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**Resource for Managing Investment and Delivery of Energy and Renewables  
Schemes**

# REMINDERS

National and Nationally Significant Strategic Context

**Version 7.0: FINAL 2021**

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## REMINDERS – Document Archive

This final report is an archive of national and nationally significant resources.

It includes links to published reports and links to websites that provide additional resources such as sector data, industry news, other document archives and more.

If you have found value in the use of this resource, believe there would be value in a future version or want to recommend something you think should be included in the local energy hub evidence base, please email [team@localenergynw.org](mailto:team@localenergynw.org), beginning the email title '**REMINDERS:**'.



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**European Union**

European Regional  
Development Fund

BEIS has supported the creation of this report as a tool for use by local energy hubs and local government.



Department for  
Business, Energy  
& Industrial Strategy

**ENERGY  
HUB**

## Introduction & Summary

### **REMINDERS: A RESOURCE FOR MANAGING INVESTMENT AND DELIVERY OF ENERGY AND RENEWABLES SCHEMES**

The **Local Energy North West Hub** has created a set of shared resources for identifying and organising information relevant to the delivery of energy projects across England.

It is intended for use by local energy hubs and the public sector organisations they support. By raising awareness of best practice and funding options, and enabling programmes, this resource will help local energy hubs to drive public and private investment in clean energy infrastructure.

### **ABOUT THIS DOCUMENT**

This **National and Nationally Significant Strategic Context** document gathers together information that is relevant when organisations are making a strategic case for action.

The document is organised on a thematic basis, as shown in the contents list. The first sections are devoted to the national policy and governance context; subsequent sections are devoted to economic sectors and, finally, to cross-cutting areas of action.

- **Reports referenced in this document are not endorsed by Government unless expressly stated. Reference to these documents does not constitute endorsement by local energy hubs.**
- **The inclusion of resources from commercial suppliers does not imply endorsement.**

The document takes the form of a compendium of signposts and weblinks to where information can be found. Where the titles of documents speak for themselves, they are presented without any summary of the content. Any additional detail provided is summarised directly from the source without analysis.

Please also see the 'Note on Methods' at the end of the document.

- **The best way to use this document is to familiarise yourself with the structure of the report and then use the search function to find relevant keywords.**

Links were working at the time of inclusion but may of course degrade over time. Where they do, equivalent information may often still be found by searching the main sites indicated.

Information in this document has been selected as **recent, relevant** and **revealing**.

This is the final version of a report circulated to local energy hubs in May 2020.

## How to Navigate this Document

The document is organised using the following structure:

### Sections

**The main sections of the report are organised by subject**

- [The UK Energy System & Energy Data](#)
- [Climate Change & Energy Policy](#)
- [Drivers for Action & Innovation](#)
- [Energy Economics & Finance](#)
- [Energy Networks & National Infrastructure](#)
- [Energy Users & Energy Efficiency](#)
- [Decentralised Energy Generation](#)
- [Resources & Waste](#)
- [Cross-cutting & Enabling Activity](#)
- [Local Leadership & Local Energy](#)

### Themes

**The sections are divided into themes**

### Topics

**Some themes are divided into topics by topic type**

GOVERNMENT STRATEGY & ADVISORY

LINKS

REPORTS

LOCAL ENERGY RESOURCES

SOME TOPICS ARE FURTHER SUBDIVIDED

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## List of Frequently Used Abbreviations

|              |  |
|--------------|--|
| <b>BEIS</b>  | Department for Business, Energy & Industrial Strategy  |
| <b>BERR</b>  | Department for Business Enterprise & Regulatory Reform |
| <b>BIS</b>   | Department for Business Innovation & Skills            |
| <b>BRE</b>   | Building Research Establishment                        |
| <b>CCC</b>   | Committee on Climate Change                            |
| <b>CIBSE</b> | Chartered Institution of Building Services Engineers   |
| <b>DCLG</b>  | Department for Communities & Local Government          |
| <b>DCMS</b>  | Department for Digital, Culture, Media & Sport         |
| <b>DECC</b>  | Department of Energy & Climate Change                  |
| <b>DEFRA</b> | Department for Environment, Food & Rural Affairs       |
| <b>DETI</b>  | Department of Enterprise, Trade & Investment           |
| <b>DfT</b>   | Department for Transport                               |
| <b>DID</b>   | Department for International Development               |
| <b>DIT</b>   | Department for International Trade                     |
| <b>DWP</b>   | Department for Work & Pensions                         |
| <b>EA</b>    | Environment Agency                                     |
| <b>EC</b>    | European Commission                                    |
| <b>GLA</b>   | Greater London Authority                               |
| <b>IEA</b>   | International Energy Agency                            |
| <b>IPCC</b>  | Intergovernmental Panel on Climate Change              |
| <b>IPPR</b>  | Institute for Public Policy Research                   |
| <b>LEP</b>   | local enterprise partnership                           |
| <b>MHCLG</b> | Ministry of Housing, Communities & Local Government    |
| <b>NAEI</b>  | National Atmospheric Emissions Inventory               |
| <b>NIC</b>   | National Infrastructure Commission                     |
| <b>ONS</b>   | Office for National Statistics                         |
| <b>RICS</b>  | Royal Institution of Chartered Surveyors               |
| <b>SDU</b>   | Sustainable Development Unit (NHS)                     |
| <b>UKERC</b> | UK Energy Research Centre                              |
| <b>UKGBC</b> | UK Green Building Council                              |
| <b>UKRI</b>  | UK Research and Innovation                             |



# The UK Energy System & Energy Data

## UK Energy System

The UK energy system is

*the set of technologies, physical infrastructure, institutions, policies and practices located in and associated with the UK which enable energy services to be delivered to UK consumers.*

**Engineering and Physical Sciences Research Council**

## Energy Models

### GOVERNMENT STRATEGY & ADVISORY

Sub-national Total Final Energy Consumption Data (**BEIS**, 2013, updated 2020)

<https://www.gov.uk/government/collections/total-final-energy-consumption-at-sub-national-level>

Divisions of energy use are as follows:

|   |  |  |   |
|---|--|--|---|
| <b>(1) Industrial and commercial</b> <ul style="list-style-type: none"><li>• Electricity use</li><li>• Gas use</li><li>• Large industrial installations</li><li>• Other fuels</li><li>• Agricultural combustion</li></ul> | <b>(2) Domestic</b> <ul style="list-style-type: none"><li>• Electricity use</li><li>• Gas use</li><li>• Large industrial installations</li><li>• Other fuels</li><li>• Agricultural combustion</li></ul> | <b>(3) Transport</b> <ul style="list-style-type: none"><li>• A-roads</li><li>• Motorways</li><li>• Minor roads</li><li>• Diesel railways</li><li>• Other</li></ul> | <b>(4) Land use, land use change and forestry</b> |
|---|--|--|---|

Energy Flow Chart 2018 [million tonnes of oil equivalent] (**BEIS**, 2018)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/818151/Energy\\_Flow\\_Chart\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/818151/Energy_Flow_Chart_2018.pdf)

UK Local Authority and Regional Carbon Dioxide Emissions National Statistics: 2005–2017

(**DECC**, 2019) <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2017>

### LINKS

The UK Energy System in 2050: Comparing Low-Carbon, Resilient Scenarios [facilitated the development of a state-of-the-art MARKAL model of the UK energy system] (**UKERC**, 2013)

<http://www.ukerc.ac.uk/publications/the-uk-energy-system-in-2050-comparing-low-carbon-resilient-scenarios.html>

2050 Energy Calculator (**DECC**, continually updated) <http://2050-calculator-tool.decc.gov.uk/#/home>

EnergyPLAN EU [energy market model] <http://www.energyplan.eu/>

### Energy Baseline & Trends

#### Government Data Collections

Statistics at BEIS: Statistics on Business, Emissions, Energy Sources, Prices and Efficiency, Fuel Poverty, and the Survey of Public Attitudes towards Business and Energy Policy (**BEIS**, continually updated) <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy/about/statistics>

The above resource covers

- emissions and climate change statistics
- energy sector statistics
- energy price statistics
- energy efficiency statistics
- subnational consumption statistics
- fuel poverty statistics
- energy statistics publications and press notices
- business statistics
- other BEIS statistics.

Renewable Energy Planning Database Quarterly Extract (**BEIS**, 2014, updated 2020) <https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract>

The above resource displays the results of BEIS's renewable project monitoring work, recorded each quarter (formerly monthly).

UK Environmental Accounts (**ONS**, 2019) <https://www.ons.gov.uk/releases/ukenvironmentalaccounts2019>

Digest of UK Energy Statistics (DUKES) (**BEIS**, 2013, updated 2020) <https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes>

Local Statistics (**ONS**, continually updated) <https://www.ons.gov.uk/help/localstatistics>

Energy Regulation – Introduction (**Understanding Regulation**, continually updated) <https://www.regulation.org.uk/archive-energy-overview.html>

Whole of Government Accounts (**HM Treasury**, 2013, updated 2020) <https://www.gov.uk/government/collections/whole-of-government-accounts>

Energy Trends (**BEIS**, 2013, updated 2020) <https://www.gov.uk/government/collections/energy-trends>

UK National Data Strategy (**DCMS**, 2020) <https://www.gov.uk/government/publications/uk-national-data-strategy>

### Government Energy & Climate Change Data Resources

Selected for relevance to local energy (continually updated):

Climate Change Levy and Carbon Price Floor Bulletin

<https://www.gov.uk/government/statistics/climate-change-levy-ccl-and-carbon-price-floor-cpf-bulletin>

Energy Infrastructure Development: Applications under Consideration

<https://www.gov.uk/government/publications/energy-infrastructure-development-applications-under-consideration>

Sub-regional Feed-in Tariffs Statistics <https://www.gov.uk/government/statistical-data-sets/sub-regional-feed-in-tariffs-confirmed-on-the-cfr-statistics>

Sub-national Electricity and Gas Consumption Summary Report 2018

<https://www.gov.uk/government/statistics/sub-national-electricity-and-gas-consumption-summary-report-2018>

Household Energy Efficiency Statistics, Headline Release December 2019

<https://www.gov.uk/government/statistics/household-energy-efficiency-statistics-headline-release-december-2019>

RHI Monthly Deployment Data: November 2019

<https://www.gov.uk/government/statistics/rhi-monthly-deployment-data-november-2019>

National Energy Efficiency Data-Framework (NEED): Anonymised Data 2019

<https://www.gov.uk/government/statistics/national-energy-efficiency-data-framework-need-anonymised-data-2019>

Transport Energy and Environment Statistics Information

<https://www.gov.uk/government/publications/transport-energy-and-environment-statistics-notes-and-definitions>

Statistical Release and Data: Smart Meters, Great Britain, Quarter 4 2019

<https://www.gov.uk/government/statistics/statistical-release-and-data-smart-meters-great-britain-quarter-4-2019>

Greenhouse Gas Reporting: Conversion Factors 2019

<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019>

Quarterly Energy Prices: September 2019

<https://www.gov.uk/government/statistics/quarterly-energy-prices-september-2019>

Total Final Energy Consumption at Regional and Local Authority Level

<https://www.gov.uk/government/statistical-data-sets/total-final-energy-consumption-at-regional-and-local-authority-level>

Solar PV Deployment: June 2019 <https://www.gov.uk/government/statistics/solar-pv-deployment-june-2019>

Sub-national Estimates of Households not Connected to the Gas Network

<https://www.gov.uk/government/statistics/sub-national-estimates-of-households-not-connected-to-the-gas-network>

BEIS Electricity Generation Costs (November 2016)

<https://www.gov.uk/government/publications/beis-electricity-generation-costs-november-2016>

## REMINDERS FOR LOCAL ENERGY HUBS

### Other Data and Information Sources

**Carbon Trust** <https://www.carbontrust.com/resources/reports/>

**CLASP (Environment Resilience Resources & Support)** <http://www.claspinfo.org/>

**Climate Outreach Resources** <https://climateoutreach.org/resources/>

*Dictionary of Energy* (Cleveland and Morris, eds, 2015)

<http://www.sciencedirect.com/science/book/9780080968117>

**Energy Revolution Research Centre (EnergyRev)** <https://www.energyrev.org.uk/>

**Energy Saving Trust** Our Research and Publications

<http://www.energysavingtrust.org.uk/resources/our-research-and-publications>

**Energy Spectrum & Daily Bulletin** <https://www.cornwall-insight.com/publications/energy-spectrum-and-daily-bulletin>

**Energy Systems Catapult** Energy Knowledge eXchange™ (EKX) – A Free Service

<https://es.catapult.org.uk/energy-knowledge-exchange-demo/>

**IEA** <https://www.iea.org/>

**NAEI (BEIS)** Local Authority Data (CO<sub>2</sub>) – Interactive Maps <https://naei.beis.gov.uk/laco2app/>

**Parliamentary Office of Science and Technology (POST)** <https://www.parliament.uk/post>

**Pinpoint (UKGBC)** <http://pinpoint.ukgbc.org/>

**Renewable Energy Association** Facts & Figures <https://www.r-e-a.net/our-resources/?filter-active-go&filter-resources-category%5B%5D=10&filter-keyword=>

**Regen SW** Renewable Energy Locator – How Does Your Area Compare?

<https://renewablelocator.green-alliance.org.uk/>

**RenewableUK** <https://www.renewableuk.com/>

**ResearchGate** <https://www.researchgate.net/topic/Energy>

**Retrofit Works** Blog <https://retrofitworks.co.uk/blog/>

**Science Media Centre** <https://www.sciencemediacentre.org>

**SDU** <https://www.sduhealth.org.uk/news/>

**Sustainability West Midlands** <http://www.sustainabilitywestmidlands.org.uk>

**Sustainable Energy Association** <http://www.sustainableenergyassociation.com/>

**UK Climate Risk** <https://www.ukclimaterisk.org/>

**UKERC** <http://ukerc.rl.ac.uk/>

*Utility Week Energy Supply Handbook 2019* (Faversham House, 2019) <https://faversham-house.myshopify.com/products/utility-week-energy-supply-handbook-2019>

**Zero Carbon Hub** <http://www.zerocarbonhub.org/full-lib>

## REMINDERS FOR LOCAL ENERGY HUBS

### Energy Sector News

BBC Briefing on Energy: How Do I Use It? (BBC, 2019) <https://www.bbc.co.uk/news/uk-48186443>

**Bloomberg Energy** <https://www.bloomberg.com/energy>

**Business Green** <https://www.businessgreen.com/>

Construction Buzz [news from **UK Construction Week**]  
<https://news.ukconstructionweek.com/en/news>

**Construction Enquirer** <https://www.constructionenquirer.com/>

**EDIE** <https://www.edie.net/>

*Energy Focus* (**Energy Industries Council (EIC)**, continually updated) <https://www.the-eic.com/Publications/EnergyFocus>

**Energy News Live** <https://www.energylivenews.com/>

**Energy UK** <https://www.energy-uk.org.uk/>

**Networks Online** <https://networks.online/>

**Utility Week** <https://utilityweek.co.uk/>

### Regular Energy Sector Events

London Climate Action Week <https://www.londonclimateactionweek.org/>

**Renewable UK** – events <https://events.renewableuk.com/>

**Utility Week** – Utility Week Live <https://www.utilityweeklive.co.uk/>

**EDIE** – events <https://www.edie.net/whatson/>

Futurebuild <https://www.futurebuild.co.uk/>

**CIBSE** – Build2Perform <https://www.build2perform.co.uk/>

**Association of Decentralised Energy (ADE) and Energy Institute** – Heat and Decentralised Energy Conference <https://www.heatconference.co.uk/>

**Energy Innovation Centre (EIC)** – events <https://www.ukeic.com/media/type/events>

**UK Power Networks** – events <https://innovation.ukpowernetworks.co.uk/news-events/?cat=8>

Energy Efficiency Awards <https://energyefficiencyawards.co.uk/>

**Whitehall & Industry Group** – events, Environment & Climate Change theme  
<https://www.wig.co.uk/networking-events/networks/sustainability-network.html>

# Climate Change & Energy Policy

## UK Policy Context

### Government Policy

The Road to Zero: Next Steps Towards Cleaner Road Transport and Delivering our Industrial Strategy [setting out an ambition for a consumer- and industry-led transition to between 50% and 70% of new car sales being ultra-low-emission vehicles (ULEV) by 2030] (**DfT**, 2018) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/724391/road-to-zero.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/724391/road-to-zero.pdf)

The UK's Draft Integrated National Energy And Climate Plan (NECP) (**BEIS**, 2019) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/774235/national\\_energy\\_and\\_climate\\_plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774235/national_energy_and_climate_plan.pdf)

UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations – An Overview [includes a recommendation to end the sale of all new conventional petrol and diesel vehicles by 2040] (**DEFRA** and **DfT**, 2017) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/633269/air-quality-plan-overview.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633269/air-quality-plan-overview.pdf)

A Green Future: Our 25 Year Plan to Improve the Environment [makes a number of recommendations relevant to energy strategy making, including plans to limit avoidable plastic waste, relevant to energy-from-waste schemes] (**DEFRA**, 2017) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

Our Waste, Our Resources: A Strategy for England [a far-reaching strategy for more efficient use of resources, incorporating circular economy principles. Starts a consultation process on separate food waste collection. Sets direction for greater efficiency of energy-from-waste plants] (**DEFRA**, 2018) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/765914/resources-waste-strategy-dec-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf)

### LINKS

Government policies search: <https://www.gov.uk/search>

### HISTORICAL NATIONAL ENERGY POLICY

The Carbon Plan – Reducing Greenhouse Gas Emissions [national strategy for climate and energy] (**DECC**, 2011, updated 2013) <https://www.gov.uk/government/publications/the-carbon-plan-reducing-greenhouse-gas-emissions--2>

Energy Act [a legislative framework] (**DECC**, 2013) <https://www.gov.uk/government/collections/energy-act>

### COP26 & UK Policy Statements

COP26 Energy Transition Council – Summary Statement (**BEIS** and **The Rt Hon Alok Sharma MP**, 2020) <https://www.gov.uk/government/publications/cop26-energy-transition-council-summary-statement>

The Ten Point Plan for a Green Industrial Revolution (**BEIS, Prime Minister's Office, 10 Downing Street, The Rt Hon Alok Sharma MP** and **The Rt Hon Boris Johnson MP**, 2020) <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

UK Sets Out Ambitious Approach to Strengthening Climate Adaptation and Resilience Ahead of COP26: UK Publishes Adaptation Communication to Fulfil a Key Commitment of the Paris Agreement (DEFRA, Foreign, Commonwealth & Development Office, EA and Rebecca Pow MP, 2020) <https://www.gov.uk/government/news/uk-sets-out-ambitious-approach-to-strengthening-climate-adaptation-and-resilience-ahead-of-cop26>

Nationally Determined Contributions (NDCs) (**United Nations Framework Convention on Climate Change (UNFCC)**, continually updated) <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs>

The UK's Nationally Determined Contribution under the Paris Agreement (**BEIS**, 2020) <https://www.gov.uk/government/publications/the-uks-nationally-determined-contribution-communication-to-the-unfccc>

UK Biennial Finance Communication to the UN Framework Convention on Climate Change 2020 (**BEIS, Cabinet Office, DEFRA** and **Foreign, Commonwealth & Development Office**, 2020) <https://www.gov.uk/government/publications/uk-biennial-finance-communication-to-the-un-framework-convention-on-climate-change-2020>

## REMINDERS FOR LOCAL ENERGY HUBS

National Advisory Organisations

*Climate Change Committee*

### LINKS

CCC <https://www.theccc.org.uk/>

### REPORTS

Sixth Carbon Budget (CCC, 2020) <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

Economic Impact of the Sixth Carbon Budget (Cambridge Econometrics) (CCC, 2020) <https://www.theccc.org.uk/publication/economic-impact-of-the-sixth-carbon-budget-cambridge-econometrics/>

Deep-Decarbonisation Pathways for UK Industry (Element Energy) (CCC, 2020) <https://www.theccc.org.uk/publication/deep-decarbonisation-pathways-for-uk-industry-element-energy/>

Non-CO2 Abatement in the UK Agricultural Sector by 2050 (Scottish Rural College) (CCC, 2020) <https://www.theccc.org.uk/publication/non-co2-abatement-in-the-uk-agricultural-sector-by-2050-scottish-rural-college/>

Updated Quantification of the Impact of Future Land Use Scenarios to 2050 and Beyond (UK Centre for Ecology and Hydrology) (CCC, 2020) <https://www.theccc.org.uk/publication/updated-quantification-of-the-impact-of-future-land-use-scenarios-to-2050-and-beyond-uk-centre-for-ecology-and-hydrology/>

Development of Trajectories for Residential Heat Decarbonisation to Inform the Sixth Carbon Budget (Element Energy) (CCC, 2020) <https://www.theccc.org.uk/publication/development-of-trajectories-for-residential-heat-decarbonisation-to-inform-the-sixth-carbon-budget-element-energy/>

Sensitive Intervention Points to Achieve Net-Zero Emissions (Sixth Carbon Budget Policy Advisory Group) (CCC, 2020) <https://www.theccc.org.uk/publication/sensitive-intervention-points-to-achieve-net-zero-emissions-sixth-carbon-budget-policy-advisory-group/>

Industrial Decarbonisation: Net Zero Carbon Policies to Mitigate Carbon Leakage and Competitiveness Impacts (Energy Systems Catapult) (CCC, 2020) <https://www.theccc.org.uk/publication/industrial-decarbonisation-net-zero-carbon-policies-to-mitigate-carbon-leakage-and-competitiveness-impacts-energy-systems-catapult/>

Net Zero After Covid: Behavioural Principles for Building Back Better (Nick Chater) (CCC, 2020) <https://www.theccc.org.uk/publication/net-zero-after-covid-behavioural-principles-for-building-back-better-nick-chater/>

The UK's Transition to Electric Vehicles (CCC, 2020) <https://www.theccc.org.uk/publication/the-uks-transition-to-electric-vehicles/>

The Role of Business in Delivering the UK's Net Zero Ambition (CCC, 2020) <https://www.theccc.org.uk/publication/the-role-of-business-in-delivering-the-uks-net-zero-ambition/>

Local Authorities and the Sixth Carbon Budget (CCC, 2020) <https://www.theccc.org.uk/publication/local-authorities-and-the-sixth-carbon-budget/>



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Analysis Work to Refine Fabric Energy Efficiency Assumptions for Use in Developing the Sixth Carbon Budget (University College London) (**CCC**, 2020)

<https://www.theccc.org.uk/publication/analysis-work-to-refine-fabric-energy-efficiency-assumptions-for-use-in-developing-the-sixth-carbon-budget-university-college-london/>

Industrial Decarbonisation Policies for a UK Net Zero Target (CREDS) (**CCC**, 2020)

<https://www.theccc.org.uk/publication/industrial-decarbonisation-policies-for-a-uk-net-zero-target-creds/>

The Road to Net-Zero Finance (Sixth Carbon Budget Advisory Group) (**CCC**, 2020)

<https://www.theccc.org.uk/publication/the-road-to-net-zero-finance-sixth-carbon-budget-advisory-group/>

UK Housing: Fit for the Future? (**CCC**, 2019) <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>

<https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>

Reducing UK Emissions: 2018 Progress Report to Parliament (**CCC**, 2018)

<https://www.theccc.org.uk/wp-content/uploads/2018/06/CCC-2018-Progress-Report-to-Parliament.pdf>

Analysis of Alternative UK Heat Decarbonisation Pathways For the Committee on Climate Change (**Imperial College London**, August 2018) <https://www.theccc.org.uk/wp-content/uploads/2018/06/Imperial-College-2018-Analysis-of-Alternative-UK-Heat-Decarbonisation-Pathways.pdf>

<https://www.theccc.org.uk/wp-content/uploads/2018/06/Imperial-College-2018-Analysis-of-Alternative-UK-Heat-Decarbonisation-Pathways.pdf>

Meeting Carbon Budgets: Closing the Policy Gap. 2017 Report to Parliament (**CCC**, 2017)

<https://www.theccc.org.uk/wp-content/uploads/2017/06/2017-Report-to-Parliament-Meeting-Carbon-Budgets-Closing-the-policy-gap.pdf>

UK Climate Action Following the Paris Agreement (**CCC**, 2016) <https://www.theccc.org.uk/wp-content/uploads/2016/10/UK-climate-action-following-the-Paris-Agreement-Committee-on-Climate-Change-October-2016.pdf>

### NIC

#### LINKS

**NIC** <https://www.nic.org.uk/>

#### REPORTS

National Infrastructure Strategy (**HM Treasury**, 2020)

<https://www.gov.uk/government/publications/national-infrastructure-strategy>

National Infrastructure Strategy: Fairer, Faster, Greener (**HM Treasury**, 2020)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/938049/NIS\\_final\\_web\\_single\\_page.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938049/NIS_final_web_single_page.pdf)

National Infrastructure Assessment (**NIC**, 2018) [https://www.nic.org.uk/wp-content/uploads/CCS001\\_CCS0618917350-001\\_NIC-NIA\\_Accessible.pdf](https://www.nic.org.uk/wp-content/uploads/CCS001_CCS0618917350-001_NIC-NIA_Accessible.pdf)

[https://www.nic.org.uk/wp-content/uploads/CCS001\\_CCS0618917350-001\\_NIC-NIA\\_Accessible.pdf](https://www.nic.org.uk/wp-content/uploads/CCS001_CCS0618917350-001_NIC-NIA_Accessible.pdf)

Congestion, Capacity, Carbon: Priorities for National Infrastructure. Consultation on a National Infrastructure Assessment (**NIC**, 2017) [https://www.nic.org.uk/wp-content/uploads/Congestion-Capacity-Carbon\\_-\\_Priorities-for-national-infrastructure.pdf](https://www.nic.org.uk/wp-content/uploads/Congestion-Capacity-Carbon_-_Priorities-for-national-infrastructure.pdf)

[https://www.nic.org.uk/wp-content/uploads/Congestion-Capacity-Carbon\\_-\\_Priorities-for-national-infrastructure.pdf](https://www.nic.org.uk/wp-content/uploads/Congestion-Capacity-Carbon_-_Priorities-for-national-infrastructure.pdf)

## REMINDERS FOR LOCAL ENERGY HUBS

### NATIONAL GRID

National Grid <https://www.nationalgrid.com/>

#### REPORTS

ESO Future Energy Scenarios (**National Grid**, continually updated)  
<https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

FES 2020 Documents (**National Grid**, 2020) <https://www.nationalgrideso.com/future-energy/future-energy-scenarios/fes-2020-documents>

System Operability Framework (**National Grid**, continually updated)  
<https://www.nationalgrideso.com/research-publications/system-operability-framework-sof>

### UKERC

UKERC <http://www.ukerc.ac.uk/>

#### REPORTS

The UK Energy System in 2050: Comparing Low-Carbon, Resilient Scenarios [presents the main results of each of these modelling exercises] (**UKERC**, 2013)  
<http://www.ukerc.ac.uk/publications/the-uk-energy-system-in-2050-comparing-low-carbon-resilient-scenarios.html>

### ENERGY SYSTEMS CATAPULT

#### LINKS

Energy Systems Catapult <https://es.catapult.org.uk/>

#### REPORTS

Reshaping Regulation: Powering From the Future (**Challenging Ideas, Imperial College Business School, Grantham Institute, Imperial College London, Energy Systems Catapult** and **UK Power Networks**, 2017) [https://es.catapult.org.uk/wp-content/uploads/2017/10/Challenging-Ideas\\_single.pdf](https://es.catapult.org.uk/wp-content/uploads/2017/10/Challenging-Ideas_single.pdf)

#### Energy Revolution Integration Service (ERIS)

ERIS is a service for local authorities that will develop tools and share lessons learnt from Prospering from the Energy Revolution.

