org>

² <https://www.gov.uk/government/publications/national-planning-policy-framework--2>



4 December 2022
revised