<https://es.catapult.org.uk/service-platforms/energy-revolution-integration-service/>

For selected insight papers from Energy Systems Catapult, see Appendix Three.

For all reports, see <https://es.catapult.org.uk/reports-insight-papers/>.

## The Clean Growth Strategy

### GOVERNMENT STRATEGY & ADVISORY

The Clean Growth Strategy: Leading the Way to a Low Carbon Future (BEIS, 2017)  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf)

The Government's **Clean Growth Strategy** published in 2017 brings together government policies and proposals related to the energy sector and action on climate change.

BEIS has defined clean growth in the following way:

*Clean growth means growing our national income while cutting greenhouse gas emissions. Achieving clean growth, while ensuring an affordable energy supply for businesses and consumers, is at the heart of the UK's Industrial Strategy. It will increase our productivity, create good jobs, boost earning power for people right across the country, and help protect the climate and environment upon which we and future generations depend.*

The UK's approach to reducing emissions has two guiding objectives:

1. To meet our domestic commitments at the lowest possible net cost to UK taxpayers, consumers and businesses; and
2. To maximise the social and economic benefits for the UK from this transition.

The Clean Growth Strategy is important because it gives shape to the policy framework that will seek to carry forward the UK Climate Change Act, particularly making progress towards the period of the fifth carbon budget 2028–2032.

The Clean Growth Strategy is organised on a sector-by-sector basis.

- Improving business and industry efficiency – 25% of UK emissions
- Improving our homes – 13% of UK emissions
- Accelerating the shift to low carbon transport – 24% of UK emissions
- Delivering Clean, Smart, Flexible Power – 21% of UK emissions
- Enhancing the benefits and value of our natural resources – 15% of UK emissions
- Leading in the public sector – 2% of UK emissions

The Clean Growth Strategy also promotes action cutting across sectors:

- Accelerating clean growth, to develop world-leading Green Finance capabilities
- Government leadership in driving clean growth including Green Great Britain Week.

### LOCAL ENERGY RESOURCES

#### ACCELERATING CLEAN GROWTH

1) Develop world-leading Green Finance capabilities, including by

- setting up a Green Finance Taskforce to provide recommendations for delivery of the public and private investment we need to meet our carbon budgets and maximise the UK's share of the global Green Finance market
- working with the British Standards Institution to develop a set of voluntary green and sustainable finance management standards
- providing up to £20 million to support a new clean technology early-stage investment fund
- working with mortgage lenders to develop green mortgage products that take account of the lower lending risk and enhanced repayment associated with more energy-efficient properties.

#### IMPROVING BUSINESS AND INDUSTRY EFFICIENCY – 25% OF UK EMISSIONS

2) Develop a package of measures to support businesses to improve their energy productivity, by at least 20% by 2030, including by

- following the outcome of the independent review of building regulations and fire safety, and, subject to its conclusions, we intend to consult on improving the energy efficiency of new and existing commercial buildings
- consulting on raising minimum standards of energy efficiency for rented commercial buildings
- exploring how voluntary building standards can support improvements in the energy efficiency performance of business buildings, and how we can improve the provision of information and advice on energy efficiency to SMEs
- simplifying the requirements for businesses to measure and report on energy use, to help them identify where they can cut bills.

3) Establish an industrial energy efficiency scheme to help large companies install measures to cut their energy use and bills.

4) Publish joint industrial decarbonisation and energy efficiency action plans with seven of the most energy-intensive industrial sectors.

5) Demonstrate international leadership in carbon capture, usage and storage (CCUS), by collaborating with our global partners and investing up to £100 million in leading-edge CCUS and industrial innovation to drive down costs.

6) Work in partnership with industry, through a new CCUS Council, to put us on a path to meet our ambition of having the option of deploying CCUS at scale in the UK, and to maximise its industrial opportunity.

7) Develop our strategic approach to greenhouse gas removal technologies, building on the Government's programme of research and development and addressing the barriers to their long-term deployment.

8) Phase out the installation of high-carbon forms of fossil fuel heating in new and existing businesses off the gas grid during the 2020s, starting with new build.

## REMINDERS FOR LOCAL ENERGY HUBS

9) Support the recycling of heat produced in industrial processes, to reduce business energy bills and benefit local communities.

10) Innovation:

- invest around £162 million of public funds in research and innovation in energy, resource and process efficiency, including up to £20 million to encourage switching to lower-carbon fuels
- support innovative energy technologies and processes with £14 million of further investment through the Energy Entrepreneurs Fund (<https://www.gov.uk/government/collections/energy-entrepreneurs-fund>).

### IMPROVING OUR HOMES – 13% OF UK EMISSIONS

*Improving the energy efficiency of our homes*

11) Support around £3.6 billion in investment to upgrade around a million homes through the Energy Company Obligation (ECO), and extend support for home energy efficiency improvements until 2028 at the current level of ECO funding.

12) We want all fuel-poor homes to be upgraded to Energy Performance Certificate (EPC) Band C by 2030, and our aspiration is for as many homes as possible to be EPC Band C by 2035 where practical, cost-effective and affordable.

13) Develop a long-term trajectory to improve the energy performance standards of privately rented homes, with the aim of upgrading as many as possible to EPC Band C by 2030 where practical, cost-effective and affordable.

14) Consult on how social housing can meet similar standards over this period.

15) Following the outcome of the independent review of building regulations and fire safety (<https://www.gov.uk/government/news/independent-review-of-building-regulations-and-fire-safety>), and subject to its conclusions, we intend to consult on strengthening energy performance standards for new and existing homes under building regulations, including futureproofing new homes for low-carbon heating systems.

16) Offer all households the opportunity to have a smart meter to help them save energy by the end of 2020.

*Rolling out low-carbon heating*

17) Build and extend heat networks across the country, underpinned with public funding (allocated in the Spending Review 2015) out to 2021.

18) Phase out the installation of high-carbon fossil fuel heating in new and existing homes currently off the gas grid during the 2020s, starting with new homes.

19) Improve standards on the 1.2 million new boilers installed every year in England and require installations of control devices to help people save energy.

20) Invest in low-carbon heating by reforming the Renewable Heat Incentive, spending £4.5 billion to support innovative low-carbon heat technologies in homes and businesses between 2016 and 2021.

21) Innovation: Invest around £184 million of public funds, including two new £10 million innovation programmes to develop new energy efficiency and heating technologies to enable lower-cost low-carbon homes.

## REMINDERS FOR LOCAL ENERGY HUBS

### ACCELERATING THE SHIFT TO LOW-CARBON TRANSPORT – 24% OF UK EMISSIONS

22) End the sale of new conventional petrol and diesel cars and vans by 2040.

23) Spend £1 billion supporting the take-up of ultra-low-emission vehicles (ULEV), including helping consumers to overcome the up-front cost of an electric car.

24) Develop one of the best electric vehicle charging networks in the world by

- investing an additional £80 million, alongside £15 million from Highways England, to support charging infrastructure deployment
- taking new powers under the Automated and Electric Vehicles Bill, allowing the Government to set requirements for the provision of charging points

25) Accelerate the uptake of low-emission taxis and buses by

- providing £50 million for the Plug-in Taxi programme, which gives taxi drivers up to £7,500 off the purchase price of a new ULEV taxi, alongside £14 million to support 10 local areas to deliver dedicated charge points for taxis
- providing £100 million for a national programme of support for retrofitting and new low-emission buses in England and Wales.

26) Work with industry as they develop an Automotive Sector Deal to accelerate the transition to zero-emission vehicles.

27) Announce plans for the public sector to lead the way in transitioning to zero-emission vehicles.

28) Invest £1.2 billion to make cycling and walking the natural choice for shorter journeys.

29) Work to enable cost-effective options for shifting more freight from road to rail, including using low-emission rail freight for deliveries into urban areas, with zero-emission last-mile deliveries.

30) Position the UK at the forefront of research, development and demonstration of Connected and Autonomous Vehicle technologies, including through the establishment of the Centre for Connected and Autonomous Vehicles and investment of over £250 million, matched by industry.

31) Innovation: Invest around £841 million of public funds in innovation in low-carbon transport technology and fuels including

- ensuring the UK builds on its strengths and leads the world in the design, development and manufacture of electric batteries through investment of up to £246 million in the Faraday Challenge (<https://www.gov.uk/government/news/business-secretary-to-establish-uk-as-world-leader-in-battery-technology-as-part-of-modern-industrial-strategy>).
- delivering trials of heavy goods vehicle (HGV) platoons, which could deliver significant fuel and emissions savings.

### DELIVERING CLEAN, SMART, FLEXIBLE POWER – 21% OF UK EMISSIONS

32) Reduce power costs for households and businesses by

- implementing the smart systems plan (<https://www.gov.uk/government/consultations/call-for-evidence-a-smart-flexible->

## REMINDERS FOR LOCAL ENERGY HUBS

[energy-system](#)), which will help consumers to use energy more flexibly and could unlock savings of up to £40 billion to 2050

- working with Ofgem and National Grid to create a more independent system operator to keep bills low through greater competition, coordination and innovation across the system
- responding to the forthcoming independent review into the cost of energy led by Professor Dieter Helm CBE
- publishing a draft bill (<https://www.gov.uk/government/publications/draft-domestic-gas-and-electricity-tariff-cap-bill>) to require Ofgem to impose a cap on standard variable and default tariffs across the whole market.

33) Phase out the use of unabated coal to produce electricity by 2025.

34) Deliver new nuclear power through Hinkley Point C and progress discussions with developers to secure a competitive price for future projects in the pipeline.

35) Improve the route to market for renewable technologies such as offshore wind through

- up to £557 million for further Pot 2 Contract for Difference auctions (<https://www.gov.uk/government/news/government-confirms-up-to-557-million-for-new-renewable-energy-projects>), with the next one planned for spring 2019
- working with industry as they develop an ambitious Sector Deal for offshore wind, which could result in 10 gigawatts of new capacity, with the opportunity for additional deployment if this is cost-effective, built in the 2020s.

36) Target a total carbon price in the power sector, which will give businesses greater clarity on the total price they will pay for each tonne of emissions. Further details on carbon prices for the 2020s will be set out in the Autumn 2017 Budget.

37) Innovation: Invest around £900 million of public funds, including around

- £265 million in smart systems to reduce the cost of electricity storage, advance innovative demand–response technologies and develop new ways of balancing the grid
- £460 million in nuclear to support work in areas including future nuclear fuels, new nuclear manufacturing techniques, recycling and reprocessing, and advanced reactor design
- £177 million to further reduce the cost of renewables, including innovation in offshore wind turbine blade technology and foundations.

### **ENHANCING THE BENEFITS AND VALUE OF OUR NATURAL RESOURCES – 15% OF UK EMISSIONS**

38) As we leave the EU, design a new system of future agricultural support to focus on delivering better environmental outcomes, including addressing climate change more directly.

39) Establish a new network of forests in England including new woodland on farmland, and fund larger-scale woodland and forest creation, in support of our commitment to plant 11 million trees, and increase the amount of UK timber used in construction.

40) Work towards our ambition for zero avoidable waste by 2050, maximising the value we extract from our resources, and minimising the negative environmental and carbon impacts associated with their extraction, use and disposal.

## **REMINDERS FOR LOCAL ENERGY HUBS**

41) Publish a new Resources and Waste Strategy to make the UK a world leader in terms of competitiveness, resource productivity and resource efficiency.

42) Explore new and innovative ways to manage emissions from landfill.

43) Support peatland through a £10 million capital grant scheme for peat restoration.

44) Innovation: Invest £99 million in innovative technology and research for agri-tech, land use, greenhouse gas removal technologies, waste and resource efficiency.

### **LEADING IN THE PUBLIC SECTOR – 2% OF UK EMISSIONS**

45) Agree tighter targets for 2020 for central government and actions to further reduce greenhouse gas emissions beyond this date.

46) Introduce a voluntary public sector target of a 30% reduction in carbon emissions by 2020 to 2021 for the wider public sector.

47) Provide £255 million of funding for energy efficiency improvements in England and help public bodies access sources of funding.

### **GOVERNMENT LEADERSHIP IN DRIVING CLEAN GROWTH**

48) Work with businesses and civil society to introduce a 'Green Great Britain' week to promote clean growth.

49) Reinstatement of a regular Clean Growth Inter-Ministerial Group responsible for monitoring the implementation of this Strategy and driving ambitious clean growth policies.

50) Report annually on our performance in delivering GDP growth and reduced emissions through an 'Emissions Intensity Ratio'.



### Key UK Regulation, Taxation & Reliefs

#### UK GREEN TAXES AND RELIEFS

Overview <https://www.gov.uk/green-taxes-and-reliefs>

Climate Change Levy <https://www.gov.uk/green-taxes-and-reliefs/climate-change-levy>

CRC Energy Efficiency Scheme <https://www.gov.uk/green-taxes-and-reliefs/crc-energy-efficiency-scheme>

Emissions Trading <https://www.gov.uk/green-taxes-and-reliefs/emissions-trading>

Capital Allowances on Energy-efficient Items <https://www.gov.uk/green-taxes-and-reliefs/capital-allowances-on-energyefficient-items>

Landfill Tax <https://www.gov.uk/green-taxes-and-reliefs/landfill-tax>

Aggregates Levy <https://www.gov.uk/green-taxes-and-reliefs/aggregates-levy>

#### TAXES ON ENERGY CONSUMERS

Environmental Taxes, Reliefs and Schemes for Businesses: Climate Change Levy (**UK Government**, continually updated) <https://www.gov.uk/green-taxes-and-reliefs/climate-change-levy>

Excise Notice CCL1: A General Guide to Climate Change Levy (**HM Revenue and Customs**, 2018) <https://www.gov.uk/government/publications/excise-notice-ccl1-a-general-guide-to-climate-change-levy/excise-notice-ccl1-a-general-guide-to-climate-change-levy>

#### OFGEM POLICY FRAMEWORKS

All Environmental Programmes <https://www.ofgem.gov.uk/environmental-programmes>

Domestic Renewable Heat Incentive (RHI) <https://www.ofgem.gov.uk/environmental-programmes/domestic-rhi>

Non-Domestic Renewable Heat Incentive (RHI) <https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi>

Feed-in Tariffs (FIT) <https://www.ofgem.gov.uk/environmental-programmes/fit>

Renewables Obligation (RO) <https://www.ofgem.gov.uk/environmental-programmes/ro>

Renewable Energy Guarantees of Origin (REGO) <https://www.ofgem.gov.uk/environmental-programmes/rego>

Smart Export Guarantee (SEG) <https://www.ofgem.gov.uk/environmental-programmes/smart-export-guarantee-seg>

Non Fossil Fuel Obligation (NFFO) / Scottish Renewable Obligation (SRO) <https://www.ofgem.gov.uk/environmental-programmes/nffo>

Energy Company Obligation (ECO) <https://www.ofgem.gov.uk/environmental-programmes/eco>

Warm Home Discount (WHD) <https://www.ofgem.gov.uk/environmental-programmes/warm-home-discount-whd-scheme>

Counter Fraud <https://www.ofgem.gov.uk/environmental-programmes/counter-fraud-environmental-and-social-programmes>

## REMINDERS FOR LOCAL ENERGY HUBS

Renewables and CHP Register <https://www.ofgem.gov.uk/environmental-programmes/information-renewables-and-chp-register>

### UK Primary Legislation on the Theme of Energy

Northern Ireland (Regional Rates and Energy) Act 2019

<http://www.legislation.gov.uk/ukpga/2019/13/contents>

Northern Ireland (Regional Rates and Energy) Act 2018

<http://www.legislation.gov.uk/ukpga/2018/6/contents>

Energy Act 2016 <http://www.legislation.gov.uk/ukpga/2016/20/contents>

Energy Act 2013 <http://www.legislation.gov.uk/ukpga/2013/32/contents>

Energy Act 2011 <http://www.legislation.gov.uk/ukpga/2011/16/contents>

Energy Act (Northern Ireland) 2011 <http://www.legislation.gov.uk/nia/2011/6/contents>

Energy Act 2010 <http://www.legislation.gov.uk/ukpga/2010/27/contents>

Green Energy (Definition and Promotion) Act 2009

<http://www.legislation.gov.uk/ukpga/2009/19/contents>

Energy Act 2008 <http://www.legislation.gov.uk/ukpga/2008/32/contents>

Planning and Energy Act 2008 <http://www.legislation.gov.uk/ukpga/2008/21/contents>

Climate Change and Sustainable Energy Act 2006

<http://www.legislation.gov.uk/ukpga/2006/19/contents>

Energy Act 2004 <http://www.legislation.gov.uk/ukpga/2004/20/contents>

Sustainable Energy Act 2003 <http://www.legislation.gov.uk/ukpga/2003/30/contents>

Warm Homes and Energy Conservation Act 2000

<http://www.legislation.gov.uk/ukpga/2000/31/contents>

Energy Conservation Act 1996 <http://www.legislation.gov.uk/ukpga/1996/38/contents>

Home Energy Conservation Act 1995

<http://www.legislation.gov.uk/ukpga/1995/10/contents>

Energy Act 1983 <http://www.legislation.gov.uk/ukpga/1983/25/contents>

Energy Conservation Act 1981 (repealed)

<http://www.legislation.gov.uk/ukpga/1981/17/contents>

Energy Act 1976 <http://www.legislation.gov.uk/ukpga/1976/76/contents>

### OTHER REGULATIONS

Heat Network (Metering and Billing) Regulations 2014 (UK Government, 2014)

<http://www.legislation.gov.uk/uksi/2014/3120/made>

## REMINDERS FOR LOCAL ENERGY HUBS

Heat Network Metering and Billing Regulations: Compliance and Guidance (**BEIS** and **Office for Product Safety and Standards**, 2014, updated 2020) <https://www.gov.uk/guidance/heat-networks>

Display Energy Certificates Display Energy Certificates and Advisory Reports for Public Buildings (**MHCLG**, 2012, updated 2015) <https://www.gov.uk/government/publications/display-energy-certificates-and-advisory-reports-for-public-buildings>

Heat in Buildings (**UK Government**, continually updated) <https://www.gov.uk/government/groups/heat-in-buildings>

Boiler Plus Standards (**BEIS** and **Office for Product Safety and Standards**, 2017) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/651853/Boiler\\_Plus\\_final\\_policy\\_and\\_consultation\\_response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/651853/Boiler_Plus_final_policy_and_consultation_response.pdf)

Guidance: Medium Combustion Plant and Specified Generators: Environmental Permits (**EA**, **Natural Resources Wales**, **DEFRA** and **Welsh Government**, 2015, updated 2019) <https://www.gov.uk/guidance/medium-combustion-plant-and-specified-generators-environmental-permits>

Guidance: Energy Technology List (ETL) [a government-managed list of energy-efficient plant and machinery] (**BEIS**, 2015, updated 2020) <https://www.gov.uk/guidance/energy-technology-list>

EU Rules and Requirements for Energy Labelling and Ecodesign (**EC**, continually updated) [https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/rules-and-requirements\\_en](https://ec.europa.eu/info/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/rules-and-requirements_en)

### Industrial Strategy

### Global & European Policy Context

#### Global Policy Context

The **Paris Agreement** (COP21) (<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>) is an international agreement to progressively reduce carbon emissions.

The Paris Agreement is the international framework that is referenced under the **Climate Action Goal** within the UN Sustainable Development Goals (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>).

2020 COP: UN Climate Change Conference <https://www.ukcop26.org/>

#### European Policy Context

The EU has set itself targets for reducing its greenhouse gas emissions progressively up to 2050. Key climate and energy targets are set in the **2020 Climate and Energy Package** ([https://ec.europa.eu/clima/policies/strategies/2020\\_en](https://ec.europa.eu/clima/policies/strategies/2020_en)).

The targets were set by EU leaders in 2007 and enacted in legislation in 2009. They are also headline targets of the **Europe 2020 Strategy** (<https://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf>) for smart, sustainable and inclusive growth. Policy mechanisms are

- The Emissions Trading System
- National Emissions Reduction Targets
- Renewable Energy Targets
- Innovation and Financing
- Energy Efficiency

#### The **2030 Climate and Energy Framework**

([https://ec.europa.eu/clima/policies/strategies/2030\\_en](https://ec.europa.eu/clima/policies/strategies/2030_en)) sets three key targets for the year 2030:

1. at least 40% cuts in greenhouse gas emissions (from 1990 levels), and
2. 32% share for renewable energy at
3. 32.5% improvement in energy efficiency.

(2018 targets. These targets may be further revised upwards.)

A transparent and dynamic governance process

(<https://ec.europa.eu/energy/en/topics/energy-strategy/energy-union#regulation-on-the-governance-of-the-energy-union-and-climate-action>) will be further developed to help the **Energy Union** (<https://ec.europa.eu/energy/en/topics/energy-strategy/energy-union>), including the 2030 climate and energy targets, in an efficient and coherent manner.

## REMINDERS FOR LOCAL ENERGY HUBS

'One of the most important pieces of EU legislation on European gas and electricity markets is referred to as the **Third Package**. It consists of three Regulations and two Directives and came into force on 3 September 2009', EU Legislation (**Ofgem**, continually updated)

<https://www.ofgem.gov.uk/gas/wholesale-market/european-market/eu-legislation>.

The 2012 **Energy Efficiency Directive** establishes a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain, from production to final consumption (**EC**, continually updated) <https://ec.europa.eu/energy/en/topics/energy-efficiency/targets-directive-and-rules/energy-efficiency-directive>.

**Energy Related Products Directive 2009, Amended 2012 (European Union)** <https://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:02009L0125-20121204&qid=1582301778530>

Energy-related products (ErP) are products that use energy, or that do not use energy but have an indirect impact on energy consumption, such as water-using devices, building insulation products, windows, etc. Energy-using products (EuP) are products that are dependent on energy input (electricity, etc.). All ErP and EuP are subject to energy efficiency requirements.

**European Emissions Trading System** ([https://ec.europa.eu/clima/policies/ets\\_en](https://ec.europa.eu/clima/policies/ets_en))

*(Abridged summary)* 'The EU emissions trading system (EU ETS) is a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first major carbon market and remains the biggest one. The EU ETS operates in 31 countries; limits emissions from more than 11,000 heavy energy-using installations (power stations & industrial plants) and airlines; covers around 45% of the EU's greenhouse gas emissions.'

## Government Departments and National Agencies

### Government Policy & Consultations

#### GOVERNMENT CONSULTATIONS

To find current consultations:

Go to – <https://www.gov.uk/search/all>

**Topic** – Environment

**Sub-topic** – Climate Change and Energy

**Show only** – Policy Papers and Consultations

Or go to – [https://beisgovuk.citizenspace.com/consultation\\_finder/](https://beisgovuk.citizenspace.com/consultation_finder/)

### Government Departments & Policy

**BEIS** <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy>

#### NON-MINISTERIAL DEPARTMENTS

**Competition and Markets Authority**

<https://www.gov.uk/government/organisations/competition-and-markets-authority>

**HM Land Registry** <https://www.gov.uk/government/organisations/land-registry>

**Ordnance Survey** <https://www.gov.uk/government/organisations/ordnance-survey>

#### EXECUTIVE AGENCIES

**Companies House** <https://www.gov.uk/government/organisations/companies-house>

**Insolvency Service** <https://www.gov.uk/government/organisations/insolvency-service>

**Intellectual Property Office** <https://www.gov.uk/government/organisations/intellectual-property-office>

**Met Office** <https://www.gov.uk/government/organisations/met-office>

#### EXECUTIVE NON-DEPARTMENTAL PUBLIC BODIES

**Advisory, Conciliation and Arbitration Service**

<https://www.gov.uk/government/organisations/acas>

**Arts and Humanities Research Council** <https://www.gov.uk/government/organisations/arts-and-humanities-research-council>

**Biotechnology and Biological Sciences Research Council**

<https://www.gov.uk/government/organisations/biotechnology-biological-sciences-research-council>

**British Hallmarking Council** <https://www.gov.uk/government/organisations/british-hallmarking-council>

**Civil Nuclear Police Authority** <https://www.gov.uk/government/organisations/civil-nuclear-police-authority>

**Coal Authority** <https://www.gov.uk/government/organisations/the-coal-authority>

## REMINDERS FOR LOCAL ENERGY HUBS

CCC <https://www.gov.uk/government/organisations/committee-on-climate-change>

Competition Service <https://www.gov.uk/government/organisations/competition-service>

**Economic and Social Research Council**

<https://www.gov.uk/government/organisations/economic-and-social-research-council>

**Engineering and Physical Sciences Research Council**

<https://www.gov.uk/government/organisations/engineering-and-physical-sciences-research-council>

Innovate UK <https://www.gov.uk/government/organisations/innovate-uk>

**Medical Research Council** <https://www.gov.uk/government/organisations/medical-research-council>

**Natural Environment Research Council**

<https://www.gov.uk/government/organisations/natural-environment-research-council>

**Nuclear Decommissioning Authority**

<https://www.gov.uk/government/organisations/nuclear-decommissioning-authority>

**Science and Technology Facilities Council**

<https://www.gov.uk/government/organisations/science-and-technology-facilities-council>

**UK Atomic Energy Authority** <https://www.gov.uk/government/organisations/uk-atomic-energy-authority>

UKRI <https://www.gov.uk/government/organisations/uk-research-and-innovation>

### ADVISORY NON-DEPARTMENTAL PUBLIC BODIES

**Committee on Fuel Poverty** <https://www.gov.uk/government/organisations/committee-on-fuel-poverty>

**Committee on Radioactive Waste Management**

<https://www.gov.uk/government/organisations/committee-on-radioactive-waste-management>

**Council for Science and Technology**

<https://www.gov.uk/government/organisations/council-for-science-and-technology>

**Industrial Development Advisory Board**

<https://www.gov.uk/government/organisations/industrial-development-advisory-board>

**Land Registration Rule Committee** <https://www.gov.uk/government/organisations/land-registration-rule-committee>

**Low Pay Commission** <https://www.gov.uk/government/organisations/low-pay-commission>

**Nuclear Liabilities Financing Assurance Board**

<https://www.gov.uk/government/organisations/nuclear-liabilities-financing-assurance-board>

**Regulatory Policy Committee** <https://www.gov.uk/government/organisations/regulatory-policy-committee>

### TRIBUNAL NON-DEPARTMENTAL PUBLIC BODIES

**Central Arbitration Committee** <https://www.gov.uk/government/organisations/central-arbitration-committee>

## REMINDERS FOR LOCAL ENERGY HUBS

**Competition Appeal Tribunal** <https://www.gov.uk/government/organisations/competition-appeal-tribunal>

### OTHER

**British Business Bank** <https://www.gov.uk/government/organisations/british-business-bank>

**Certification Officer** <https://www.gov.uk/government/organisations/certification-officer>

**Government Office for Science** <https://www.gov.uk/government/organisations/government-office-for-science>

**Groceries Code Adjudicator** <https://www.gov.uk/government/organisations/groceries-code-adjudicator>

**Independent Complaints Reviewer**  
<https://www.gov.uk/government/organisations/independent-complaints-reviewer>

**Office of Manpower Economics** <https://www.gov.uk/government/organisations/office-of-manpower-economics>

**Office of the Regulator of Community Interest Companies**  
<https://www.gov.uk/government/organisations/office-of-the-regulator-of-community-interest-companies>

**Oil and Gas Authority** <https://www.gov.uk/government/organisations/oil-and-gas-authority>



### ALL PARLIAMENTARY GROUPS

#### Renewable and Sustainable Energy

[publications.parliament.uk/pa/cm/cmallparty/181121/renewable-and-sustainable-energy.htm](https://publications.parliament.uk/pa/cm/cmallparty/181121/renewable-and-sustainable-energy.htm)

#### Sustainable Resource

<https://publications.parliament.uk/pa/cm/cmallparty/181121/sustainable-resource.htm>

#### United Nations Global Goals for Sustainable Development

<https://publications.parliament.uk/pa/cm/cmallparty/181121/united-nations-global-goals-for-sustainable-development.htm>

**Energy Costs** <https://publications.parliament.uk/pa/cm/cmallparty/181121/energy-costs.htm>

#### Energy Intensive Industries

<https://publications.parliament.uk/pa/cm/cmallparty/181121/energy-intensive-industries.htm>

**Energy Storage** <https://publications.parliament.uk/pa/cm/cmallparty/181121/energy-storage.htm>

#### Fuel Poverty and Energy Efficiency

<https://publications.parliament.uk/pa/cm/cmallparty/181121/fuel-poverty-and-energy-efficiency.htm>

**Intelligent Energy** <https://publications.parliament.uk/pa/cm/cmallparty/181121/intelligent-energy.htm>

#### Marine Energy and Tidal Lagoons

<https://publications.parliament.uk/pa/cm/cmallparty/181121/marine-energy-and-tidal-lagoons.htm>

#### Northern Powerhouse

<https://publications.parliament.uk/pa/cm/cmallparty/181121/northern-powerhouse.htm>

**Nuclear Energy** <https://publications.parliament.uk/pa/cm/cmallparty/181121/nuclear-energy.htm>

**Climate Change** <https://publications.parliament.uk/pa/cm/cmallparty/181121/climate-change.htm>

**Environment** <https://publications.parliament.uk/pa/cm/cmallparty/181121/environment.htm>

#### Agroecology for Sustainable Food and Farming

<https://publications.parliament.uk/pa/cm/cmallparty/181121/agroecology-for-sustainable-food-and-farming.htm>

#### London's Planning and Built Environment

<https://publications.parliament.uk/pa/cm/cmallparty/181121/londons-planning-and-built-environment.htm>

#### Post-Brexit Funding for Nations, Regions and Local Areas

<https://publications.parliament.uk/pa/cm/cmallparty/181121/post-brexit-funding-for-nations-regions-and-local-areas.htm>

## REMINDERS FOR LOCAL ENERGY HUBS

### National Agencies & Non-Governmental Bodies

**Knowledge Transfer Network** <https://www.ktn-uk.co.uk/>

**Carbon Trust** <https://www.carbontrust.com/>

**Energy Saving Trust** <https://energysavingtrust.org.uk/>

**Energy Networks Association** <http://www.energynetworks.org/>

**REA** <https://www.r-e-a.net/>

**Energy Research Accelerator** <https://www.era.ac.uk/>

**Energy Innovation Centre (EIC)** <https://www.ukeic.com/>

**The Heat Trust** <https://www.heattrust.org/>

**Salix Finance** <http://www.salixfinance.co.uk/>

**BRE** <https://www.bregroup.com/>

### LOCAL GOVERNMENT / REGIONAL

**Association of Directors of Environment, Economy, Planning & Transport (ADEPT)**  
<https://www.adeptnet.org.uk/>

**Carbon Trust Public Sector Network** <https://www.carbontrust.com/resources/public-sector-network>

**Public Sector Sustainability Association** <https://pssa.info/>

**APSE Energy Local Authority Energy Collaboration**  
<http://www.apse.org.uk/apse/index.cfm/local-authority-energy-collaboration/>

**Local Partnerships** [supporting local authorities that seek to take an active role in the energy market] <https://localpartnerships.org.uk/our-expertise/energy/>

### EUROPEAN

**STEP** Improving Communities' Sustainable Energy Policy Tools <http://www.stepproject.eu/>

**Celsius** A Platform of Networking and Knowledge <https://celsiuscity.eu/>

## Energy & Carbon Targets

### International Targets

#### REPORTS

Climate Action and Support Trends: Based on National Reports Submitted to the UNFCCC Secretariat Under the Current Reporting Framework (**United Nations**, 2019)

[https://unfccc.int/sites/default/files/resource/Climate\\_Action\\_Support\\_Trends\\_2019.pdf](https://unfccc.int/sites/default/files/resource/Climate_Action_Support_Trends_2019.pdf)

### European Targets

The **2030 Climate and Energy Framework**

([https://ec.europa.eu/clima/policies/strategies/2030\\_en](https://ec.europa.eu/clima/policies/strategies/2030_en)) sets three key targets for the year 2030: (2018 targets. These targets may be further revised upwards.)

1. at least 40% cuts in greenhouse gas emissions (from 1990 levels), and
2. 32% share for renewable energy at
3. 32.5% improvement in energy efficiency.

**EC** EU Progress in Cutting Climate Emissions

[https://ec.europa.eu/clima/policies/strategies/progress\\_en](https://ec.europa.eu/clima/policies/strategies/progress_en)

### National Targets

The **UK Climate Change Act 2008** created a legal obligation to reduce UK climate emissions by 80% by 2050. To meet this target, the Government set five-yearly carbon budgets, which currently run until 2032. They restrict the amount of greenhouse gas the UK can legally emit in a five-year period.

| Budget                           | Carbon Budget Level      | Reduction Below |
|----------------------------------|--------------------------|-----------------|
| <b>1990 levels</b>               |                          |                 |
| 1st carbon budget (2008 to 2012) | 3,018 MtCO <sub>2e</sub> | 25%             |
| 2nd carbon budget (2013 to 2017) | 2,782 MtCO <sub>2e</sub> | 31%             |
| 3rd carbon budget (2018 to 2022) | 2,544 MtCO <sub>2e</sub> | 37% by 2020     |
| 4th carbon budget (2023 to 2027) | 1,950 MtCO <sub>2e</sub> | 51% by 2025     |
| 5th carbon budget (2028 to 2032) | 1,725 MtCO <sub>2e</sub> | 57% by 2030     |

The **Climate Change Act 2008 (2050 Target Amendment) Order 2019** (<http://www.legislation.gov.uk/ukxi/2019/1056/contents/made>) amends the Climate Change Act 2008 and creates a legal obligation to reduce UK climate emissions by 100% (i.e., to achieve net zero emissions) by 2050.

The UK is legally bound to provide for 15% of its energy needs – including 30% of its electricity, 12% of its heat, and 10% of its transport fuel – from renewable sources by 2020.

PM Theresa May: We Will End UK Contribution to Climate Change by 2050 (**Prime Minister's Office, 10 Downing Street, The Rt Hon Greg Clark MP** and **The Rt Hon Theresa May MP**, 2019) <https://www.gov.uk/government/news/pm-theresa-may-we-will-end-uk-contribution-to-climate-change-by-2050>

## REMINDERS FOR LOCAL ENERGY HUBS

### Science-based Targets

Science Based Targets Initiative <https://sciencebasedtargets.org/>

UK Greenhouse Gas Emissions Statistics: Planned Methodology Changes (**BEIS**, 2015, updated 2020) <https://www.gov.uk/government/publications/planned-methodology-changes-for-uk-greenhouse-gas-emissions>

Fifth Carbon Budget Dataset (**CCC**, 2016) <https://www.theccc.org.uk/publication/fifth-carbon-budget-dataset/>

What Are Scope 3 Emissions? [guidance by the Carbon Trust on identifying scope 1, 2 & 3 emissions] (**Carbon Trust**, continually updated) <https://www.carbontrust.com/resources/faqs/services/scope-3-indirect-carbon-emissions/>

How Do You Make the Internal Business Case for Setting a Science-based Target? (**Carbon Trust**, 2018) <https://www.carbontrust.com/news-and-events/insights/how-do-you-make-the-internal-business-case-for-setting-a-science-based>

### Devolved Governments & Crown Dependency Energy Policy

#### GOVERNMENT STRATEGY & ADVISORY

##### SCOTLAND

Scottish Energy Strategy: The Future of Energy in Scotland (**Scottish Government**, 2017) <http://www.gov.scot/Resource/0051/00513466.pdf>

Reducing Emissions in Scotland – 2020 Progress Report to Parliament (**CCC**, 2020) <https://www.theccc.org.uk/publication/reducing-emissions-in-scotland-2020-progress-report-to-parliament/>

Energy Investment Fund (EIF) (**Scottish Enterprise**, continually updated) <https://www.scottish-enterprise.com/support-for-businesses/funding-and-grants/accessing-finance-and-attracting-investment/energy-investment-fund>.

##### WALES

Energy Wales: A Low Carbon Transition (**Welsh Government**, 2012) <https://gov.wales/sites/default/files/publications/2019-07/energy-wales-a-low-carbon-transition.pdf>

Business Ideas and Innovation: Support and Funding (**Business Wales**, continually updated) <https://businesswales.gov.wales/innovation/support-and-funding>

##### NORTHERN IRELAND

Sustainable Energy Action Plan 2012–2015 and Beyond (**DETI**, 2012) <https://www.nienvironmentlink.org/cmsfiles/policy-hub/files/documentation/Energy/Sustainable-Energy-Action-Plan.pdf>

##### ISLE OF MAN

Energy (**Isle of Man Government**, continually updated) <https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/ecosystem-policy-and-energy/energy/>

## REMINDERS FOR LOCAL ENERGY HUBS

### UK Regions Energy Strategy

#### LINKS

**Northern Powerhouse** <https://www.np11.org.uk/priorities/clean-growth/>

**Midlands Engine** <https://www.midlandsendengine.org>

Powering an Ultra-Connected Region (**Midlands Engine**, continually updated)

<https://www.midlandsendengine.org/our-ambitions/powering-an-ultra-connected-region/>

### Targets for Cities & Subregions

The **Greenhouse Gas Protocol** provides standards and tools that help countries and cities track progress towards their climate goals (<https://ghgprotocol.org/>)

- o Policy and Action Standard <https://ghgprotocol.org/policy-and-action-standard>
- o Mitigation Goal Standard <https://ghgprotocol.org/mitigation-goal-standard>

The **Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC)** ([https://ghgprotocol.org/sites/default/files/standards\\_supporting/GPC\\_Executive\\_Summary\\_1.pdf](https://ghgprotocol.org/sites/default/files/standards_supporting/GPC_Executive_Summary_1.pdf)) is a joint project by ICLEI-Local Governments for Sustainability (ICLEI), the World Resources Institute (WRI) and C40 Cities Climate Leadership Group (C40), with additional collaboration by the World Bank, UNEP and UN-Habitat. As a global reporting standard, the GPC enables cities and communities to consistently measure and report GHG emissions and develop climate action plans and low-emission urban development strategies.

### LA & City Region Energy & Carbon Baseline

Local Authority CO<sub>2</sub> Emissions Estimates 2013: Methodology Summary (**DECC**, 2015)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/437422/2005\\_to\\_2013\\_UK\\_local\\_and\\_regional\\_CO2\\_emissions\\_methodology\\_summary.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/437422/2005_to_2013_UK_local_and_regional_CO2_emissions_methodology_summary.pdf)

#### SCATTER

**Setting City Area Targets and Trajectories for Emissions Reduction**

<https://scattercities.com/>

SCATTER is a local-authority-focused emissions tool, built to help create low-carbon local authorities. SCATTER provides local authorities and city regions with the opportunity to standardise their greenhouse gas reporting and align to international frameworks, including the setting of targets in line with the Paris Climate Agreement. Its use is free of charge to all local authorities in the UK.

**C40 Cities** is a network of the world's megacities committed to addressing climate change. C40 supports cities to collaborate effectively, share knowledge and drive meaningful, measurable and sustainable action on climate change (<https://www.c40.org/about>).

**Climate Local** was an LGA initiative, supported by the Environment Agency Climate Ready service, to support council action on climate change (<https://www.local.gov.uk/topics/environment-and-waste/climate-local>).

## REMINDERS FOR LOCAL ENERGY HUBS

**Impact** <https://impact-tool.org.uk/>

Impact gives you a visual representation of your community's carbon footprint, helping you spot the areas where your community climate change activities can make the biggest difference.

Guidance video here: [https://youtu.be/Q8aMg\\_gCdPw](https://youtu.be/Q8aMg_gCdPw)

**UK100** is a network of highly ambitious local government leaders, who have pledged to secure the future for their communities by shifting to 100% clean energy by 2050 (<https://www.uk100.org/>).

**Siemens Cities Performance Tool** (CyPT) gives cities guidance on how to achieve their environmental targets while providing an indication on how each infrastructure-related decision will influence job creation and the infrastructure sector growth (<https://new.siemens.com/global/en/products/services/iot-siemens/public-sector/city-performance-tool.html>).

### UK Examples of Good Practice

#### LINKS

Low Carbon Case Studies [case studies on going low carbon, particularly emphasising the financial benefits] (**Centre for Cities**, continually updated)

<http://www.centreforcities.org/publication/case-studies-going-low-carbon/>

The Economics of Low Carbon Cities: A Mini-Stern Review for the Leeds City Region [report for the Centre for Low Carbon Futures] (**Centre for Low Carbon Futures**, 2012)

<https://www.sei.org/publications/the-economics-of-low-carbon-cities-a-mini-stern-review-for-the-leeds-city-region/>

#### REPORTS

Energy Independence 2025 (**Exeter City Futures**, 2017)

<https://www.exetercityfutures.com/insights/energy-independence-2025/>

Energy & Carbon Masterplan (**Sustainable Glasgow** and **Glasgow City Council**, continually updated) <https://www.glasgow.gov.uk/CHttpHandler.ashx?id=32441&p=0>

Sustainable Energy Action Plan (SEAP) (**City of Edinburgh Council**, continually updated)

[http://www.edinburgh.gov.uk/info/20220/economic\\_development/544/sustainable\\_economy/2](http://www.edinburgh.gov.uk/info/20220/economic_development/544/sustainable_economy/2)

Leicester's Sustainability Action Plan (**Leicester City Council**, 2018)

<https://www.leicester.gov.uk/media/181523/sustainability-action-plan-2016-2019.pdf>

SSH Phase 2 D40: Whole System Smart Energy Plan – Greater Manchester (**Energy Systems Catapult**, **BEIS** and **Greater Manchester Combined Authority**, 2019)

[https://es.catapult.org.uk/wp-content/uploads/2019/07/ESC\\_SSH2\\_D40-Smart-Energy-Plan-GMCA.pdf](https://es.catapult.org.uk/wp-content/uploads/2019/07/ESC_SSH2_D40-Smart-Energy-Plan-GMCA.pdf)

### Future Energy Mix

#### GOVERNMENT STRATEGY & ADVISORY

UK Climate Targets: Request for Advice from the Committee on Climate Change (**Scottish Government, UK Government and Welsh Government**, 2018)

<https://www.gov.uk/government/publications/uk-climate-targets-request-for-advice-from-the-committee-on-climate-change>

#### REPORTS

ESO Future Energy Scenarios (**National Grid**, continually updated)

<https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

Zero Carbon Britain: Making it Happen (**Centre for Alternative Technology**, 2017)

<https://www.cat.org.uk/info-resources/zero-carbon-britain/research-reports/zero-carbon-britain-making-it-happen/>

Power Sector Modelling: System Cost Impact of Renewables: Report for the National Infrastructure Commission (**Aurora Energy Research**, 2018) <https://www.nic.org.uk/wp-content/uploads/Power-sector-modelling-final-report-1-Aurora-Energy-Research.pdf>

Cost Analysis of Future Heat Infrastructure Options: Report for the National Infrastructure Commission (**Element Energy**, 2018) <https://www.nic.org.uk/wp-content/uploads/Element-Energy-and-E4techCost-analysis-of-future-heat-infrastructure-Final.pdf>

Ofgem's Future Insights Series: The Decarbonisation of Heat (**Ofgem**, 2016)

[https://www.ofgem.gov.uk/system/files/docs/2016/11/ofgem\\_future\\_insights\\_programme\\_-\\_the\\_decarbonisation\\_of\\_heat.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/11/ofgem_future_insights_programme_-_the_decarbonisation_of_heat.pdf)

Ofgem's Future Insights Series: Implications of the Transition to Electric Vehicles (**Ofgem**, 2018)

<https://www.ofgem.gov.uk/ofgem-publications/136142>

Why the UK Needs an Ambitious Clean Growth Plan Now (**Green Alliance**, 2017)

[http://www.green-alliance.org.uk/resources/Why\\_the\\_UK\\_needs\\_an\\_ambitious\\_clean\\_growth\\_plan\\_now.pdf](http://www.green-alliance.org.uk/resources/Why_the_UK_needs_an_ambitious_clean_growth_plan_now.pdf)

Net-Zero North: Delivering the Decarbonisation Mission in the North of England (**IPPR**, 2017)

<https://www.ippr.org/research/publications/net-zero-north>

Net Zero in the UK (**House of Commons Library**, 2019)

<https://commonslibrary.parliament.uk/research-briefings/cbp-8590/>

Global Renewables Outlook: Energy Transformation 2050 (**International Renewable Energy Agency (IRENA)**, 2020) <https://www.irena.org/publications/2020/Apr/Global-Renewables-Outlook-2020>

# Drivers for Action & Innovation

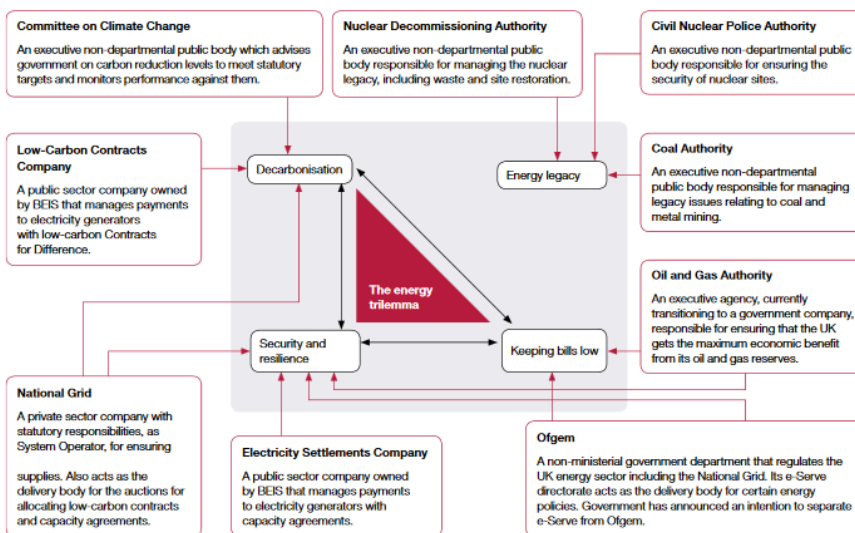
## Drivers for Action

### Energy Trilemma

The **World Energy Council's** definition of energy sustainability is based on three core dimensions: energy security, energy equity, and environmental sustainability.

The **Energy Trilemma Index** (<https://www.worldenergy.org/publications/entry/2016-energy-trilemma-index-benchmarking-the-sustainability-of-national-energy-systems>) ranks countries' energy performance around the world and provides a framework to benchmark progress.

### BEIS ENERGY TRILEMMA AND ORGANISATIONAL ASSOCIATIONS



### Resilience and Security of Supply

UK Energy Security [current national policy on UK energy security] (**UK Government**, continually updated) <https://www.gov.uk/government/policies/uk-energy-security>

### REPORTS

Building a Resilient UK Energy System: Research Report (**UKERC**, 2011)

<http://www.ukerc.ac.uk/publications/building-a-resilient-uk-energy-system-research-report.html>

A Critical Time for UK Energy Policy: What Must Be Done Now to Deliver the UK's Future Energy System. A Report for the Council for Science and Technology (**Royal Academy of Engineering**, 2015) <https://www.raeng.org.uk/publications/reports/a-critical-time-for-uk-energy-policy>

The Energy Revolution and Future Challenges for UK Energy and Climate Change Policy: Third Report of Session 2016–17. Report, Together with Formal Minutes Relating to the Report (**House of Commons Energy & Climate Change Committee**, 2016)

<https://publications.parliament.uk/pa/cm201617/cmselect/cmenergy/705/705.pdf>



## REMINDERS FOR LOCAL ENERGY HUBS

### Climate Change

The **IPCC** (<https://www.ipcc.ch/>) confirms that the climate is warming and that this will have a detrimental impact across a range of risk areas.

Climate Watch (**World Resources Institute (WRI)**, continually updated)

<https://www.wri.org/our-work/project/climatewatch/historical-emissions>

Carbon Budgets – Analysis: How Much 'Carbon Budget' is Left to Limit Global Warming to 1.5C? (**CarbonBrief**, 2018) <https://www.carbonbrief.org/analysis-how-much-carbon-budget-is-left-to-limit-global-warming-to-1-5c>

#### FIGURE

Planetary Boundaries Research [the planetary boundaries concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come] (**Stockholm Resilience Centre**, continually updated)

<https://www.stockholmresilience.org/research/planetary-boundaries.html>



Stabilisation Wedges [simple framework for understanding both the carbon emissions cuts needed to avoid dramatic climate change and the tools already available to do so] (**Carbon Mitigation Initiative (CMI), Princeton Environmental Institute**, continually updated)

<http://cmi.princeton.edu/wedges/>

#### REPORTS

AR5 Synthesis Report: Climate Change 2014 (**IPCC**, 2014) <https://www.ipcc.ch/report/ar5/syr/>

Special Report: Global Warming of 1.5°C (**IPCC**, 2018) <https://www.ipcc.ch/sr15/>

UK Climate Change Risk Assessment 2017 Evidence Report (**CCC**, 2017)

<https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/uk-climate-change-risk-assessment-2017/>

Adapting to Climate Change: Risk Assessment Worksheets (**EA**, 2019)

<https://www.gov.uk/government/publications/adapting-to-climate-change-risk-assessment-worksheets>

Climate Change Explained (**BEIS**, 2014, updated 2019) <https://www.gov.uk/guidance/climate-change-explained>

## REMINDERS FOR LOCAL ENERGY HUBS

Tackling Carbon Leakage – Sector-specific Solutions for a World of Unequal Prices [report on the nature and scale of the carbon leakage problem and potential solutions by sector and region] (**Carbon Trust**, 2010)

<https://www.carbontrust.com/resources/reports/advice/tackling-carbon-leakage-sector-specific-solutions/>

Net Zero: The UK's Contribution to Stopping Global Warming (**CCC**, 2019)

<https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>

Reducing UK Emissions: 2020 Progress Report to Parliament (**CCC**, 2020)

<https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/>

### Climate Emergency

List of Councils who have Declared a Climate Emergency (**Climate Emergency UK**, 2020)

<https://www.climateemergency.uk/blog/list-of-councils/>

Resources (**Climate Emergency UK**, continually updated)

<https://www.climateemergency.uk/blog/category/resources/>

Carbon Literacy Toolkits for Local Authorities (**The Carbon Literacy Trust**, 2020)

<https://carbonliteracy.com/local-authorities/>

### Behaviour Change

#### REPORTS

Behaviour Change and Energy Use (**Cabinet Office**, **DECC** and **DCLG**, 2011)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/60536/behaviour-change-and-energy-use.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/60536/behaviour-change-and-energy-use.pdf)

Homeworking: Helping Businesses Cut Costs and Reduce their Carbon Footprint (**Carbon Trust**, 2014) <https://www.carbontrust.com/resources/reports/advice/homeworking-helping-businesses-cut-costs-and-reduce-their-carbon-footprint/>

Energy and Climate Change Public Attitudes Tracker: Wave 24 (**BEIS**, 2018)

<https://www.gov.uk/government/statistics/energy-and-climate-change-public-attitudes-tracker-wave-24>

Focus on Behaviour Change – Reducing Energy Demand in Homes [guidance on implementing behaviour change techniques at home] (**DCLG**, 2010)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6327/7439871.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6327/7439871.pdf)

Low Carbon Behaviour Change: The £300 Million Opportunity [guidance and case studies on changing energy usage behaviours at home and in the workplace] (**Carbon Trust**, 2013)

<https://www.carbontrust.com/resources/low-carbon-behaviour-change-the-ps300-million-opportunity>

An Introduction to Thinking About 'Energy Behaviour': A Multi Model Approach [energy behaviour, and how to incentivise more efficient activity] (**DECC**, 2011)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48256/3887-intro-thinking-energy-behaviours.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48256/3887-intro-thinking-energy-behaviours.pdf)

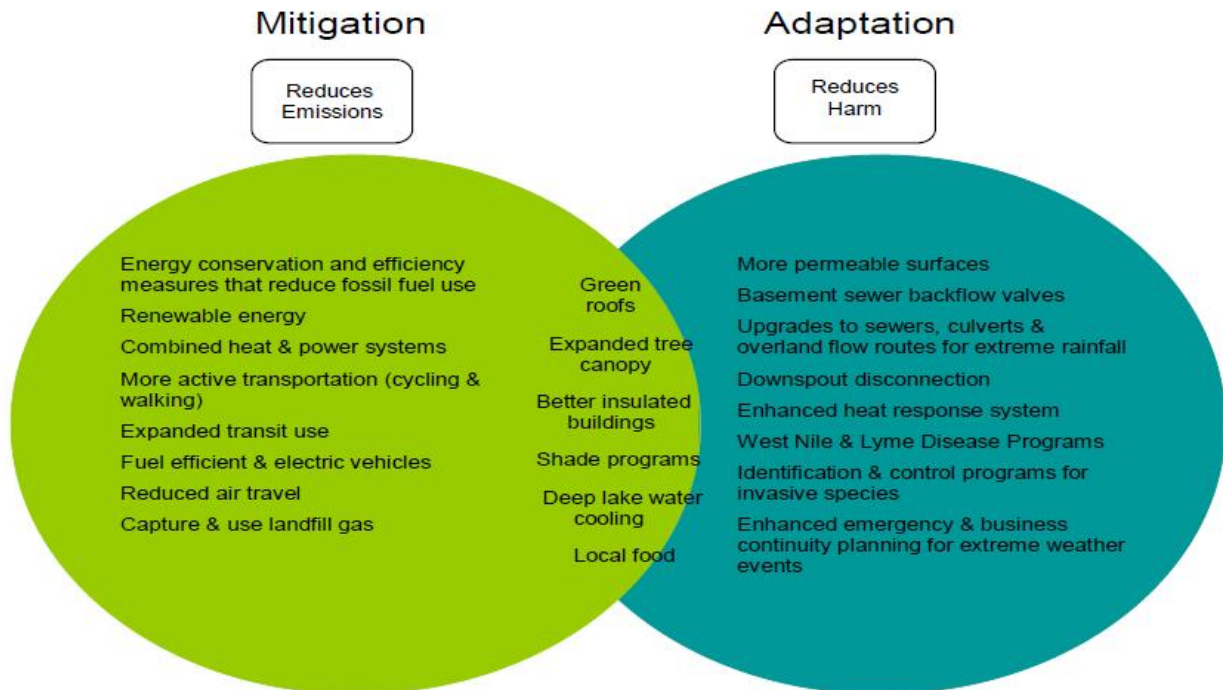
## Environmental Impacts & Climate Adaptation

### Climate Adaptation

FIGURE

Adaptation, Mitigation and Stabilization (**FEW Resources.org**, continually updated)

<http://www.fewresources.org/adaptation--mitigation.html>



Climate Change Adaptation Reporting: Third Round (**DEFRA**, 2018)

<https://www.gov.uk/government/publications/climate-change-adaptation-reporting-third-round>

### Resilient Places

#### LINKS

Climate Change and Creating a Resilient Economy (**EA** and **Emma Howard Boyd**, 2019)

<https://www.gov.uk/government/speeches/climate-change-and-creating-a-resilient-economy>

#### REPORTS

City Resilience Index: Understanding and Measuring City Resilience (**Arup**, 2015)

<https://www.arup.com/publications/research/section/city-resilience-index>

### Overheating

#### LINKS

Overheating Solutions for New Homes (**Good Homes Alliance**, continually updated)

<http://goodhomes.org.uk/working-groups/overheating-solutions-new-homes>

## REMINDERS FOR LOCAL ENERGY HUBS

### Water Management, Flooding & Sea Level

#### REPORTS

Strategic Approach Needed to Enhance Local Economy Flood Resilience (**JBA Consulting**, 2016) <https://www.jbaconsulting.com/knowledge-hub/jba-calls-for-a-strategic-approach-to-enhancing-the-flood-resilience-of-local-economies/>

### Air Quality

#### LINKS

Air Quality: Economic Analysis [this guide explains how impacts on air quality should be incorporated into a cost-benefit analysis] (**BEIS**, 2013, updated 2019) <https://www.gov.uk/guidance/air-quality-economic-analysis>

Air Quality Damage Cost Update 2019 (**DEFRA**, 2019) [https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1902271109\\_Damage\\_cost\\_update\\_2018\\_FINAL\\_Issue\\_2\\_publication.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1902271109_Damage_cost_update_2018_FINAL_Issue_2_publication.pdf)

Clean Air Campaign Air Monitoring Kit Results (**Friends of the Earth**, continually updated) <https://friendsoftheearth.uk/clean-air/results>

Health Costs of Air Pollution in European Cities and the Linkage with Transport (**European Public Health Alliance (EPHA)** and **CE Delft**, 2020) <https://epha.org/wp-content/uploads/2020/10/final-health-costs-of-air-pollution-in-european-cities-and-the-linkage-with-transport.pdf>

### Land Use

#### REPORTS

Land Use: Reducing Emissions and Preparing for Climate Change (**CCC**, 2018) <https://www.theccc.org.uk/wp-content/uploads/2018/11/Land-use-Reducing-emissions-and-preparing-for-climate-change-CCC-2018.pdf>

Global Food Systems are Failing Humanity and Speeding Up Climate Change (**The InterAcademy Partnership**, 2018) <http://www.interacademies.org/48945/Global-food-systems-are-failing-humanity-and-speeding-up-climate-change>

### Environmental Data Sets

#### Environmental Data Sets

Magic Map (**DEFRA**, continually updated) <http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx>

Flood Map Planning (**UK Government**, continually updated) <https://flood-map-for-planning.service.gov.uk/>

Evidence: Groundwater Vulnerability Maps Technical Summary (**EA**, 2017) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/650371/Groundwater\\_variability\\_summary.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/650371/Groundwater_variability_summary.pdf)

**NAEI** <http://naei.beis.gov.uk/>

### Research and Innovation

#### GOVERNMENT STRATEGY & ADVISORY

Smart Specialisation in England (**BIS**, 2015)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/436242/bis-15-310-smart-specialisation-in-england-submission-to-european-commission.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/436242/bis-15-310-smart-specialisation-in-england-submission-to-european-commission.pdf)

Energy Innovation (**BEIS**, 2016, updated 2020) <https://www.gov.uk/guidance/energy-innovation>

#### LINKS

Science and Innovation Audits (**BEIS**, 2016, updated 2019)

<https://www.gov.uk/government/collections/science-and-innovation-audits>

#### INNOVATE UK FUNDING

Open innovation calls relevant to energy:

Innovation Competitions (**Innovation Funding Service**, continually updated) <https://apply-for-innovation-funding.service.gov.uk/competition/search>

Knowledge Transfer Partnerships: What They Are and How to Apply (**Innovate UK** and **UK Research and Innovation**, 2015, updated 2020) <https://www.gov.uk/guidance/knowledge-transfer-partnerships-what-they-are-and-how-to-apply>

Innovations in the Built Environment (**BEIS**, 2017, updated 2020)

<https://www.gov.uk/government/collections/innovations-in-the-built-environment>

The Innovation Link [support on energy regulation to innovators looking to trial or launch new products, services, methodologies or business models] (**Ofgem**, continually updated)

<https://www.ofgem.gov.uk/about-us/how-we-engage/innovation-link>

Modern Energy Partners: Integrated Efficiency Solutions (**Energy Systems Catapult**, no date)

<https://es.catapult.org.uk/service-platforms/modern-energy-partners/>

Energy Launchpad: Innovation Support for SMEs (**Energy Systems Catapult**, continually updated) <https://es.catapult.org.uk/service-platforms/energy-launchpad>

#### REPORTS

Process Evaluation of the Catalyst Programmes (**Innovate UK**, **DFID**, **Engineering and Physical Sciences Research Council**, **Biotechnology and Biological Sciences Research Council**, **BEIS** and **UKRI**, 2019) <https://www.gov.uk/government/publications/process-evaluation-of-the-catalyst-programmes>

Report 2018. Connection and Collaboration: Powering UK Tech and Driving the Economy (**Tech Nation**, 2018) <https://technation.io/insights/report-2018/>

Technology Outlook 2018: How Technology Could Change the Way Energy is Produced and Consumed (**BP**, 2018) <https://www.bp.com/technologyoutlook2018>

## REMINDERS FOR LOCAL ENERGY HUBS

### Research Centres

Engineering and Physical Sciences Research Council <https://www.epsrc.ac.uk>

UKERC <http://www.ukerc.ac.uk/>

London–Loughborough (LoLo) EPSRC Centre for Doctoral Training in Energy Demand  
<http://www.lolo.ac.uk/>

UKRI <https://www.ukri.org/>

Tyndall Centre for Climate Change Research <https://www.tyndall.ac.uk/>

Grantham Research Institute on Climate Change and the Environment  
<http://www.lse.ac.uk/GranthamInstitute/about/>

Future Climate Engineering Solutions <https://fc-es.net/>

### ACADEMIC JOURNALS

**Energy Policy:** *The International Journal of the Political, Economic, Planning, Environmental and Social Aspects of Energy* <https://www.journals.elsevier.com/energy-policy>

#### **If you are an academic researcher:**

This document contains limited references to academic research. Please contact us if you wish to draw our attention to research centres or academic journals that can inform local energy decision-making.

### Public Policy

#### Think Tanks and Related Resources

Where individual reports and web pages are not specified below, relevant resources can be found by searching the listed websites for terms including 'climate', 'energy' and 'renewable'.

**Bright Blue** [independent think tank and pressure group advocating for liberal conservative ideas and policies] [https://en.wikipedia.org/wiki/Bright\\_Blue\\_\(organisation\)](https://en.wikipedia.org/wiki/Bright_Blue_(organisation))

- HOTTING UP: Strengthening the Climate Change Act Ten Years On (**Bright Blue**, 2018) <https://brightblue.org.uk/wp-content/uploads/2018/05/Hotting-up.pdf>

**Centre for London** [London's dedicated think tank] [https://en.wikipedia.org/wiki/Centre\\_for\\_London](https://en.wikipedia.org/wiki/Centre_for_London)

- See resources at <https://www.centreforlondon.org/research-and-ideas/transport-environment/>

**Chatham House** [non-profit, non-governmental organisation based in London, also known as the **Royal Institute of International Affairs**] [https://en.wikipedia.org/wiki/Chatham\\_House](https://en.wikipedia.org/wiki/Chatham_House)

- See resources at <https://www.chathamhouse.org/research/themes/energy-environment-resources>

**Common Weal** [think tank and advocacy group that campaigns for social and economic equality in Scotland] [https://en.wikipedia.org/wiki/Common\\_Weal](https://en.wikipedia.org/wiki/Common_Weal)

- See resources at <https://commonweal.scot/policy-library?tid%5B34%5D=34&tid%5B47%5D=47>

**E3G (Third Generation Environmentalism)** [climate change think tank operating to accelerate a global transition to a low-carbon future] <https://en.wikipedia.org/wiki/E3G>

- See resources at <https://www.e3g.org/>

**Forum for the Future** [a leading international sustainability non-profit, working with business, governments and civil society to accelerate the shift towards a sustainable future] <https://www.forumforthefuture.org/>

**Futures Centre** [an open source platform using futures practice to help organisations and individuals grapple with uncertainty and change] <https://www.thefuturescentre.org/>

- The Future of Sustainability Report 2020 (**Futures Centre**, 2020) <https://www.thefuturescentre.org/fos/>

**Green Alliance** [charity and independent think tank focused on ambitious leadership for the environment] [https://en.wikipedia.org/wiki/Green\\_Alliance](https://en.wikipedia.org/wiki/Green_Alliance)

- See resources at <https://www.green-alliance.org.uk/>

**Independent Transport Commission (ITC)** [research charity and think tank devoted to exploring issues in the fields of transport, planning and land use] [https://en.wikipedia.org/wiki/Independent\\_Transport\\_Commission](https://en.wikipedia.org/wiki/Independent_Transport_Commission)

- See resources at <http://www.theitc.org.uk/>

**Institute for Public Policy Research (IPPR)**

[https://en.wikipedia.org/wiki/Institute\\_for\\_Public\\_Policy\\_Research](https://en.wikipedia.org/wiki/Institute_for_Public_Policy_Research)

## REMINDERS FOR LOCAL ENERGY HUBS

- See resources at <https://www.ippr.org>

**Institute of Welsh Affairs (IWA)** [independent charity and membership-based think tank that specialises in public policy and debate around the economy, education, environment and health sectors in Wales] [https://en.wikipedia.org/wiki/Institute\\_of\\_Welsh\\_Affairs](https://en.wikipedia.org/wiki/Institute_of_Welsh_Affairs)

- See resources at <https://www.iwa.wales/>

**International Growth Centre (IGC)** [economic research centre based at the London School of Economics, with four research themes: state, firms, cities, and energy] [https://en.wikipedia.org/wiki/International\\_Growth\\_Centre](https://en.wikipedia.org/wiki/International_Growth_Centre)

- See resources at <https://www.theigc.org/research-themes/energy/>

**International Institute for Environment and Development** [independent policy research institute (think tank) focusing on four main areas: natural resources, climate change, human settlements and sustainable markets] [https://en.wikipedia.org/wiki/International\\_Institute\\_for\\_Environment\\_and\\_Development](https://en.wikipedia.org/wiki/International_Institute_for_Environment_and_Development)

- See resources at <https://www.iied.org/energy>

**Centre for Climate Change Economics and Policy** [climate change research centre in England that studies the economics of global warming; part of the Grantham Research Institute on Climate Change and the Environment] [https://en.wikipedia.org/wiki/Centre\\_for\\_Climate\\_Change\\_Economics\\_and\\_Policy](https://en.wikipedia.org/wiki/Centre_for_Climate_Change_Economics_and_Policy)

- See resources at <https://www.cccep.ac.uk/>

**National Institute of Economic and Social Research (NIESR)** [economic research institute and charity that carries out academic research relevant to business and policy makers, nationally and internationally] [https://en.wikipedia.org/wiki/National\\_Institute\\_of\\_Economic\\_and\\_Social\\_Research](https://en.wikipedia.org/wiki/National_Institute_of_Economic_and_Social_Research)

- See resources at <https://www.niesr.ac.uk/>

**New Economics Foundation (NEF)** [British think tank that promotes social, economic and environmental justice] [https://en.wikipedia.org/wiki/New\\_Economics\\_Foundation](https://en.wikipedia.org/wiki/New_Economics_Foundation)

- See resources at <https://neweconomics.org/section/publications>

**New Policy Institute** [British think tank focusing on social and economic issues from a progressive perspective] [https://en.wikipedia.org/wiki/New\\_Policy\\_Institute](https://en.wikipedia.org/wiki/New_Policy_Institute)

- So You've Declared a Climate Emergency: What Next? [intended to help councils across the UK decide what actions to take in the wake of making a climate declaration] (**APSE (Association for Public Service Excellence) & New Policy Institute (NPI)**, 2020) <https://www.npi.org.uk/publications/climate-change/so-youve-declared-climate-emergency-what-next/>

**Policy Connect** [independent, cross-party not-for-profit organisation that works to inform and improve the formation of public policy in the UK] [https://en.wikipedia.org/wiki/Policy\\_Connect](https://en.wikipedia.org/wiki/Policy_Connect)

- See resources at <https://www.policyconnect.org.uk/>

**Science Policy Research Unit** [research centre that focuses on long-term transformative change, science policy and innovation across different sectors, societies and structures] [https://en.wikipedia.org/wiki/Science\\_Policy\\_Research\\_Unit](https://en.wikipedia.org/wiki/Science_Policy_Research_Unit)

- See resources at <http://www.sussex.ac.uk/spru/research/themes/sussexenergygroup>
- See resources at <https://www.ncl.ac.uk/cesi/research/papers/>



## REMINDERS FOR LOCAL ENERGY HUBS

**Social Market Foundation** [independent British political public policy think tank, pro-market, pro-social-justice] [https://en.wikipedia.org/wiki/Social\\_Market\\_Foundation](https://en.wikipedia.org/wiki/Social_Market_Foundation)

- See resources at [https://www.smf.co.uk/publication\\_categories/environment-energy/](https://www.smf.co.uk/publication_categories/environment-energy/)

**Stockholm Network** [pan-European think tank and network located in London, with over 130 member organisations] [https://en.wikipedia.org/wiki/Stockholm\\_Network](https://en.wikipedia.org/wiki/Stockholm_Network)

- See resources at <http://www.stockholm-network.org/>

**United Nations Association UK** [leading independent policy authority on the United Nations in the UK, and a UK-wide grassroots membership organisation] [https://en.wikipedia.org/wiki/United\\_Nations\\_Association\\_%E2%80%93\\_UK](https://en.wikipedia.org/wiki/United_Nations_Association_%E2%80%93_UK)

- See resources at <https://www.una.org.uk/search/node>

**Centre for European Reform (CER)** [independent think focused on strengthening EU performance and global role] <https://www.cer.eu>

- See resources at <https://www.cer.eu/search/site/energy?sort=date>
- See resources at <https://www.cer.eu/research-topics/energy-climate>

**New Local Government Network (NLGN)** [independent think tank and network of 60+ councils, aiming to create sustainable and community-led public services] [https://en.wikipedia.org/wiki/New\\_Local\\_Government\\_Network](https://en.wikipedia.org/wiki/New_Local_Government_Network)

- See resources at <http://www.nlgn.org.uk/>

## REMINDERS FOR LOCAL ENERGY HUBS

### Skills

#### LINKS

Website of the **National Skills Academy: Environmental Technologies** [closed 2017]  
<http://www.nsaet.org.uk/>

#### REPORTS

The Farmer Review of the UK Construction Labour Model. Modernise or Die: Time to Decide the Industry's Future (**Farmer**, 2016) <http://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2016/10/Farmer-Review.pdf>

Workers Wanted: The EU Wind Energy Sector Skills Gap (**European Wind Energy Technology Platform**, 2013)  
[http://www.windplatform.eu/fileadmin/ewetp\\_docs/Documents/reports/Workers\\_Wanted\\_TPwind.pdf](http://www.windplatform.eu/fileadmin/ewetp_docs/Documents/reports/Workers_Wanted_TPwind.pdf)

Many Skills One Vision. Energy and Utilities Workforce Renewal and Skills Strategy: 2020 (**Energy & Utilities Skills Partnership**, 2017) <http://www.euskills.co.uk/wp-content/uploads/2017/11/Workforce-Renewal-and-Skills-Strategy-2020.pdf>

Low Carbon and Renewable Energy Economy Multipliers Dataset (employment and turnover multipliers for productivity growth and job creation in the low-carbon and renewable energy sector) (**ONS**, continually updated)  
<https://www.ons.gov.uk/economy/environmentalaccounts/datasets/lowcarbonandrenewableenergyeconomymultipliersdataset>

How Many Jobs? A Survey of the Employment Effects of Investment in Energy Efficiency of Buildings [literature review of available evidence into job creation by energy efficiency programmes, particularly construction] (**Energy Efficiency Industrial Forum**, 2012)  
<https://euroace.org/wp-content/uploads/2016/10/2012-How-Many-Jobs.pdf>

UK Export Finance and Domestic Jobs [highlights how UKEF support for renewables could potentially have a greater impact on domestic jobs than support for oil and gas] (**Vivid Economics** and **European Climate Foundation (ECF)**, 2020)  
[https://www.vivideconomics.com/wp-content/uploads/2020/10/20201012-UKEF-and-domestic-jobs\\_3rd-draft\\_clean.pdf](https://www.vivideconomics.com/wp-content/uploads/2020/10/20201012-UKEF-and-domestic-jobs_3rd-draft_clean.pdf)

Energy Efficiency Improvement Rates: Local Supply Chain Demonstration Projects (**BEIS**, 2018, updated 2020) <https://www.gov.uk/government/publications/energy-efficiency-improvement-rates-local-supply-chain-demonstration-projects>

Become a Green Homes Grant Installer (**BEIS**, 2020) <https://www.gov.uk/guidance/green-homes-grant-scheme-register-as-a-certified-tradesperson-or-business>

# Energy Economics & Finance

## Energy System Economic Impact

### Energy Economic Contribution

#### REPORTS

The Stern Review (<http://www.lse.ac.uk/GranthamInstitute/publication/the-economics-of-climate-change-the-stern-review/>):

- The benefits of strong, early action considerably outweigh the costs.
- Unabated climate change could cost the world at least 5% of GDP each year; if more dramatic predictions come to pass, the cost could be more than 20% of GDP.
- The cost of reducing emissions could be limited to around 1% of global GDP; people could be charged more for carbon-intensive goods.
- Each tonne of CO<sub>2</sub> we emit causes damages worth at least \$85, but emissions can be cut at a cost of less than \$25 a tonne.
- Shifting the world onto a low-carbon path could eventually benefit the economy by \$2.5 trillion a year.
- By 2050, markets for low-carbon technologies could be worth at least \$500bn.
- What we do now can have only a limited effect on the climate over the next 40 or 50 years, but what we do in the next 10–20 years can have a profound effect on the climate in the second half of this century.

10 Years On, Climate Economists Reflect on Stern Review (**Climate Central**, 2016)  
<https://www.climatecentral.org/news/climate-economists-stern-review-20827>

#### LINKS

Final Report of the 2020 Green Book Review (**HM Treasury**, 2020)

<https://www.gov.uk/government/publications/final-report-of-the-2020-green-book-review>

Green Book Supplementary Guidance: Valuation of Energy Use and Greenhouse Gas Emissions for Appraisal [provides analysts with rules for valuing energy usage and greenhouse gas emissions] (**BEIS**, 2012, updated 2020)

<https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

Valuation of Energy Use and Greenhouse Gas: Background Documentation (**BEIS**, 2019)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/599761/Background\\_documentation\\_for\\_guidance\\_on\\_valuation\\_of\\_energy\\_use\\_and\\_greenhouse\\_gas\\_emissions\\_2016.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/599761/Background_documentation_for_guidance_on_valuation_of_energy_use_and_greenhouse_gas_emissions_2016.pdf)

Carbon Valuation in UK Policy Appraisal: A Revised Approach [DECC guidance on the UK's target-consistent approach to valuing emissions] (**DECC**, 2009)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/245334/1\\_20090715105804\\_e\\_carbonvaluationinukpolicyappraisal.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245334/1_20090715105804_e_carbonvaluationinukpolicyappraisal.pdf)

## REMINDERS FOR LOCAL ENERGY HUBS

### Energy Externalities

#### REPORTS

Externality Briefing: The True Cost of Fossil Fuels: Saving on the Externalities of Air Pollution and Climate Change (**International Renewable Energy Agency (IRENA)**, 2016)

[http://www.irena.org/DocumentDownloads/Publications/IRENA\\_REmap\\_externality\\_brief\\_2016.pdf](http://www.irena.org/DocumentDownloads/Publications/IRENA_REmap_externality_brief_2016.pdf)

IMF Survey: Counting the Cost of Energy Subsidies (**International Monetary Fund (IMF)**, 2015)

<http://www.imf.org/en/News/Articles/2015/09/28/04/53/sonew070215a>

Can Humankind Escape the Tragedy of the Commons? (**Battersby**, 2017)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5224396/pdf/pnas.201619877.pdf>

### Energy Policy Mechanisms

#### GOVERNMENT STRATEGY & ADVISORY

Independent Review to Ensure Energy is Affordable for Households and Businesses (**BEIS and The Rt Hon Greg Clark MP**, 2017) <https://www.gov.uk/government/news/independent-review-to-ensure-energy-is-affordable-for-households-and-businesses>

Energy Market Investigation (**Competition and Markets Authority**, 2016, updated 2018)

<https://www.gov.uk/cma-cases/energy-market-investigation>

Targeted Charging Review: A Consultation (**Ofgem**, 2017)

<https://www.ofgem.gov.uk/system/files/docs/2017/03/tcr-consultation-final-13-march-2017.pdf>

#### LINKS

A Revolutionary Tool for Cutting Emissions, Ten Years On [greenhouse gas abatement cost curves] (**McKinsey & Company**, 2017) <https://www.mckinsey.com/about-us/new-at-mckinsey-blog/a-revolutionary-tool-for-cutting-emissions-ten-years-on>

#### REPORTS

Policy Brief: Climate Change Policies (**Organisation for Economic Co-operation and Development (OECD)**, 2007) <http://www.oecd.org/env/cc/39111309.pdf>

Briefing Sheet: Climate Change Policy Mechanisms (**Institution of Civil Engineers**, 2014)

<https://www.ice.org.uk/knowledge-and-resources/briefing-sheet/climate-change-policy-mechanisms>

COVID-19 Can Be an Historic Turning Point in Tackling the Global Climate Crisis (**CCC**, 2020)

<https://www.theccc.org.uk/2020/06/25/covid-19-can-be-an-historic-turning-point-in-tackling-the-global-climate-crisis/>

### Finance & Funding

Impact Evaluation Report (**Local Environmental Action Fund (LEAF)**, 2011)

<https://www.communityfoundation.org.uk/wordpress/wp-content/uploads/2017/09/LEAF-Impact-Evaluation-Report.pdf>

Financing Energy Efficiency in Buildings – A New Method of Appraisal (**Finnegan** et al., 2015)

<http://oro.open.ac.uk/49690/>

Investing for Resilience (**ClimateWise**, 2016)

<https://www.cisl.cam.ac.uk/publications/publication-pdfs/Investing-for-resilience.pdf>

LENDERS Improving Energy Costs in Mortgages. Promoting Energy Efficiency in Homes

(**LENDERS**, 2017) [https://www.ukgbc.org/wp-content/uploads/2017/09/Lenders\\_Core\\_Report\\_1.pdf](https://www.ukgbc.org/wp-content/uploads/2017/09/Lenders_Core_Report_1.pdf)

PFI. Profiting From Infirmaries (**Centre for Health and the Public Interest**, 2017)

<https://chpi.org.uk/wp-content/uploads/2017/08/CHPI-PFI-ProfitingFromInfirmaries.pdf>

Mapping the Sustainability Landscape: Lost in the Right Direction (**Association of Chartered Certified Accountants** and **Climate Disclosure Standards Board**, 2016)

<https://www.accaglobal.com/uk/en/technical-activities/technical-resources-search/2016/may/mapping-sustainability-reporting-landscape.html>

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*The Secret Wealth Garden: Re-wiring Local Government Pension Funds Back Into Regional Economies* (**John Clancy**, 2014) <https://www.barnesandnoble.com/w/the-secret-wealth-garden-john-clancy/1119696048>

Green Home Finance Innovation Fund Competition (**BEIS**, 2019, updated 2020)

<https://www.gov.uk/guidance/green-home-finance-innovation-fund-competition>

### Green Finance

#### GOVERNMENT STRATEGY & ADVISORY

Green Finance Strategy: Transforming Finance for a Greener Future (**BEIS**, 2019)  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/820284/190716\\_BEIS\\_Green\\_Finance\\_Strategy\\_Accessible\\_Final.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/820284/190716_BEIS_Green_Finance_Strategy_Accessible_Final.pdf)

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**Institutional Investors Group on Climate Change (IIGCC)** <https://www.iigcc.org/>

Mayor of London's Energy Efficiency Fund (MEEF) (**Amber Infrastructure Group**, continually updated) <https://www.amberinfrastructure.com/our-funds/the-mayor-of-londons-energy-efficiency-fund/>

**City Bridge Trust** <https://www.citybridgetrust.org.uk/>

**City LEAP Bristol** <https://www.energyservicebristol.co.uk/prospectus/>

**Naturesave Insurance** <http://www.naturesave.co.uk/>

**ClimateWise** (<https://www.cisl.cam.ac.uk/business-action/sustainable-finance/climatewise>) supports the insurance industry to better communicate, disclose and respond to the risks and opportunities associated with the climate-risk protection gap. This is the growing divide between total economic and insured losses attributed to climate change.

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Will COVID-19 Fiscal Recovery Packages Accelerate or Retard Progress on Climate Change? Working Paper No. 20-02 (**Oxford Smith School of Enterprise and the Environment**, 2020)  
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### Innovation Funding

Taken from Innovate UK advice note, Summer 2020, abridged

*Energy Innovation Funding in the UK*

The Energy Innovation funding landscape is fluid with new opportunities arising across a range of organisations. However, the below organisations and websites are regularly updating and provide a fairly robust view of the energy innovation funding landscape in the UK.

- Currently available Innovate UK funding competitions can be explored on our Innovation Funding Service: <https://apply-for-innovation-funding.service.gov.uk/competition/search>
  - Smart Grants is our regular competition with broad eligibility requirements. This is open to ideas from all sectors.
  - The Energy Catalyst is a competition focused upon innovation to improve clean energy access in developing countries. Funding competitions are published for this through the Innovation Funding Service (<https://www.gov.uk/guidance/energy-catalyst-what-it-is-and-how-to-apply-for-funding>).
  - You may also be interested in exploring our large Industrial Strategy Challenge Fund (ISCF) programmes. All funding for these programmes goes through our Innovation Funding Service and is also publicised by the KTN (<https://www.ukri.org/innovation/industrial-strategy-challenge-fund/>).
- The Knowledge Transfer Network publicise funding, events, and partner brokerage (<https://ktn-uk.org/energy>).
- The Enterprise Europe Network (EEN) provide innovator support for international growth; they are the first port of call for European funding opportunities (<https://een.ec.europa.eu/>).
- BEIS Energy Innovation Programme (<https://www.gov.uk/guidance/energy-innovation>).
- BEIS Smart Energy Innovation funding (<https://www.gov.uk/guidance/funding-for-innovative-smart-energy-systems>).
- Smarter Networks Portal and Network Innovation Collaboration Portal – submit project ideas to the Energy Networks Association that can be considered for Network Innovation Allowance and Network Innovation Competition funding (<https://www.energynetworks.org/electricity/futures/innovation-portals.html>; <https://www.energynetworks.org/electricity/futures/innovation-portals.html>; <https://www.ofgem.gov.uk/network-regulation-riio-model/network-innovation/electricity-network-innovation-allowance>).
- The Energy Innovation Centre (EIC) posts funding and collaboration opportunities related to energy networks (<https://www.ukeic.com/innovator>).

Please note, all the above are business funding opportunities. More information on funding research and development for academia can be found via the Research Councils of UKRI (<https://www.ukri.org/funding/funding-opportunities/>).

### Community Energy

#### GOVERNMENT STRATEGY & ADVISORY

Community Energy Strategy Update: Creating the Conditions for Long-term Growth (**DECC**, 2015)

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#### LINKS

**Community Energy England** <https://communityenergyengland.org/>

**Bath & West** <http://www.bwce.coop/>

**Community Energy Scotland** <http://www.communityenergyscotland.org.uk/>

**Eigg Going Green** <https://islandsgoinggreen.org/about/eigg-electric/>

**Orkney Sustainable Energy** [http://www.orkney.gov.uk/files/business-and-trade/orkney\\_sustainable\\_energy.pdf](http://www.orkney.gov.uk/files/business-and-trade/orkney_sustainable_energy.pdf)

**Chester Community Energy** <http://www.chestercommunityenergy.org.uk/>

**Solarplicity** <https://www.solarplicity.com/>

Financing for Society: Crowdfunding Public Infrastructure Projects (**Bauman Institute**, 2019)

<https://baumaninstitute.leeds.ac.uk/research/financing-for-society/>

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State of the Sector Report 2019 (**Community Energy England** and **Community Energy Wales**, 2019) <https://communityenergyengland.org/pages/state-of-the-sector-report-2019>

Local Energy in an Age of Austerity Preserving the Value of Local and Community Energy (**Nesta**, 2015) [https://media.nesta.org.uk/documents/local\\_energy\\_in\\_an\\_age\\_of\\_austerity.pdf](https://media.nesta.org.uk/documents/local_energy_in_an_age_of_austerity.pdf)

Secure and Low-carbon Energy is Citizens' Energy: A Manifesto for Human-Based Governance of Secure and Low-carbon Energy Transitions (**The MILESECURE2050 Project**, 2015)

<http://www.govertvalkenburg.net/node/159>

Transformation Moment: Can Britain Make It to the Age of Clean? (**Simpson**, 2017)

[http://files.1010global.org/documents/Transformation\\_Moment\\_Alan\\_Simpson\\_Report.pdf](http://files.1010global.org/documents/Transformation_Moment_Alan_Simpson_Report.pdf)

An Energy System Vision for a Community Energy-Led Future? (**Carbon Co-op**, 2017)

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Impact Report 2015: Peer Power: Energy Mentoring Programme [closed] (**Cooperative UK**, 2015)

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#### LOCAL ENERGY RESOURCES

##### RURAL COMMUNITY ENERGY FUND

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## **Build Back Better & Economic Recovery**

edie Explains: The Green Recovery (**edie**, 2020) <https://www.edie.net/downloads/edie-Explains--The-Green-recovery/493>

Jobs for a Strong and Sustainable Recovery from Covid-19 (**Centre for Economic Performance**, 2020) <https://cep.lse.ac.uk/pubs/download/cepcovid-19-010.pdf>

Net Zero After Covid: Behavioural Principles for Building Back Better (Nick Chater) (**CCC**, 2020) <https://www.theccc.org.uk/publication/net-zero-after-covid-behavioural-principles-for-building-back-better-nick-chater/>

Assessment of Green Recovery Plans after COVID-19 (**Cambridge Econometrics**, 2020) <https://www.wemeanbusinesscoalition.org/wp-content/uploads/2020/10/Green-Recovery-Assessment-v2.pdf>

## Just Transition

Supporting a Just Transition (**SSE**, 2020) <https://www.sse.com/media/km5ff0fx/sse-just-transition-strategy-final.pdf>

Lessons Learned: Just Transitions from Around the World (**IPPR**, 2020) <https://www.ippr.org/files/2020-12/lessons-learned-dec2020.pdf>

Just Transitions for All: Business, Human Rights, and Climate Action (**Institute for Human Rights and Business (IHRB)**, 2020) [https://www.ihrb.org/uploads/reports/Just\\_Transitions\\_For\\_All\\_-\\_Business%2C\\_Human\\_Rights%2C\\_and\\_Climate\\_Action\\_-\\_IHRB\\_Nov2020.pdf](https://www.ihrb.org/uploads/reports/Just_Transitions_For_All_-_Business%2C_Human_Rights%2C_and_Climate_Action_-_IHRB_Nov2020.pdf)

Just Transition: Pathways to Socially Inclusive Decarbonisation – COP26 Universities Network Briefing (**COP26 Universities Network**, 2020) [https://www.ucl.ac.uk/public-policy/sites/public-policy/files/cop26\\_just\\_transition\\_policy\\_paper\\_-\\_final\\_.pdf](https://www.ucl.ac.uk/public-policy/sites/public-policy/files/cop26_just_transition_policy_paper_-_final_.pdf)

### Local Taxation, Incentives & Regional Funding

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[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/401381/Dom\\_PRS\\_Energy\\_Efficiency\\_Regulations\\_-\\_Gov\\_Response\\_FINAL\\_\\_04\\_02\\_15\\_.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/401381/Dom_PRS_Energy_Efficiency_Regulations_-_Gov_Response_FINAL__04_02_15_.pdf)

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Business Rates Retention and the Local Government Finance Settlement: A Plain English Guide (**DCLG**, 2013)

<http://webarchive.nationalarchives.gov.uk/20140505105738/http://www.local.communities.gov.uk/finance/1314/plainenglishguides.pdf>

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Valuation Office Agency Data (**ONS**, 2017)

<https://www.ons.gov.uk/census/censustransformationprogramme/administrativedatacensusproject/datasourceoverviews/valuationofficeagencydata>

#### REPORTS

Driving Social Value in New Development: Options for Local Authorities Version 1.0 (**UKGBC**, 2019) <https://www.ukgbc.org/wp-content/uploads/2019/03/UKGBC-Driving-social-value-in-new-development-Options-for-local-authorities-1.pdf>

REA Briefing – 2017 Business Rate Rateable Value Revaluation (**Renewable Energy Association**, 2017) [https://www.r-e-a.net/resources/pdf/265/160712\\_REA\\_Briefing\\_2017\\_Business\\_Rate\\_Rateable\\_Value\\_Revaluation\\_With\\_GE\\_Slides.pdf](https://www.r-e-a.net/resources/pdf/265/160712_REA_Briefing_2017_Business_Rate_Rateable_Value_Revaluation_With_GE_Slides.pdf)

## REMINDERS FOR LOCAL ENERGY HUBS

### Regional Funds

#### LINKS

The **North West Fund** (<http://www.thenorthwestfund.co.uk/>) is a £155m evergreen investment fund established to provide debt and equity funding to small and medium-sized enterprises in the North West of England. The Fund will address an identified gap in the lending, venture capital and private equity markets.

The **Northern Powerhouse Investment Fund (NPIF)** (<http://british-business-bank.co.uk/ourpartners/northern-powerhouse-investment-fund/>) was officially launched in February 2017 and is a collaboration between the government-owned British Business Bank and ten LEPs in the North West.

### Social Impact Investment

Social Impact Bonds (**Cabinet Office, DCMS and Office for Civil Society**, 2012, updated 2017) <https://www.gov.uk/guidance/social-impact-bonds>

Social Impact Bonds (**Social Finance**, continually updated) <https://www.socialfinance.org.uk/what-we-do/social-impact-bonds>

Social Investing Tax Relief: Call for Evidence (**HM Treasury**, 2019) <https://www.gov.uk/government/consultations/social-investment-tax-relief-call-for-evidence>

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**Ignite** (<http://ignitesocialenterprise.com/>), set up by Centrica in 2014, was a £10m impact fund that invested in UK energy-related social enterprises that deliver both commercial and social outcomes. In 2017 it became part of Centrica Innovations (<https://www.centrica.com/centrica-innovations>).

**Abundance Investment** <https://www.abundanceinvestment.com/>

**Big Society Capital** <https://www.bigsocietycapital.com/>

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Developing an Approach to Sustainable Return on Investment [which has many of the same components as the multi-benefit approach] (**RICS**, 2015) <http://usir.salford.ac.uk/36112/1/FINAL%20REPORT%20HighRes.pdf>

Additionality Guide [how to assess the additional impact or additionality of local economic growth and housing interventions] (**Homes and Communities Agency**, 2014) <https://www.gov.uk/government/publications/additionality-guide>

**Share Action** [responsible investment including local authority pensions] <https://shareaction.org/about-us/>

Guide to Local Government Divestment (**Fossil Free UK**, continually updated) <https://gofossilfree.org/uk/local-government-guide-about-campaign/>

# Energy Networks & National Infrastructure

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Enabling a High Renewable, Net Zero Electricity System: Call for Evidence (**BEIS**, 2020)

<https://www.gov.uk/government/consultations/enabling-a-high-renewable-net-zero-electricity-system-call-for-evidence>

Ofgem's Decarbonisation Action Plan (**Ofgem**, 2020)

<https://www.ofgem.gov.uk/publications-and-updates/ofgem-s-decarbonisation-action-plan>

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ESO Future Energy Scenarios (**National Grid**, continually updated)

<https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

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Decarbonising is Easy: Beyond Market Neutrality in the ECB'S Corporate QE (**New Economics Foundation**, 2020) <https://neweconomics.org/uploads/files/Decarbonising-is-easy.pdf>

The Path Towards a 100% Renewable Energy Future: Wärtsilä Business White Paper (**Wärtsilä**, 2018) <https://cdn.wartsila.com/docs/default-source/power-plants-documents/downloads/white-papers/general/wartsila-bwp-the-path-towards-a-100-renewable-energy-future.pdf>

UK's Energy Networks Lay the Foundations for the Prime Minister's Ten Point Plan (**Energy Networks Association**, 2020) <https://www.energynetworks.org/newsroom/uks-energy-networks-lay-the-foundations-for-the-prime-ministers-ten-point-plan>

Disrupting the UK Energy System: Causes, Impacts and Policy Implications (**UKERC**, 2019) <http://www.ukerc.ac.uk/publications/disrupting-uk-energy-system.html>

Wise Minds: The Energy Transition and Large Utilities. Insights from Energy Industry and Political Leaders on the Rapidly Changing UK Energy System (**Forum for the Future and Friends Provident Foundation**, 2017)

<https://www.forumforthefuture.org/Handlers/Download.ashx?IDMF=1597e70b-49f1-4738-9b3a-a66d86aee409>

Delivering Low Carbon Infrastructure (**UKGBC**, 2017)

<http://www.ukgbc.org/sites/default/files/Delivering%20Low%20Carbon%20Infrastructure.pdf>

Dynamic Dispatch Model (DDM) [overview of BEIS's model for forecasting the implications of changes to energy generation on the energy market; contact BEIS to undertake analysis] (**DECC**, 2012, updated 2014) <https://www.gov.uk/government/publications/dynamic-dispatch-model-ddm>

Presenting the Future [report on the potential for future cost reductions in the electricity generation sector] (**UKERC**, 2013) <http://www.ukerc.ac.uk/publications/presenting-the-future-electricity-generation-cost-estimation-methodologies.html>

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The Road to Decarbonisation: Implications for Major Energy Projects (**SNC-Lavalin** and **Atkins**, 2018) <http://www.nwhydrogenalliance.co.uk/wp-content/uploads/2018/11/The-Road-to-Decarbonisation.pdf>

## **UK Power Networks**

### **SSE Power Distribution**

Website <https://www.ssen.co.uk/Home/> / <https://sse.com>

Sustainability Strategy <https://www.ssen.co.uk/workarea/DownloadAsset.aspx?id=1417> / <https://sse.com/sustainability/>

DSO Strategy <https://www.ssen.co.uk/SmarterElectricity/>

### **SP Energy Networks**

Website <http://www.spenergynetworks.co.uk/>

Sustainability Strategy

[https://www.spenergynetworks.co.uk/pages/zero\\_carbon\\_communities.aspx](https://www.spenergynetworks.co.uk/pages/zero_carbon_communities.aspx)

DSO Strategy [https://www.spenergynetworks.co.uk/pages/dso\\_vision\\_consultation.aspx](https://www.spenergynetworks.co.uk/pages/dso_vision_consultation.aspx)

### **Electricity North West**

Website <http://www.enwl.co.uk/>

Sustainability Strategy <https://www.enwl.co.uk/zero-carbon/leading-the-north-west-to-zero-carbon/>

DSO Strategy <https://www.enwl.co.uk/globalassets/innovation/innovation-event-documents/enwl-dso-vision---paul-bircham.pdf> /

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### **Northern Power Grid**

Website <http://www.northernpowergrid.com/>

Sustainability Strategy <https://www.northernpowergrid.com/news/northern-powergrid-part-of-electricity-flexibility-commitment-to-power-britain-forward-towards-net-zero>

DSO Strategy <https://www.northernpowergrid.com/DSO>

### **Western Power Distribution**

Website <http://www.westernpower.co.uk/>

Sustainability Strategy <https://www.westernpower.co.uk/carbon-impact-and-climate-change>

DSO Strategy <https://www.westernpower.co.uk/smarter-networks/network-strategy/dso-strategy>

### **Northern Ireland Electricity**

Website <http://www.nienetworks.co.uk/>

Sustainability Strategy <https://www.nienetworks.co.uk/about-us/environment>

DSO Strategy <https://www.nienetworks.co.uk/future-networks/level2/dno-to-dso-evolution>

### **UK Power Networks**

Website <http://www.ukpowernetworks.co.uk/>

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**Gridwatch** <http://www.gridwatch.templar.co.uk/>

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Power Sector Modelling: System Impact Cost of Renewables Report for the National Infrastructure Commission (**Aurora Energy Research**, 2018) <https://www.nic.org.uk/wp-content/uploads/Power-sector-modelling-final-report-1-Aurora-Energy-Research.pdf>

Reshaping Regulation: Powering From the Future (**Challenging Ideas, Imperial College Business School, Grantham Institute, Imperial College London, Energy Systems Catapult** and **UK Power Networks**, 2017) [https://es.catapult.org.uk/wp-content/uploads/2017/10/Challenging-Ideas\\_single.pdf](https://es.catapult.org.uk/wp-content/uploads/2017/10/Challenging-Ideas_single.pdf)

The Distinctive Role of Distribution System Operators in the New Energy System (**Accenture**, 2017) <https://www.accenture.com/us-en/blogs/blogs-distinctive-role-distribution-system-operators>

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Counting the Cost: The Economic and Social Costs of Electricity Shortfalls in the UK [estimation of the cost of electricity shortfalls, and subsequently the benefit of ensuring energy security] (**Royal Academy of Engineering**, 2014) <https://www.raeng.org.uk/publications/reports/counting-the-cost>

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WPD Distribution Future Energy Scenarios 2018 (**Regen**, 2018) <https://www.regen.co.uk/project/the-future-of-network-infrastructure-studies/>

Embedded Benefits: Impact Assessment and Decision on Industry Proposals (CMP264 and CMP265) to Change Electricity Transmission Charging Arrangements for Embedded Generators (**Ofgem**, 2018) <https://www.ofgem.gov.uk/publications-and-updates/embedded-benefits-impact-assessment-and-decision-industry-proposals-cmp264-and-cmp265-change-electricity-transmission-charging-arrangements-embedded-generators>



### Flexibility – Supply Side & Demand Side

#### GOVERNMENT STRATEGY & ADVISORY

Upgrading Our Energy System Smart Systems and Flexibility Plan: Progress Update (**BEIS** and **Ofgem**, 2018)

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Prospering from the Energy Revolution (**Innovate UK**, **BEIS** and **UKRI**, 2018)

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**Smart DCC** (<https://www.smartdcc.co.uk/about-dcc/>) manage the data and communications network to connect smart meters to the business systems of energy suppliers, network operators and other authorised service users of the network.

**Data Service Provider (DSP)** <https://www.cgi-group.co.uk/en-gb/utilities/smart-metering>

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[http://opus.bath.ac.uk/22626/1/UniBath\\_PhD\\_2009\\_H\\_Harajli.pdf](http://opus.bath.ac.uk/22626/1/UniBath_PhD_2009_H_Harajli.pdf)

The Scope for Cost Reductions in a Mass Market for Low Carbon Heating Technologies [explores the potential for longer-term cost reduction for low-carbon heating systems] (**DECC**, 2016) <https://www.gov.uk/government/publications/the-scope-for-cost-reductions-in-a-mass-market-for-low-carbon-heating-technologies>

Costs of Low-carbon Generation Technologies [examining the cost of implementation of a variety of low-carbon technologies] (**CCC**, 2011)

<https://www.theccc.org.uk/archive/aws/Renewables%20Review/MML%20final%20report%20for%20CCC%209%20may%202011.pdf>

Electrification of Heat Demonstration Project (**BEIS**, 2019, updated 2020)

<https://www.gov.uk/guidance/electrification-of-heat-demonstration-project>

Alternative Heat Solutions: Converting a Town to Low Carbon Heating (**BEIS**, 2019)

<https://www.gov.uk/government/publications/alternative-heat-solutions-converting-a-town-to-low-carbon-heating>

### Renewable Technologies

#### RENEWABLES

#### GOVERNMENT STRATEGY & ADVISORY

The Future for Small-scale Low-carbon Generation: Part A (**BEIS**, 2019)

<https://www.gov.uk/government/consultations/the-future-for-small-scale-low-carbon-generation>

Power Purchase Agreement Scheme: Offtaker of Last Resort (**BEIS**, 2015, updated 2020)

<https://www.gov.uk/government/collections/power-purchase-agreement-scheme-offtaker-of-last-resort>

Changes to the Renewable Heat Incentive (RHI) Schemes (**BEIS**, 2020)

<https://www.gov.uk/government/publications/changes-to-the-renewable-heat-incentive-rhi-schemes>

#### LINKS

Renewable Energy Directive (**EC**, continually updated)

<https://ec.europa.eu/energy/en/topics/renewable-energy/renewable-energy-directive>

The above resource includes a definition of renewable energy technologies for policy purposes:

*'energy from renewable sources' means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.*

**PRASEG: All-Party Parliamentary Group for Renewable and Sustainable Energy**

<http://www.praseg.org.uk>

MCS Installations Database (MID) [a central online database of every MCS-certified small-scale, low-carbon installation in the UK since 2010] (**MCS**, continually updated)

<https://certificate.microgenerationcertification.org/>

#### REPORTS

Small-scale Generation Cost Update (**DECC**, 2015) [https://beisgovuk.citizenspace.com/decc-policy/fit-review-2015/supporting\\_documents/SmallScale%20Generation%20Costs%20Update.PDF](https://beisgovuk.citizenspace.com/decc-policy/fit-review-2015/supporting_documents/SmallScale%20Generation%20Costs%20Update.PDF)

Consultation on a Review of the Feed-In-Tariff Scheme (**BEIS**, 2015, updated 2016)

<https://www.gov.uk/government/consultations/consultation-on-a-review-of-the-feed-in-tariff-scheme>

Renewable Energy (**EC**, 2014, updated 2019)

<http://ec.europa.eu/energy/en/topics/renewable-energy>

Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Renewable Energy Progress Report (**EC**, 2017) <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0057&qid=1488449105433&from=EN>

Proposal for a Directive of the European Parliament and of the Council on the Promotion of the Use of Energy from Renewable Sources (Recast) (**EUR-Lex**, 2017) <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016PC0767R%2801%29>



## REMINDERS FOR LOCAL ENERGY HUBS

Energy Trends: September 2019, Special Feature Article – Renewable Electricity in Scotland, Wales, Northern Ireland and the Regions of England in 2018 (**BEIS**, 2019)

<https://www.gov.uk/government/statistics/energy-trends-september-2019-special-feature-article-renewable-electricity-in-scotland-wales-northern-ireland-and-the-regions-of-england-in-2018>

Energy Trends: UK Renewables (**BEIS**, 2013, updated 2020)

<https://www.gov.uk/government/statistics/energy-trends-section-6-renewables>

### ONSHORE WIND

#### LINKS

**RenSmart** NOABL Onshore Wind/Solar Map <http://www.rensmart.com/Weather/BERR>

#### REPORTS

Onshore Renewable Energy Developments – Good Practice Principles for Community Benefits: Consultation (**Scottish Government**, 2018) <https://www.gov.scot/publications/consultation-review-scottish-government-good-practice-principles-community-benefits-onshore-renewable-energy-developments/>

### SOLAR POWER

#### LINKS

Solar Photovoltaic Technology Basics (**National Renewable Energy Laboratory**, continually updated) <https://www.nrel.gov/research/re-photovoltaics.html>

#### REPORTS

BRE Solar Car Parks: A Guide for Owners and Developers (**Jackson** and **Hartnell**, 2016) [http://www.bre.co.uk/filelibrary/nsc/Documents%20Library/NSC%20Publications/BRE\\_solar-carpark-guide.pdf](http://www.bre.co.uk/filelibrary/nsc/Documents%20Library/NSC%20Publications/BRE_solar-carpark-guide.pdf)

### HEAT PUMPS

#### LINKS

Heat Technical Research: BEIS Technical Research Covering Aspects of Low Carbon Heating Technologies (**BEIS**, 2013, updated 2019) <https://www.gov.uk/government/collections/heat-pump-research>

#### REPORTS

Hybrid Heat Pumps: Final Report for BEIS (**Element Energy**, 2017) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700572/Hybrid\\_heat\\_pumps\\_Final\\_report-.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700572/Hybrid_heat_pumps_Final_report-.pdf)

Implementation Report for Smart Community Demonstration Project in Greater Manchester, UK (**New Energy and Industrial Technology Development Organization (NEDO)**, 2017) <https://www.greatermanchester-ca.gov.uk/media/1316/implementation-report-for-smart-community-demonstration-project.pdf>

Powering Ahead Fast Track to an All-Electric City (**WSP**, 2014) [http://www.wsp-pb.com/Global/UK/Whitepapers/Cities/WSP\\_Electric\\_Cities\\_Whitepaper.pdf](http://www.wsp-pb.com/Global/UK/Whitepapers/Cities/WSP_Electric_Cities_Whitepaper.pdf)

## REMINDERS FOR LOCAL ENERGY HUBS

Evidence Gathering – Low Carbon Heating Technologies: Domestic High Temperature, Hybrid and Gas Driven Heat Pumps [costs of installation and potential energy savings of heat pumps] (**Carbon Trust** and **Rawlings Support Services**, 2016)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/565248/Heat\\_Pumps\\_Combined\\_Summary\\_report\\_-\\_FINAL.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/565248/Heat_Pumps_Combined_Summary_report_-_FINAL.pdf)

Heat Pumps in District Heating Final Report for the DECC [total cost of ownership (TCO) of district heating networks] (**Element Energy** and **Carbon Alternatives**, 2016)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/502500/DECC\\_Heat\\_Pumps\\_in\\_District\\_Heating\\_-\\_Final\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/502500/DECC_Heat_Pumps_in_District_Heating_-_Final_report.pdf)

## BIOMASS

### LINKS

Biomass Decision Support Tool [most cost-effective size/integration for biomass heating systems at particular sites] (**Carbon Trust**, continually updated)

<https://www.carbontrust.com/resources/tools/biomass-decision-support-tool/>

Waste Wood as a Biomass Fuel (**DEFRA**, 2011)

<https://www.gov.uk/government/publications/waste-wood-as-a-biomass-fuel>

### Energy Storage

#### REPORTS

Strategic Assessment of the Role and Value of Energy Storage Systems in the UK Low Carbon Energy Future (**Imperial College London**, 2012)

<https://www.carbontrust.com/media/129310/energy-storage-systems-role-value-strategic-assessment.pdf>

Can Storage Help Reduce the Cost of a Future UK Electricity System? (**Carbon Trust** and **Imperial College London**, 2016) <https://www.carbontrust.com/media/672486/energy-storage-report.pdf>

Intermittency and the Cost of Integrating Solar in the GB Power Market (**Aurora Energy Research**, 2016) [http://www.solar-trade.org.uk/wp-content/uploads/2016/10/Intermittency20Report\\_Lo-res\\_031016.pdf](http://www.solar-trade.org.uk/wp-content/uploads/2016/10/Intermittency20Report_Lo-res_031016.pdf)

Scaling Distributed Energy Storage for Grid Peak Reduction (**Mishra** et al., 2013) <http://www.ecs.umass.edu/~irwin/peakcharge.pdf>

Foresight Review of Energy Storage: The Key to Safe, Secure and Sustainable Energy Systems (**Lloyd's Register Foundation**, 2017) <http://www.lrfoundation.org.uk/publications/foresight-energy-storage-download.aspx>

Energy Storage Use Cases (**DNV GL**, 2016)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/554467/Energy\\_Storage\\_Use\\_Cases.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/554467/Energy_Storage_Use_Cases.pdf)

Energy Storage Systems in the UK Low Carbon Energy Future: Strategic Assessment (**Carbon Trust**, 2012) <https://www.carbontrust.com/resources/energy-storage-systems-in-the-uk-low-carbon-energy-future-strategic-assessment>

### District Heat Networks & CHP

#### GOVERNMENT STRATEGY & ADVISORY

Combined Heat and Power (CHP): The Route to 2050 – Call for Evidence (**BEIS**, 2020)  
<https://www.gov.uk/government/consultations/combined-heat-and-power-chp-the-route-to-2050-call-for-evidence>

Green Heat Network Fund: Proposals for the Scheme Design (**BEIS**, 2020)  
<https://www.gov.uk/government/consultations/green-heat-network-fund-proposals-for-the-scheme-design>

#### LINKS

District Heating Installation Map: Map Showing Universities, Hospitals and Residential/Commercial District Heating Installations in the UK (**Association for Decentralised Energy (ADE)**, continually updated)  
<https://www.theade.co.uk/resources/publications/district-heating-installation-map>

CP1: Heat Networks: Code of Practice for the UK (**CIBSE** and **Association for Decentralised Energy (ADE)**, 2015) <https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q200000090MYHAA2>

#### REPORTS

Assessment of the Costs, Performance, and Characteristics of UK Heat Networks (**DECC**, 2015)  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/424254/heat\\_networks.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/424254/heat_networks.pdf)

Heat Networks Electricity Revenues & Licensing Guidance (**Cornwall** and **Lux Nova Partners**, 2017)  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/717689/Heat\\_Network\\_Electricity\\_Revenues\\_and\\_Licencing\\_Guidance.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/717689/Heat_Network_Electricity_Revenues_and_Licencing_Guidance.pdf)

Piping Hot: The Opportunity for Heat Networks in a New Industrial Strategy (**IPPR**, 2017)  
[https://www.ippr.org/files/publications/pdf/piping-hot\\_Mar2017.pdf](https://www.ippr.org/files/publications/pdf/piping-hot_Mar2017.pdf)

Spatial Mapping Tools for District Heating (DH): Helping Local Authorities Tackle Fuel Poverty (**Centre for Integrated Energy Research, University of Leeds**, 2014) [http://sure-infrastructure.leeds.ac.uk/leedsheat/wp-content/uploads/sites/10/2014/04/CL\\_Final\\_report-RBush-CBale\\_July2014.pdf](http://sure-infrastructure.leeds.ac.uk/leedsheat/wp-content/uploads/sites/10/2014/04/CL_Final_report-RBush-CBale_July2014.pdf)

Combined Heat and Power Case Studies (**BEIS**, 2017, updated 2020)  
<https://www.gov.uk/government/publications/combined-heat-and-power-case-studies>

Energy Trends: September 2019, Special Feature Article – Combined Heat and Power in Scotland, Wales, Northern Ireland and the Regions of England in 2018 (**BEIS**, 2019)  
<https://www.gov.uk/government/statistics/energy-trends-september-2019-special-feature-article-combined-heat-and-power-in-scotland-wales-northern-ireland-and-the-regions-of-england-in-20>

Datasheet: Fuel Cells for Buildings (**CIBSE CHP & District Heating Group**, 2017)  
[http://www.cibse.org/getmedia/59beaaf3-0669-4a33-9248-c68fd588851f/Fuel-Cells-for-buildings\\_datasheet-4\\_May-2017.pdf.aspx](http://www.cibse.org/getmedia/59beaaf3-0669-4a33-9248-c68fd588851f/Fuel-Cells-for-buildings_datasheet-4_May-2017.pdf.aspx)

Combined Heat and Power (**BEIS**, 2013, updated 2020)  
<https://www.gov.uk/guidance/combined-heat-and-power>

## REMINDERS FOR LOCAL ENERGY HUBS

Heat Networks Investment Project (HNIP) Pilot Scheme (**BEIS**, 2017, updated 2019)  
<https://www.gov.uk/government/publications/heat-networks-investment-project-hnip>

# Resource Management

## National Policy

### GOVERNMENT STRATEGY & ADVISORY

Climate Change and Creating a Resilient Economy (EA and Emma Howard Boyd, 2019)  
<https://www.gov.uk/government/speeches/climate-change-and-creating-a-resilient-economy>

### LINKS

Policies from **DEFRA** relevant to subregional energy:

- Business and the Environment <https://www.gov.uk/government/policies/business-and-the-environment>
- Climate Change Adaptation <https://www.gov.uk/government/policies/climate-change-adaptation>
- Climate Change International Action <https://www.gov.uk/government/policies/climate-change-international-action>
- Common Agricultural Policy Reform <https://www.gov.uk/government/policies/common-agricultural-policy-reform>
- Economic Growth in Rural Areas <https://www.gov.uk/government/policies/economic-growth-in-rural-areas>
- Energy Demand Reduction <https://www.gov.uk/government/policies/energy-demand-reduction-in-industry-business-and-the-public-sector>
- Pollution and Environmental Quality <https://www.gov.uk/environment/pollution-and-environmental-quality>
- Greenhouse Gas Emissions <https://www.gov.uk/government/policies/greenhouse-gas-emissions>
- Marine Environment <https://www.gov.uk/government/policies/marine-environment>
- Marine Fisheries <https://www.gov.uk/government/policies/marine-fisheries>
- Radioactive and Nuclear Substances and Waste <https://www.gov.uk/government/policies/radioactive-and-nuclear-substances-and-waste>
- Rural Economy and Community <https://www.gov.uk/government/policies/rural-economy-and-community>
- Sustainable Development <https://www.gov.uk/government/policies/sustainable-development>
- Waste and Recycling <https://www.gov.uk/government/policies/waste-and-recycling>

**DEFRA** environmental management scope:

- Air Quality <https://www.gov.uk/topic/environmental-management/air-quality>
- Assessing Environmental Impact <https://www.gov.uk/topic/environmental-management/assessing-environmental-impact>
- Environmental Risk Management <https://www.gov.uk/topic/environmental-management/environmental-risk-management>
- Land Management <https://www.gov.uk/topic/environmental-management/land-management>
- Waste <https://www.gov.uk/topic/environmental-management/waste>

## Resources and Waste

### Waste – Relevant Legislation and Regulations

#### GOVERNMENT STRATEGY & ADVISORY

Waste (**EA, DEFRA**, various government bodies, continually updated)

<https://www.gov.uk/guidance/waste-legislation-and-regulations>

EU Waste Legislation (**EC**, continually updated)

<https://ec.europa.eu/environment/waste/legislation/a.htm>

Article 4 of the revised **EU Waste Framework Directive** (Directive 2008/98/EC) sets out five steps for dealing with waste, ranked according to environmental impact – the ‘waste hierarchy’.

| Stages               | Include  |
|----------------------|--|
| Prevention:          | using less material in design and manufacture, keeping products for longer, reuse, using less hazardous materials  |
| Preparing for reuse: | checking, cleaning, repairing, refurbishing, whole items or spare parts  |
| Recycling:           | turning waste into a new substance or product, includes composting if it meets quality protocols   |
| Other recovery:      | includes anaerobic digestion, incineration with energy recovery, gasification and pyrolysis, which produce energy (fuels, heat and power) and materials from waste, some backfilling |
| Disposal:            | landfill and incineration without energy recovery  |

The waste hierarchy has been transposed into UK law through the **Waste (England and Wales) Regulations 2011** (<http://www.legislation.gov.uk/ukxi/2011/988/contents/made>).

**DEFRA** published in 2011 a package of guidance to assist businesses and other organisations in England to make better decisions on waste and resource management:

- shorter **summary guidance** (<https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy>) aimed particularly at SMEs
- an online support tool that produces a tailored guide for businesses according to what waste material they handle – see <http://www.wrap.org.uk/category/what-we-offer/tools-templates-and-apps>

The revised waste hierarchy has been incorporated through (i) the planning system via an update to Planning Policy Statement 10: Planning for Sustainable Waste Management (<https://www.gov.uk/government/publications/planning-for-sustainable-waste-management-planning-policy-statement-10>), and (ii) the environmental permitting regime.

Environment and Waste (**Local Government Association**, continually updated)

<https://www.local.gov.uk/topics/environment-and-waste>

#### REPORTS

Guidance on Applying the Waste Hierarchy (**DEFRA**, 2011)

<https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy>

Dispose of Business or Commercial Waste (**UK Government**, continually updated)

<https://www.gov.uk/managing-your-waste-an-overview>

### Embodied Energy

The *Dictionary of Energy* defines 'embodied energy' as 'the sum of the energy requirements associated, directly or indirectly, with the delivery of a good or service' (**Cleveland & Morris**, 2009). In practice, however, there are different ways of defining embodied energy depending on the chosen boundaries of the study. The three most common options are cradle-to-gate, cradle-to-site and cradle-to-grave.

Many companies are now producing Environmental Product Declarations (EPDs) for their materials. Environmental programmes such as Leadership in Energy and Environmental Design (LEED) in the US and BRE Environmental Assessment Methodology (BREEAM) 'reward' the use of products with supporting EPDs.

#### LINKS

Embodied Energy and Carbon – The ICE Database [estimates for 200+ materials] (**Circular Ecology**, continually updated) <http://www.circularecology.com/embodied-energy-and-carbon-footprint-database.html#.Wbu12lWcGUl>

Embodied Carbon Database [assists prospective developers in exploring the embodied carbon calculations for their buildings at each stage of the project] (**UKGBC**, continually updated) <http://ecdb.wrap.org.uk/Default.aspx>

Green Guide to Specification (**BRE**, continually updated) <https://www.bregroup.com/greenguide/podpage.jsp?id=2126>

Briefing: Embodied Energy and Carbon (**Institute of Civil Engineers**, 2015) <https://www.ice.org.uk/knowledge-and-resources/briefing-sheet/embodied-energy-and-carbon>

The **EA** and the **BRE** have produced carbon calculators that primarily reference figures from the Inventory of Carbon and Energy, created at the **University of Bath** but now hosted by **Circular Ecology** (<https://www.circularecology.com/embodied-energy-and-carbon-footprint-database.html#.XmvMB6j7RPY>).

The *CESMM4 Carbon & Price Book 2013* (**Andrews**, 2013) includes the embodied carbon of every material, enabling users to calculate not just the economic impact of material specification but also the carbon cost.

In May 2016 the **UK Green Construction Board (GCB)** launched a new specification to encourage a consistent industry approach to reducing carbon in infrastructure – a world first. **PAS 2080:2016 Carbon Management in Infrastructure** and its associated guidance document aim to bring a joined-up approach to the way industry evaluates and manages whole-life carbon emissions to deliver reduced carbon and reduced cost solutions. Further information on PAS 2080 is available via this **blog article**: <https://www.ice.org.uk/news/knowledge/march-2016/low-carbon-game-changer> and **recorded lecture**: <https://www.ice.org.uk/eventarchive/carbon-management-in-infrastructure-london> and via the **British Standards Institution (BSI) website**: <http://shop.bsigroup.com/ProductDetail?pid=00000000030323493>.



## REMINDERS FOR LOCAL ENERGY HUBS

### Bioeconomy, Biofuels, Natural Capital

#### GOVERNMENT STRATEGY & ADVISORY

Natural Capital Committee's Seventh Annual Report: Government Response (**DEFRA**, 2020) <https://www.gov.uk/government/publications/natural-capital-committees-seventh-annual-report-government-response>

Natural Capital Committee's End of Term Report (**DEFRA**, 2020) <https://www.gov.uk/government/publications/natural-capital-committees-end-of-term-report>

#### LINKS

Biogas and Compost AD Plant Map <http://www.biogas-info.co.uk/resources/biogas-map/>

What is Natural Capital? (**World Forum on Natural Capital**, continually updated) <https://naturalcapitalforum.com/about/>

#### REPORTS

Bioenergy Review: Technical Paper 4 Biomass in Power Generation (**CCC**, 2011) [https://www.theccc.org.uk/archive/aws2/Bioenergy/1463%20CCC\\_Bio-TP4\\_power\\_FINALwithBkMks.pdf](https://www.theccc.org.uk/archive/aws2/Bioenergy/1463%20CCC_Bio-TP4_power_FINALwithBkMks.pdf)

Growing the Bioeconomy: Improving Lives and Strengthening our Economy: A National Bioeconomy Strategy to 2030 (**BEIS**, 2018) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/761856/181205\\_BEIS\\_Growing\\_the\\_Bioeconomy\\_Web\\_SP.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/761856/181205_BEIS_Growing_the_Bioeconomy_Web_SP.pdf)

Green Gas: The Opportunity for Britain (**Ecotricity**, 2016) <https://www.ecotricity.co.uk/our-green-energy/our-green-gas/campaign-for-green-gas/green-gas-report>

The UK Bio-energy Resource Base to 2050: Estimates, Assumptions, and Uncertainties (**UKERC**, 2010) <http://www.ukerc.ac.uk/publications/the-uk-bio-energy-resource-base-to-2050-estimates-assumptions-and-uncertainties.html>

REA Position Paper: Going Negative: Policy Proposals for UK Bioenergy with Carbon Capture and Storage (BECCS) (**Renewable Energy Association**, 2019) [https://www.r-e-a.net/resources/pdf/356/REA\\_BECCS\\_Paper\\_01\\_07\\_19.pdf](https://www.r-e-a.net/resources/pdf/356/REA_BECCS_Paper_01_07_19.pdf)

Bioenergy Strategy Phase 2: Bioenergy in the UK – A Vision to 2032 and Beyond (**Renewable Energy Association**, 2019) [https://www.r-e-a.net/resources/pdf/355/REA\\_Bioenergy\\_Strategy\\_-\\_Phase\\_2\\_A\\_Vision\\_to\\_2032\\_and\\_Beyond.pdf](https://www.r-e-a.net/resources/pdf/355/REA_Bioenergy_Strategy_-_Phase_2_A_Vision_to_2032_and_Beyond.pdf)

Green Infrastructure Guidance NE176 (**Natural England**, 2009) <http://publications.naturalengland.org.uk/file/94026>

ADVENT: Addressing the Valuation of Energy & Nature Together (**UKERC**, continually updated) <http://www.ukerc.ac.uk/programmes/advent.html>

Why a New Northern Forest is Worth Investment (**Nolan**, 2017) <http://communityforest.org.uk/resources/Northern%20Forest%20article%20for%20TCPA%20Journal.pdf>

Environmental Value Look-up (EVL) Tool [indicative values for analysing the environmental impacts in an appraisal or assessment where a full EIA is not required] (**EFTEC/DEFRA**, 2015) <https://www.gov.uk/government/publications/enca-featured-tools-for-assessing-natural->

## REMINDERS FOR LOCAL ENERGY HUBS

[capital-and-environmental-valuation/enabling-a-natural-capital-approach-tool-summaries#environmental-values-look-up-tool](#)

UK Environmental Accounts: 2020 [natural accounts detailing the contribution of the environment to the economy, the impact of economic activity on the environment, and society's response to environmental issues] (**ONS**, annual)

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/ukenvironmentalaccounts/2020>

UK Natural Capital Accounts: 2019 [estimates of the financial and societal value of natural resources to people in the UK] (**ONS**, 2019)

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalaccounts/2019>

UK Natural Capital: Ecosystem Accounts for Freshwater, Farmland and Woodland [covering freshwater, farmland and woodland] (**ONS**, 2017)

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapital/landandhabitatecosystemaccounts>

UK Natural Capital: Urban Accounts [covering green space in urban areas] (**ONS**, 2019)

<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapital/urbanaccounts>

Perceptions Survey and Social Value Study [social return on investment (ROI) of Land Trust property] (**The Land Trust**, 2015) <http://thelandtrust.org.uk/wp-content/uploads/2016/01/Perceptions-Survey-and-Social-Value-Study-2015.pdf>

### Waste to Energy

**WtERT UK** [sister organisation of the Waste-to-Energy Research and Technology Council (WtERT), Columbia University, New York] <http://www.wtert.co.uk/>

**WRAP** [provides a spreadsheet showing a full list of operational energy-from-waste (EfW) plants in the UK] <http://www.wrap.org.uk/content/list-energy-waste-sites>.

### Circular Economy

#### LINKS

**Circular Economy Club** <https://www.circulareconomyclub.com/>

Circular Economy Package Policy Statement (**DEFRA, Welsh Government, Scottish Government** and **DAERA** (Northern Ireland), 2020)

<https://www.gov.uk/government/publications/circular-economy-package-policy-statement>

#### REPORTS

Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Circular Economy Action Plan (**EC**, 2017) [https://ec.europa.eu/environment/circular-economy/implementation\\_report.pdf](https://ec.europa.eu/environment/circular-economy/implementation_report.pdf) / [https://ec.europa.eu/environment/circular-economy/implementation\\_report\\_annex.pdf](https://ec.europa.eu/environment/circular-economy/implementation_report_annex.pdf)

Smart Growth: The Economic Case for the Circular Economy (**Business In the Community**, 2018) [https://www.bitc.org.uk/sites/default/files/smart\\_growth\\_economic\\_case\\_circular\\_economy\\_may\\_2018.pdf](https://www.bitc.org.uk/sites/default/files/smart_growth_economic_case_circular_economy_may_2018.pdf)

The Circular Economy: A Powerful Force for Climate Mitigation. Transformative Innovation for Prosperous and Low-carbon Industry (**Material Economics**, 2018) <https://media.sitra.fi/2018/06/12132041/the-circular-economy-a-powerful-force-for-climate-mitigation.pdf>

London: The Circular Economy Capital. Towards a Circular Economy (**London Waste and Recycling Board**, 2015) [http://www.lwarb.gov.uk/wp-content/uploads/2015/12/LWARB-circular-economy-report\\_web\\_09.12.15.pdf](http://www.lwarb.gov.uk/wp-content/uploads/2015/12/LWARB-circular-economy-report_web_09.12.15.pdf)

Optimising our Essential Resources: Creating Business Advantage by 2040. How England's North West Will Sustain Future Supplies of Food, Water and Energy (**North West Business Leadership Team**, 2014) <https://nwblt.com/wp-content/uploads/2018/05/NWBLT-Optimising-our-Essential-Resources-Creating-Business-Advantage-by-2040b.pdf>

## Cross-cutting & Enabling Activity

### Spatial Mapping & Place-based Approaches

#### GOVERNMENT STRATEGY & ADVISORY

Find Open Data [data published by central government, local authorities and public bodies to help you build products and services] (**data.gov.uk**, continually updated) <https://data.gov.uk/>

INSPIRE [places legal obligations on public bodies to publish particular datasets] (**UK Government**, continually updated) [https://guidance.data.gov.uk/publish\\_and\\_manage\\_data/harvest\\_or\\_add\\_data/inspire/](https://guidance.data.gov.uk/publish_and_manage_data/harvest_or_add_data/inspire/)

UK to Establish Geospatial Data Commission (**UKAuthority**, 2017) <https://www.ukauthority.com/articles/uk-to-establish-geospatial-data-commission/>

#### LINKS

Environment and Energy (**UK Data Service**, continually updated) <https://www.ukdataservice.ac.uk/get-data/themes/environment-and-energy.aspx>

**ONS & NOMIS** <https://www.nomisweb.co.uk/>

**MOSAIC** <https://www.experian.co.uk/business/marketing/segmentation-targeting/mosaic/>

**GeoPlace** <https://www.geoplace.co.uk/>

Household Energy Efficiency National Statistics, Headline Release October 2017 (**BEIS**, 2017) <https://www.gov.uk/government/statistics/household-energy-efficiency-national-statistics-headline-release-october-2017>

Fuel Poverty Statistics (**BEIS**, 2013, updated 2020) <https://www.gov.uk/government/collections/fuel-poverty-statistics>

**Ordnance Survey** AddressBase Core <https://www.ordnancesurvey.co.uk/business-government/products/addressbase-core>

National Address Gazetteer Infrastructure [data storage and set of processes bringing together the existing local authority sourced addressing datasets together with Ordnance Survey, Valuation Office Agency and Royal Mail data] (**GeoPlace**, continually updated) [https://www.geoplace.co.uk/addresses/national-address-gazetteer/-/asset\\_publisher/TVLU5AZVOOPK/content/what-is-the-local-land-and-property-gazetteer-llpg-](https://www.geoplace.co.uk/addresses/national-address-gazetteer/-/asset_publisher/TVLU5AZVOOPK/content/what-is-the-local-land-and-property-gazetteer-llpg-)

The UPRN in Kent's Public Health Drive (**UKAuthority**, 2018) <https://www.ukauthority.com/articles/the-uprn-in-kent-s-public-health-drive/>

Strategic Health Asset Planning and Evaluation (SHAPE) Tool [web-enabled, evidence-based application that informs and supports the strategic planning of services and physical assets across a whole health economy] (**Public Health England**, continually updated) <https://shapeatlas.net/>

Better Infrastructure (**GLA**, continually updated) <https://www.london.gov.uk/what-we-do/business-and-economy/better-infrastructure>

## REMINDERS FOR LOCAL ENERGY HUBS

### Energy Masterplanning

#### GOVERNMENT STRATEGY & ADVISORY

A Strategy for a Modern Digitalised Energy System, Energy Data Taskforce Report (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/wp-content/uploads/2019/06/Catapult-Energy-Data-Taskforce-Report-A4-v4AW-Digital.pdf>

Local Area Planning: The Method (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/local-area-energy-planning-the-method/>

#### LINKS

EPC Data [Energy Performance Certificates and Display Energy Certificates data for buildings in England and Wales. Searchable, browsable and downloadable] (**MHCLG**, continually updated) <https://epc.opendatacommunities.org/>

**UNO** [energy software and services for the housing sector] <http://www.unoenergy.co.uk/>

Stimulating the Development of Effective Sustainable Energy Systems in Cities with the Stakeholder Interactive City Energy Demand Simulator (SiCEDs) (**Energy Saving Trust**, no date) <https://energysavingtrust.org.uk/sites/default/files/reports/Sicedes-Information-Package-052017.pdf>

Local Area Energy Planning using EnergyPath Networks (**Energy Systems Catapult**, 2017) [https://es.catapult.org.uk/wp-content/uploads/2017/08/EPN\\_A5\\_leaflet\\_6.pdf](https://es.catapult.org.uk/wp-content/uploads/2017/08/EPN_A5_leaflet_6.pdf)

**MappingGM** [Greater Manchester's housing, planning, infrastructure, socio-economic and demographic data] <https://mappinggm.org.uk/>

Leeds Heat Planning Tool [district heating planning tool for England and Wales] <http://heatplanning.leeds.ac.uk/>

mPower [a Horizon-2020-funded, peer-learning programme to assist municipalities in creating a fair, clean and democratic energy future] (**Carbon Co-op**, continually updated) <http://carbon.coop/blog/laura/mpower>

London Infrastructure Map (**GLA**, continually updated) <https://www.london.gov.uk/what-we-do/business-and-economy/better-infrastructure/london-infrastructure-map>

Operational UK Renewable Electricity Sites (Beta) [operational renewable electricity sites over 0.01 MW listed in the DECC's RESTATS Planning Database extract] (**UK Data Explorer**, 2014) <http://ukdataexplorer.com/renewables/>

Sub-national Electricity and Gas Consumption Statistics: Analysis Tool (**BEIS**, 2013, updated 2020) <https://www.gov.uk/government/publications/sub-national-electricity-and-gas-consumption-statistics-analysis-tool>

Domestic Energy Map (**BEIS**, continually updated) <http://www.domesticenergymap.uk/>

Map of Underground Pipes and Cables Designed to Save Lives and Prevent Major Disruption [underground assets register; partners include London Councils, Ordnance Survey, Energy companies] (**Cabinet Office**, **Geospatial Commission** and **The Rt Hon Oliver Dowden CBE MP**, 2019) <https://www.gov.uk/government/news/map-of-underground-pipes-and-cables-designed-to-save-lives-and-prevent-major-disruption>

**Project Leo**, Oxford [partners include SSEN, Universities of Oxford and Oxford Brookes, Oxfordshire County Council] <https://project-leo.co.uk/>

## REMINDERS FOR LOCAL ENERGY HUBS

RlIO-2 Business Plan Guidance [details Local Area Energy Plans] (**Ofgem**, 2019)

[https://www.ofgem.gov.uk/system/files/docs/2019/10/rlio-2\\_business\\_plans\\_guidance\\_october\\_2019.pdf](https://www.ofgem.gov.uk/system/files/docs/2019/10/rlio-2_business_plans_guidance_october_2019.pdf)

Addressing the Valuation of Energy & Nature Together [a Grand Challenge project funded by NERC that aims to develop conceptual frameworks and modelling tools to integrate the analysis of prospective UK energy pathways with considerations relating to the value of natural capital] (**UKERC**, continually updated) <http://www.ukerc.ac.uk/programmes/advent.html>

London Building Stock Model [domestic/non-domestic building stock modelling] (**University College London (UCL) Energy Institute** and **Bartlett Centre for Advanced Spatial Analysis**) <https://www.ucl.ac.uk/bartlett/energy/research-projects/2020/mar/london-building-stock-model>

Modernising Energy Data [Ofgem data catalogue] (**Ofgem**, continually updated)

<https://modernisingenergydata.atlassian.net/wiki/spaces/MED/overview>

**Data & Analytics Facility for National Infrastructure (DAFNI)** [national platform to satisfy computational needs in support of data analysis, infrastructure research, and strategic thinking for the UK's long-term planning and investment needs] <https://www.dafni.ac.uk/>

Open Geography Portal [provides free and open access to the definitive source of geographic products, web applications, story maps, services and APIs] (**ONS**, continually updated)

<http://geoportal.statistics.gov.uk/>

Digitalisation Strategies for Modernising Energy Data (**Ofgem**, 2019)

<https://www.ofgem.gov.uk/publications-and-updates/digitalisation-strategies-modernising-energy-data>

Residual Fuel Consumption at Regional and Local Authority Level (**BEIS**, 2013, updated 2020)

<https://www.gov.uk/government/statistical-data-sets/estimates-of-non-gas-non-electricity-and-non-road-transport-fuels-at-regional-and-local-authority-level>

Spatial Mapping Tools for District Heating (DH): Helping Local Authorities Tackle Fuel Poverty. Final Report (**Bale, Bush** and **Taylor**, 2014) [http://sure-](http://sure-infrastructure.leeds.ac.uk/leedsheat/wp-content/uploads/sites/10/2014/04/CL_Final_report-RBush-CBale_July2014.pdf)

[infrastructure.leeds.ac.uk/leedsheat/wp-content/uploads/sites/10/2014/04/CL\\_Final\\_report-RBush-CBale\\_July2014.pdf](http://sure-infrastructure.leeds.ac.uk/leedsheat/wp-content/uploads/sites/10/2014/04/CL_Final_report-RBush-CBale_July2014.pdf)

**electricityMap** Mapping the Climate Impact of Electricity

<https://www.electricitymap.org/?wind=false&solar=false&page=map>

ENWL008 – Architecture of Tools for Load Scenarios (ATLAS) (**Energy North West**, 2018)

<https://www.enwl.co.uk/zero-carbon/innovation/smaller-projects/network-innovation-allowance/enwl008---architecture-of-tools-for-load-scenarios-atlas/>

## REPORTS

Developing a Roadmap for a Zero-emissions London (**Modern Building Services**, 2017)

[http://www.modbs.co.uk/news/fullstory.php/aid/17133/Developing\\_a\\_roadmap\\_for\\_a\\_zero-emissions\\_London.html](http://www.modbs.co.uk/news/fullstory.php/aid/17133/Developing_a_roadmap_for_a_zero-emissions_London.html)

## REMINDERS FOR LOCAL ENERGY HUBS

### Spatial Planning

#### GOVERNMENT STRATEGY & ADVISORY

Planning for the Future (**MHCLG**, 2020)

<https://www.gov.uk/government/publications/planning-for-the-future>

National Planning Policy Framework (**MHCLG**, 2019)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/733637/National\\_Planning\\_Policy\\_Framework\\_web\\_accessible\\_version.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/733637/National_Planning_Policy_Framework_web_accessible_version.pdf)

#### LINKS

Planning Practice Guidance: The National Planning Policy Framework and Relevant Planning Practice Guidance (**MHCLG**, 2016, updated 2019)

<https://www.gov.uk/government/collections/planning-practice-guidance>

Climate Change (**MHCLG**, 2014, updated 2019) <https://www.gov.uk/guidance/climate-change>

Renewable and Low Carbon Energy (**MHCLG**, 2015) <https://www.gov.uk/guidance/renewable-and-low-carbon-energy>

The DCLG Appraisal Guide [including guidance on calculating land value uplift] (**DCLG**, 2016)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/576427/161129\\_Appraisal\\_Guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/576427/161129_Appraisal_Guidance.pdf)

#### REPORTS

Greater Manchester Spatial Energy Plan: Evidence Base Study. Full Report (**Energy Systems Catapult**, 2016) [https://es.catapult.org.uk/wp-content/uploads/2018/10/Compressed\\_GMCA\\_Spatial\\_Energy\\_Plan\\_2016\\_11\\_07-LATEST-ilovepdf-compressed.pdf](https://es.catapult.org.uk/wp-content/uploads/2018/10/Compressed_GMCA_Spatial_Energy_Plan_2016_11_07-LATEST-ilovepdf-compressed.pdf)

Good Growth by Design: A Built Environment for All Londoners (**GLA**, 2017)

[https://www.london.gov.uk/sites/default/files/good\\_growth\\_web.pdf](https://www.london.gov.uk/sites/default/files/good_growth_web.pdf)

The Cambridge Sustainable Housing Design Guide (**Cambridge City Council** and **Greater Cambridge Housing Development Agency**, 2017)

<https://www.cambridge.gov.uk/media/1503/cambridgeshire-sustainable-housing-design-guide.pdf>

The London Plan & Supplementary Guidance (**GLA**, continually updated)

<https://www.london.gov.uk/what-we-do/planning/london-plan>

London Plan Guidance on Preparing Energy Assessments (**GLA**, 2016)

[https://www.london.gov.uk/sites/default/files/gla\\_guidance\\_on\\_preparing\\_energy\\_assessments\\_-\\_march\\_2016.pdf](https://www.london.gov.uk/sites/default/files/gla_guidance_on_preparing_energy_assessments_-_march_2016.pdf)

Supporting Housing Delivery through Developer Contributions: Reforming Developer Contributions to Affordable Housing and Infrastructure (**MHCLG**, 2018)

[http://data.parliament.uk/DepositedPapers/Files/DEP2018-0247/Developer\\_Contributions\\_Consultation.pdf](http://data.parliament.uk/DepositedPapers/Files/DEP2018-0247/Developer_Contributions_Consultation.pdf)

Community Housing Fund Prospectus (**Homes England**, 2018)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/721611/CHF\\_prospectus\\_-\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/721611/CHF_prospectus_-_FINAL.pdf)

### Low Carbon Goods and Services

Low Carbon and Renewable Energy Economy, UK: 2018 [estimates of the size of the UK's green economy from the Low Carbon and Renewable Energy Economy Survey, including turnover, employment, investment and trade] (**ONS**, 2020)

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

Low Carbon & Environmental Goods and Services [analyses low-carbon and environmental goods and services (LCEGS) economic activity using data for 2011 to 2012] (**BIS, DEFRA** and **DECC**, 2013) <https://www.gov.uk/government/publications/low-carbon-and-environmental-goods-and-services-2011-to-2012>

UK Low Carbon Capabilities Report [details UK industry capabilities and examples of technologies and services for which the UK has leading expertise] (**Carbon Trust**, 2013)

<https://www.carbontrust.com/resources/reports/advice/uk-low-carbon-capabilities/>

**Supply Chain Sustainability School** [a collaboration between clients, contractors and first tier suppliers who want to build the skills of their supply chain]

<https://www.supplychainschool.co.uk/uk/default-home-main.aspx>

Low Carbon Economy Index (**PwC**, continually updated)

<https://www.pwc.co.uk/services/sustainability-climate-change/insights/low-carbon-economy-index.html>

Collective Future Insights: Helping SMEs to Access the Energy Industry (**Energy Innovation Centre (EIC)** and **Energy Systems Catapult**, 2017) <https://es.catapult.org.uk/wp-content/uploads/2017/05/CollectiveFuture-Insights-report.compressed.pdf>



### Business Support

#### GOVERNMENT STRATEGY & ADVISORY

Full Network of 39 Growth Hubs Boost Business Support Across the Country (**BIS**, 2016)  
<https://www.gov.uk/government/news/full-network-of-39-growth-hubs-boost-business-support-across-the-country>

#### LINKS

**British Chambers of Commerce** <https://www.britishchambers.org.uk/>

**British BIDs** [focuses on Business Improvement Districts (BIDs)] <http://britishbids.info/>

Small Business User Guide: Guidance on How to Measure and Report your Greenhouse Gas Emissions (**DEFRA**, 2012) <https://www.gov.uk/government/publications/small-business-user-guide-guidance-on-how-to-measure-and-report-your-greenhouse-gas-emissions>

Business Awareness and Uptake of Energy Audits Research (**BEIS**, 2017)  
<https://www.gov.uk/government/publications/business-awareness-and-uptake-of-energy-audits-research>

**The Carbon Literacy Project** [raising awareness of the carbon dioxide costs and impacts of everyday activities, and the ability and motivation to reduce emissions, on an individual, community and organisational basis] <https://carbonliteracy.com/>

### Certification & Standards

#### **BUILDING REGULATIONS**

Standard Assessment Procedure (SAP 2012) [Building Regulations Part L: Conservation of Fuel and Power 2012. Regulation 25A Consideration of High-efficiency Alternative Systems for New Buildings] (**BRE**, 2019) <https://www.bregroup.com/sap/standard-assessment-procedure-sap-2012/>

Approved Documents [guidance on ways to meet the building regulations] (**MHCLG**, 2010, updated 2016) <https://www.gov.uk/government/collections/approved-documents>

#### **ENERGY PERFORMANCE CERTIFICATES (EPCs)**

Energy Performance Certificates in Buildings: Call for Evidence [summary of responses and action plan] (**BEIS** and **MHCLG**, 2018, updated 2020) <https://www.gov.uk/government/consultations/energy-performance-certificates-in-buildings-call-for-evidence>

##### **Domestic**

Buying or Selling Your Home: Energy Performance Certificates (**UK Government**, continually updated) <https://www.gov.uk/buy-sell-your-home/energy-performance-certificates>

##### **Commercial**

Non-Domestic Energy Performance Register (**MHCLG**, continually updated) <https://www.ndepcregister.com/>

Check a Public Building's Display Energy Certificate [find out about a public building's energy use and carbon emissions by checking the Display Energy Certificate (DEC)] (**UK Government**, continually updated) <https://www.gov.uk/check-energy-performance-public-building>

Improving the Energy Efficiency of our Buildings A Guide to Display Energy Certificates and Advisory Reports for Public Buildings (**DCLG**, 2008) <http://www.cibse.org/getmedia/4f3c2351-04ef-43e2-a67f-cbe8f9a5f7cb/HCNEDECCLGGuidanceMay2008.pdf.aspx>

## REMINDERS FOR LOCAL ENERGY HUBS

### ENERGY & ENVIRONMENTAL MANAGEMENT

ISO 14001 Environmental Systems Handbook (Whitelaw, 2004)

<https://www.sciencedirect.com/book/9780750648431/iso-14001-environmental-systems-handbook#book-description>

| Reference   | Title  |
|---|--|
| ISO 14001:2015<br><a href="https://www.iso.org/standard/60857.html">https://www.iso.org/standard/60857.html</a> | Environmental Management Systems – Requirements with Guidance for Use  |
| ISO 14004:2016<br><a href="https://www.iso.org/standard/60856.html">https://www.iso.org/standard/60856.html</a> | Environmental Management Systems – General Guidelines on Implementation  |
| ISO 14005:2010<br><a href="https://www.iso.org/standard/43208.html">https://www.iso.org/standard/43208.html</a> | Environmental Management Systems – Guidelines for the Phased Implementation of an Environmental Management System, including the Use of Environmental Performance Evaluation |
| ISO 14006:2011<br><a href="https://www.iso.org/standard/43241.html">https://www.iso.org/standard/43241.html</a> | Environmental Management Systems – Guidelines for Incorporating Ecodesign  |
| ISO 50001:2018<br><a href="https://www.iso.org/standard/69426.html">https://www.iso.org/standard/69426.html</a> | Energy Management Systems – Requirements with Guidance for Use   |
| ISO 50004:2014<br><a href="https://www.iso.org/standard/60041.html">https://www.iso.org/standard/60041.html</a> | Energy Management Systems – Guidance for the Implementation, Maintenance and Improvement of an Energy Management System  |

### Construction Standards

#### GOVERNMENT STRATEGY & ADVISORY

Building Our Future: Laying the Foundations for Healthy Homes and Buildings (All Party Parliamentary Group (APPG) for Healthy Homes and Buildings, 2017)

[https://healthyhomesbuildings.org.uk/wp-content/uploads/2017/08/APPG\\_HHB\\_paper-Reply-by-30-Sept-2017.pdf](https://healthyhomesbuildings.org.uk/wp-content/uploads/2017/08/APPG_HHB_paper-Reply-by-30-Sept-2017.pdf)

PAS 2035:2019. Retrofitting Dwellings for Improved Energy Efficiency (TrustMark, 2020)

<https://www.trustmark.org.uk/ourservices/pas-2035>

#### LINKS

RIBA Plan of Work 2013 (Royal Institute of British Architects (RIBA), 2013)

<https://www.ribaplanofwork.com/>

**BREEAM** [the world's leading sustainability assessment method for masterplanning projects, infrastructure and buildings] <http://www.breeam.com/>

LEED [Leadership in Energy and Environmental Design] (US Green Building Council, continually updated) <https://www.usgbc.org/leed>

SKA Rating [environmental assessment method, benchmark and standard for non-domestic fit-outs] (RICS, continually updated) <http://www.rics.org/uk/knowledge/ska-rating/>

**NABERS** [uses a six-star scale to help Australian building owners understand how their asset impacts the environment] <https://www.nabers.gov.au/>

Soft Landings FAQs [cradle-to-operation project process which enables designers and constructors to focus more on operational performance outcomes] (BSRIA, continually updated) <https://www.bsria.com/uk/consultancy/project-improvement/soft-landings/faqs/>

TM22: Energy Assessment and Reporting Methodology (CIBSE, 2006)

<https://www.cibse.org/Knowledge/knowledge-items/detail?id=a0q20000008l7eWAAS>

## REMINDERS FOR LOCAL ENERGY HUBS

TM54: Evaluating Operational Energy Performance of Buildings at the Design Stage (**CIBSE**, 2013) <https://www.cibse.org/Knowledge/knowledge-items/detail?id=a0q2000000817f7AAC>

TM60: Good Practice in the Design of Homes (**CIBSE**, 2018) <https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q000000Di83DQAR>

CIBSE TM46 Energy Benchmarks (**CIBSE**, 2008) <http://www.cibse.org/Knowledge/knowledge-items/detail?id=a0q2000000817evAAC>

CIBSE TM22 Energy Assessment and Reporting Methodology (**CIBSE**, 2006) <http://www.cibse.org/Knowledge/knowledge-items/detail?id=a0q2000000817eWAAS>

CIBSE TM 60 Good Practice in the Design of Homes (**CIBSE**, 2018) <https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q000000Di83DQAR>

## **Professional Institutions**

**Chartered Institute of Ecology and Environmental Management (CIEEM)** <https://cieem.net>

**Chartered Institute of Environmental Health (CIEH)** <https://www.cieh.org>

**Chartered Institute of Housing (CIH)** <https://search.cih.org>

**Chartered Institute of Logistics and Transport** <https://www.ciltinternational.org>

**Chartered Institute of Plumbing and Heating Engineering (CIPHE)** <https://www.ciphe.org.uk>

**Chartered Institution of Building Services Engineers (CIBSE)** <https://www.cibse.org/>

**Chartered Institution of Highways and Transportation (CIHT)** <https://www.ciht.org.uk/>

**Chartered Institution of Water and Environmental Management (CIWEM)**  
<https://www.ciwem.org/>

**Energy Institute** <https://www.energyinst.org/>

**Institute of Chartered Foresters (ICF)** <https://www.charteredforesters.org/>

**Institute of Corporate Responsibility and Sustainability (ICRS)** <https://icrs.info/resources/>

**Institute of Environmental Management and Assessment (IEMA)** <https://www.iema.net/>

**Institute of Marine Engineering, Science and Technology (IMEST)** <https://www.imarest.org/>

**Institute of Refrigeration** <https://ior.org.uk/>

**Institute of Workplace and Facilities Management (IWFM)** <https://www.iwfm.org.uk/>

**Institution of Chemical Engineers (ICHEME)** <https://www.icheme.org/>

**Institution of Civil Engineers (ICE)** <https://www.ice.org.uk/>

**Institution of Engineering and Technology** <https://www.theiet.org/>

**Institution of Environmental Sciences (IES)** <https://www.the-ies.org/>

**Institution of Structural Engineers** <https://www.istructe.org/resources/climate-emergency/>

**Landscape Institute** <https://www.landscapeinstitute.org/>

**Royal Geographical Society** <https://www.rgs.org/>

**Royal Institute of British Architects (RIBA)** <https://www.architecture.com/>

**Royal Institute of Chartered Surveyors (RICS)** <https://www.rics.org/>

**Royal Meteorological Society (RMETS)** <https://www.rmets.org/>

**Royal Society for Public Health (RSPH)** <https://www.rsph.org.uk/>

**Royal Society of Biology (RSB)** <https://www.rsb.org.uk/>

**Royal Society of Chemistry (RSC)** <https://www.rsc.org/>

**Royal Town Planning Institute (RTPI)** <https://www.rtpi.org.uk/>

### Collaboration, Partnership & CSR

#### LINKS

**Task Force on Climate-related Financial Disclosures (TCFD)** [G20 FSB] <https://www.fsb-tcdf.org/>

Sustainability Disclosure Database [an extensive repository of sustainability reports that helps you search for and locate the information you need] (**GRI**, continually updated) [https://www.globalreporting.org/services/reporting-tools/Sustainability\\_Disclosure\\_Database/Pages/default.aspx](https://www.globalreporting.org/services/reporting-tools/Sustainability_Disclosure_Database/Pages/default.aspx)

**Corporate Register** [a global online directory of corporate responsibility (CR) reports past and present] <http://www.corporateregister.com/>

Carbon Calculator [carbon footprint calculator for individuals and households] (**Carbon Footprint Ltd**, continually updated) <https://www.carbonfootprint.com/calculator.aspx>

**SuperHomes** [low-energy refurbishment] <http://www.superhomes.org.uk/>

**Transition Network** [a movement of communities coming together to reimagine and rebuild our world] <https://transitionnetwork.org/>

**Earth Charter** [the Earth Charter Initiative is a global movement of organisations and individuals that embrace the Earth Charter and use it to guide the transition towards a more just, sustainable, and peaceful world] <http://earthcharter.org/>

**Mesh** [a UK community of individuals involved in climate service provision who network locally] <https://www.the-iea.org/space4climate/mesh/>

Big Energy Saving Network 2017 to 2018: Apply for Funding [a £1.7 million programme supporting third sector organisations and community groups deliver help and advice to vulnerable consumers] (**BEIS**, 2013, updated 2017) <https://www.gov.uk/government/publications/big-energy-saving-network-grant-offer-fund>

The Big Shift [campaigning for banks to make the Big Shift away from fossil fuels and into support for renewable energy] (**Christian Aid**, continually updated) <https://www.christianaid.org.uk/campaigns/climate-change/the-big-shift>

**Better Buildings Partnership (BBP)** [a collaboration of the UK's leading commercial property owners who are working together to improve the sustainability of existing commercial building stock] <http://www.betterbuildingspartnership.co.uk/>

**Energy Clubs** [a non-partisan network for in-house energy managers] <https://www.theenergyclub.org/>

EP100 [The Climate Group's global EP100 initiative in partnership with the Alliance to Save Energy brings together a growing group of energy-smart companies committed to improving their energy productivity and doing more with less] (**The Climate Group**, continually updated) <https://www.theclimategroup.org/project/ep100>

**Carbon Trust** – Our Clients <https://www.carbontrust.com/our-projects>

Future Net Zero Standard [helping micro businesses and SMEs start their path to net zero] (**Future Net Zero**, continually updated) <https://www.futurenetzero.com/standard/>

**Institute of Corporate Responsibility and Sustainability (ICRS)** <https://icrs.info/resources/>

### REPORTS

Doing Well By Doing Good: How Business Can Tackle the Climate Emergency (**EA** and **Sir James Bevan**, 2020) <https://www.gov.uk/government/speeches/doing-well-by-doing-good-how-business-can-tackle-the-climate-emergency>

A World Finance Report: Corporate Social Responsibility in the Energy Sector. In Association with Iberdrola (**World Finance**, 2014) <http://reports.worldfinance.com/corporate-social-responsibility-in-the-energy-sector/>

**Place-based Climate Action Network (PCAN)** [ESRC-supported network translating climate policy into action by bringing together the research community and decision-makers in the public, private and third sectors] <https://www.pcancities.org.uk/>

### Health & Well-being

#### GOVERNMENT STRATEGY & ADVISORY

Cutting the Cost of Keeping Warm (**DECC**, 2015)  
<https://www.gov.uk/government/publications/cutting-the-cost-of-keeping-warm>

The NHS Long Term Plan (**NHS**, 2019) <https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/>

Committee on Fuel Poverty: Interim Report October 2019 (**Committee on Fuel Poverty**, 2019)  
<https://www.gov.uk/government/publications/committee-on-fuel-poverty-interim-report-october-2019>

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Local Authority Cold Homes Toolkit (**Citizens Advice**, Cornwall Council, 2018)  
<https://www.citizensadvice.org.uk/about-us/how-we-provide-advice/advice-partnerships/cold-homes-toolkit/>

Internet Resources for Health Impact Assessment [case studies on the application of HIA in urban planning and construction] (**World Health Organization Europe**, 2008)  
[http://www.euro.who.int/...data/assets/pdf\\_file/0020/101495/Net\\_Resources\\_HIA.pdf?ua=1](http://www.euro.who.int/...data/assets/pdf_file/0020/101495/Net_Resources_HIA.pdf?ua=1)

Place Standard [tool to help structure HIA workshops and conversations around the connection between place and people (social outcomes)] <https://placestandard.scot/>

Mental Well-being Impact Assessment: A Toolkit for Well-being [a toolkit for measuring well-being, to assess the impact a policy, programme, service or project has on the mental well-being of the local population] (**National MWIA Collaborative (England)**, 2011)  
<https://q.health.org.uk/document/mental-wellbeing-impact-assessment-a-toolkit-for-wellbeing/?bp-attachment=MentalWellbeingImpactAssessmentToolkitforwellbe.pdf>

Public Health Outcomes Framework [collection of public health indicators by geographical regions, including fuel poverty data] (**Public Health England**, continually updated)  
<https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0>

Guest Blog: Assessing the Impact of Fuel Poverty Schemes (**Royal Society for Public Health (RSPH)**, 2016) <https://www.rsph.org.uk/about-us/news/guest-blog--assessing-the-impact-of-fuel-poverty-schemes.html>

#### REPORTS

Catalogue of Health-related Fuel Poverty Schemes (**DECC**, 2015)  
<https://www.gov.uk/government/publications/catalogue-of-health-related-fuel-poverty-schemes>

The Fuel Poverty and Health Booster Fund: Building on Existing Local Health and Fuel Poverty Delivery in England (**DECC**, 2015) <https://www.gov.uk/government/publications/the-fuel-poverty-and-health-booster-fund>

Under One Roof: Health & Housing Sectors Tackling Fuel Poverty and Cold-Related Ill Health Together (**National Energy Action**, **Liverpool City Council** and **BEIS**, 2019)  
<http://www.nea.org.uk/wp-content/uploads/2019/02/NEA-Under-One-Roof-FULL-REPORT-FINAL-Feb-19.pdf>

Fuel Poverty Action Plan for London (**GLA**, 2018)  
[https://www.london.gov.uk/sites/default/files/fuel\\_poverty\\_action\\_plan.pdf](https://www.london.gov.uk/sites/default/files/fuel_poverty_action_plan.pdf)



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Health and Wellbeing in Homes (**UKGBC**, 2016)

[https://www.ukgbc.org/sites/default/files/08453%20UKGBC%20Healthy%20Homes%20Updated%2015%20Aug%20\(spreads\).pdf](https://www.ukgbc.org/sites/default/files/08453%20UKGBC%20Healthy%20Homes%20Updated%2015%20Aug%20(spreads).pdf)

Committee on Fuel Poverty Third Annual Report (**Committee on Fuel Poverty**, 2018)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/754361/Committee\\_on\\_Fuel\\_Poverty\\_Annual\\_Report\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/754361/Committee_on_Fuel_Poverty_Annual_Report_2018.pdf)

Measuring Poverty 2019: A Report of the Social Metrics Commission Chaired by Philippa Stroud, CEO of the Legatum Institute (**Social Metrics Commission**, 2019)

[https://socialmetricscommission.org.uk/wp-content/uploads/2019/07/SMC\\_measuring-poverty-201908\\_full-report.pdf](https://socialmetricscommission.org.uk/wp-content/uploads/2019/07/SMC_measuring-poverty-201908_full-report.pdf)

The Hidden Costs of Poor Quality Housing in the North (**Smith Institute** and **Northern Housing Consortium**, 2018)

<https://www.northern-consortium.org.uk/wp-content/uploads/2018/10/The-Hidden-Costs-of-Poor-Quality-Housing-in-the-North.pdf>

Research Briefing: Chilled To Death: The Human Cost of Cold Homes (**Association for the Conservation of Energy**, 2015)

<http://www.ukace.org/wp-content/uploads/2015/03/ACE-and-EBR-fact-file-2015-03-Chilled-to-death.pdf>

The Cost of Poor Housing to the NHS (**BRE**, 2010) <https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf>

The Full Cost of Poor Housing (**DCLG** and **BRE Trust**, 2016)

<https://www.bregroup.com/buzz/the-full-cost-of-poor-housing/>

Health and Wellbeing in UK Homes (**UKGBC**, 2016) <https://www.ukgbc.org/ukgbc-work/health-wellbeing-homes/>

Excess Winter Death and Illness and the Health Risk Associated with Cold Homes (**National Institute for Clinical Excellence (NICE)**, 2015) <https://www.nice.org.uk/guidance/ng6>

Preventing Excess Winter Deaths and Illness Associated with Cold Homes (**National Institute for Clinical Excellence (NICE)**, 2016) <https://www.nice.org.uk/guidance/qs117>

Local Health and Care Planning: Menu of Preventative Interventions (**Public Health England**, 2016, updated 2018) <https://www.gov.uk/government/publications/local-health-and-care-planning-menu-of-preventative-interventions>

Local Action on Health Inequalities: Evidence Papers (**Public Health England**, 2014, updated 2020) <https://www.gov.uk/government/publications/local-action-on-health-inequalities-evidence-papers>

The Health of the Nation: Analysis of Cost Effectiveness and Success Factors in Health-related Fuel Poverty Schemes (**Lewisham Council**, 2017)

<https://www.eagacharitytrust.org/app/uploads/2017/07/The-Health-of-the-Nation-analysis-of-cost-effectiveness-and-success-factors-in-health-related-fuel-poverty-schemes-FINAL-RE.pdf>

Building Cold Homes Referrals with the Health Sector (**Citizens Advice**, 2018)

<https://www.citizensadvice.org.uk/Global/CitizensAdvice/Health%20professionals%20cold%20homes%20toolkit.pdf>

Housing Improvement as an Investment to Improve Health (**Cochrane**, 2013)

[https://www.cochrane.org/CD008657/PUBHLTH\\_housing-improvement-as-an-investment-to-improve-health](https://www.cochrane.org/CD008657/PUBHLTH_housing-improvement-as-an-investment-to-improve-health)

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Health Effects of Home Energy Efficiency Interventions in England: A Modelling Study (**Hamilton** et al., 2017) <https://bmjopen.bmj.com/content/5/4/e007298>

Better Care Fund [seeks to join-up health and care services, so that people can manage their own health and wellbeing, and live independently in their communities for as long as possible] (**NHS England**, continually updated) <https://www.england.nhs.uk/ourwork/part-rel/transformation-fund/bcf-plan/>

Liverpool Health Impact Assessment Screening Tool and Support Notes [guide for determining whether or not a project should undertake a health impact assessment] (**Grinnell**, 2013) <https://www.liverpool.ac.uk/media/livacuk/iphs/researchgroups/impact/Liverpool.HIA.Screening.Tool.2014.pdf>

Rapid HIA Workshop Tool [guidance on conducting a workshop-based rapid HIA] (**International Health Impact Assessment Consortium (IMPACT), Liverpool University**, 2002) [https://www.liverpool.ac.uk/media/livacuk/iphs/researchgroups/impact/RHIA\\_Workshop\\_Tool.pdf](https://www.liverpool.ac.uk/media/livacuk/iphs/researchgroups/impact/RHIA_Workshop_Tool.pdf)

Urban Health Impact Assessment Methodology (UrHIA) [guidance for local partners on how to undertake an HIA] (**International Health Impact Assessment Consortium (IMPACT), Liverpool University**, 2015) [https://www.liverpool.ac.uk/media/livacuk/iphs/Urban\\_HIA\\_guide\\_2015.pdf](https://www.liverpool.ac.uk/media/livacuk/iphs/Urban_HIA_guide_2015.pdf)

The DCLG Appraisal Guidance [including unit costs of poor housing to the NHS] (**DCLG**, 2016) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/576427/161129\\_Appraisal\\_Guidance.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/576427/161129_Appraisal_Guidance.pdf)

Warm Front, Better Health – Health Impact Evaluation of the Warm Front Scheme [health impact evaluation of the multi-benefits produced by warm, energy-efficient housing] (**Centre for Regional, Economic and Social Research, Sheffield Hallam University**, 2008) <http://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/warm-front-health-impact-eval.pdf>

## Local Leadership & Local Energy

### Local Energy

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**Local Energy Scotland** <https://www.localenergy.scot/what-is-local-energy/>

**Local Energy Wales** <http://localenergy.gov.wales/en/>

**Low Carbon Hub (Oxford)** <http://www.lowcarbonhub.org/>

Bristol Smart Energy City Collaboration (**Centre for Sustainable Energy**, 2015)  
<https://www.cse.org.uk/projects/view/1296>

**Greater Manchester Low Carbon Hub** <http://gmlch.ontheplatform.org.uk/>

#### REPORTS

LEPs and Local Energy (**Liverpool City Region LEP**, 2017) [https://www.liverpoollep.org/wp-content/uploads/2017/03/LEPs-and-local-energy\\_FINAL.pdf](https://www.liverpoollep.org/wp-content/uploads/2017/03/LEPs-and-local-energy_FINAL.pdf)

Ofgem's Future Insights Series 3: Local Energy in a Transforming Energy System (**Ofgem**, 2017)  
[https://www.ofgem.gov.uk/system/files/docs/2017/01/ofgem\\_future\\_insights\\_series\\_3\\_local\\_energy\\_final\\_300117.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/01/ofgem_future_insights_series_3_local_energy_final_300117.pdf)

What We Know about Local Authority Engagement in UK Energy Systems: Ambitions, Activities, Business Structures & Ways Forward (**UKERC, Energy Technologies Institute (ETI)** and **University of Edinburgh**, 2017) <http://www.ukerc.ac.uk/publications/what-we-know-about-local-authority-engagement-in-uk-energy-systems.html>

### LOCAL ENERGY SUPPLY

#### LINKS

Energy Revolution Integration Service (ERIS) [from **Energy Systems Catapult**; uses the PFER programme to enhance the business case for smart local energy systems as a pathway to decarbonisation through helping key stakeholders overcome barriers]  
<https://es.catapult.org.uk/service-platforms/energy-revolution-integration-service/>

**Robin Hood Energy** <https://robinhoodenergy.co.uk/>

DD1416 Licence Lite – the GLA's Licence Application to Ofgem (**GLA**, 2015)  
<https://www.london.gov.uk/decisions/dd1416-licence-lite-%E2%80%93-gla%E2%80%99s-licence-application-ofgem>

Norwich Firm Pixie Energy Aims to Join the Dots on Norfolk, Suffolk and Cambridgeshire's Power Map (**Eastern Daily Press**, 2017) <http://www.edp24.co.uk/business/norwich-firm-pixie-energy-aims-to-join-the-dots-on-norfolk-suffolk-and-cambridgeshire-s-power-map-1-5062612>

**Mongoose Energy** <http://mongoose.energy/>

**Piclo** <https://piclo.uk/>

## REMINDERS FOR LOCAL ENERGY HUBS

### Local Leadership

#### GOVERNMENT STRATEGY & ADVISORY

The New Normal: Leadership in the Climate Crisis (**EA** and **Emma Howard Boyd**, 2019)  
<https://www.gov.uk/government/speeches/the-new-normal-leadership-in-the-climate-crisis>

Building a Country that Works for Everyone: The Government's Plan (**Cabinet Office**, 2017, updated 2019) <https://www.gov.uk/government/collections/a-country-that-works-for-everyone-the-governments-plan>

Local Enterprise Partnerships (LEPs): Assessment of Capacity and Capabilities (**BEIS**, 2020)  
<https://www.gov.uk/government/publications/local-enterprise-partnerships-leps-assessment-of-capacity-and-capabilities>

Local Enterprise Partnerships (LEPs): Economic Outlook 2019 (**BEIS**, 2020)  
<https://www.gov.uk/government/publications/local-enterprise-partnerships-leps-economic-outlook-2019>

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No Stone Unturned in Pursuit of Growth (**The Rt Hon the Lord Heseltine of Thenford CH**, 2012)  
<https://www.liverpoollep.org/wp-content/uploads/2015/06/Heseltine-Review-Final2.pdf>

Beyond the City: Britain's Economic Hotspots. A Forecast of the UK's Economic Performance across Productivity, Employment and Wages (**Oxford Economics**, 2015)  
[http://www.pwc.co.uk/blogs/migrated/ifb\\_beyond-the-city\\_june2015.pdf](http://www.pwc.co.uk/blogs/migrated/ifb_beyond-the-city_june2015.pdf)

Strengthened Local Enterprise Partnerships (**MHCLG**, 2018)  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/728058/Strengthened\\_Local\\_Enterprise\\_Partnerships.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728058/Strengthened_Local_Enterprise_Partnerships.pdf)

Growing Together: Cities and Regions Collaborating on Shared Priorities (**London First**, 2018)  
<https://www.londonfirst.co.uk/sites/default/files/documents/2018-05/GrowingTogether.pdf>

Regional and Sub-regional Productivity in the UK: February 2019 (**ONS**, 2018)  
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/regionalandsubregionalproductivityintheuk/february2018>

Sub-regional Public Sector Finances Scoping Study (**ONS**, 2017)  
<https://www.ons.gov.uk/releases/subregionalpublicsectorfinancescopingstudy>

Local Productivity: The Real Differences across UK Cities and Regions (**Sheffield Hallam University**, 2019) <http://shura.shu.ac.uk/24893/>

Productivity Handbook (**ONS**, 2016)  
<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/methodologies/productivityhandbook>

National Productivity Investment Fund Regional Breakdown (**DfT**, 2017)  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/653071/n-pif-regional.csv/preview](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/653071/n-pif-regional.csv/preview)

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Local Authority Renewable Energy League Tables England and Wales (Draft) (**Regen SW** and **Green Alliance**, 2016) [https://renewablelocator.green-alliance.org.uk/uploads/National\\_Survey\\_Database\\_2016\\_update.xlsx](https://renewablelocator.green-alliance.org.uk/uploads/National_Survey_Database_2016_update.xlsx)

Combined Authority Sustainability Benchmarking Technical Report – Analysis of Strategies (**Sustainability West Midlands**, 2018) <https://www.sustainabilitywestmidlands.org.uk/resources/combined-authority-sustainability-benchmarking-technical-report-analysis-of-strategies-2/>

Fit for the Future II (**Sustainability West Midlands**, 2017) <http://www.sustainabilitywestmidlands.org.uk/resources/fit-for-the-future-ii-2/>

Core City and Combined Authority: Climate Change & Low Carbon Economy Good Practice (**Sustainability West Midlands**, 2017) <http://www.sustainabilitywestmidlands.org.uk/wp-content/uploads/Core-City-Report-final-clean.pdf>

Powering West Midlands Growth: A Regional Approach to Clean Energy Innovation (**Energy Capital, Energy Systems Catapult, University of Birmingham** and **Birmingham Energy Institute**, 2018) <https://es.catapult.org.uk/wp-content/uploads/2018/03/powering-west-midlands-growth-regional-energy-policy-commission-report-2018.pdf>

Job Creation from a Sustainable Transition for Sheffield City Region: How Delivering a Climate Change Compatible Sub-regional Economy will Create New Enterprises and Employment (**Green European Foundation** and **Green House Think Tank**, 2018) [https://www.greenhousethinktank.org/uploads/4/8/3/2/48324387/greenjobs\\_sheffield\\_report.pdf](https://www.greenhousethinktank.org/uploads/4/8/3/2/48324387/greenjobs_sheffield_report.pdf)

City Consumption: The New Opportunity for Climate Action (**Green Alliance**, 2018) [https://www.green-alliance.org.uk/resources/City\\_consumption\\_the\\_new\\_opportunity\\_for\\_climate\\_action.pdf](https://www.green-alliance.org.uk/resources/City_consumption_the_new_opportunity_for_climate_action.pdf)

Quantifying the Implications of the Paris Agreement for Greater Manchester (**Tyndall Manchester**, 2018) <http://www.manchesterclimate.com/sites/default/files/Greater%20Manchester%20Carbon%20oBudget.pdf>

Zero-Carbon London: A Plan for the Next Mayoral Term (**IPPR**, 2015) <https://www.ippr.org/publications/zero-carbon-london>

A Northern Energy Strategy: The Final Report of the Northern Energy Taskforce (**IPPR North** and **Northern Energy Taskforce**, 2017) <https://www.ippr.org/files/2017-10/ippr-north-a-northern-energy-strategy-a4-digital-04.pdf>

Net Zero Localities: Ambition & Value in UK Local Authority Investment (**Energy Revolution Research Centre (EnergyRev)**, 2020) [https://www.energyrev.org.uk/media/1440/energyrev\\_net-zero-localities\\_202009.pdf](https://www.energyrev.org.uk/media/1440/energyrev_net-zero-localities_202009.pdf)

Climate Action Strategy (**City of London**, 2020) <https://www.cityoflondon.gov.uk/services/environmental-health/climate-action/climate-action-strategy>

### International Collaboration & Comparison

The Paris Agreement includes an emphasis on the importance of subregional action to address climate change. Cities and regions are invited to

- scale up their efforts and support actions to reduce emissions
- build resilience and decrease vulnerability to the adverse effects of climate change
- uphold and promote regional and international cooperation.

Currently, **Covenant of Mayors for Climate & Energy** (<https://energy-cities.eu/project/covenant-of-mayors-for-climate-energy/>) is the European Union standard for subregional action on reduction in greenhouse gas emissions. Another international standard, the Compact of Mayors, was merged with the Covenant of Mayors to create a unified methodology in June 2016 (<https://www.uclg.org/en/media/news/compact-mayors-covenant-mayors-formally-merge>).

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Copenhagen Climate Plan: The Short Version (**Copenhagen City Council**, 2012) <https://www.energycommunity.org/documents/copenhagen.pdf>

Renewable City Action Plan (**City of Vancouver**, continually updated) <http://vancouver.ca/green-vancouver/renewable-city.aspx>

City of Melbourne Climate Change Adaptation Strategy and Action Plan (**Department of Industry, Innovation, Climate Change, Science, Research & Tertiary Education (DIICSRTE)**, 2013) <https://www.nccarf.edu.au/localgov/case-study/city-melbourne-climate-change-adaptation-strategy-and-action-plan>

Australian Sustainable Energy: Zero Carbon Australia: Stationary Energy Plan (**University of Melbourne** and **Energy Research Institute**, 2010) <https://bze.org.au/wp-content/uploads/stationary-energy-plan-bze-report-2010.pdf>

Creating a Sustainable City: Tokyo's Environmental Policy (**Tokyo Metropolitan Government**, 2019) [http://www.metro.tokyo.jp/ENGLISH/ABOUT/ENVIRONMENTAL\\_POLICY/index.htm](http://www.metro.tokyo.jp/ENGLISH/ABOUT/ENVIRONMENTAL_POLICY/index.htm)

4<sup>th</sup> Strategic Energy Plan (**Government of Japan**, 2014) [http://www.enecho.meti.go.jp/en/category/others/basic\\_plan/pdf/4th\\_strategic\\_energy\\_plan.pdf](http://www.enecho.meti.go.jp/en/category/others/basic_plan/pdf/4th_strategic_energy_plan.pdf)

# Appendices

## Appendix One

# BEIS & DECC ARCHIVED GUIDANCE

Selected Guidance (All Documents)

Documents are ordered by the year in which they were last updated (at the time of collation).

## 2020

Quarterly Energy Prices: September 2020

<https://www.gov.uk/government/statistics/quarterly-energy-prices-september-2020>

Renewables Obligation Level Calculations: 2021 to 2022

<https://www.gov.uk/government/publications/renewables-obligation-level-calculations-2021-to-2022>

National Energy Efficiency Data-Framework (NEED): Impact of Measures Data Tables 2020

<https://www.gov.uk/government/statistics/national-energy-efficiency-data-framework-need-impact-of-measures-data-tables-2020>

Household Energy Efficiency Statistics, Headline Release September 2020

<https://www.gov.uk/government/statistics/household-energy-efficiency-statistics-headline-release-september-2020>

Renewable Heat Incentive Statistics <https://www.gov.uk/government/collections/renewable-heat-incentive-statistics>

European Structural and Investment Funds procurement documents

<https://www.gov.uk/government/publications/european-structural-and-investment-funds-procurement-documents>

How to Complete the Energy Technology List (ETL) New Technology Proposal Form

<https://www.gov.uk/government/publications/how-to-complete-the-enhanced-capital-allowance-eca-new-technology-proposal-form>

UK Government Funding Creates Newport-based Industrialisation Centre to Tackle Climate Change

<https://www.gov.uk/government/news/uk-government-funding-creates-newport-based-centre-of-excellence-to-tackle-climate-change>

Government Backs Cleaner Planes, Ships and Automobiles with £37 Million Boost

<https://www.gov.uk/government/news/government-backs-cleaner-planes-ships-and-automobiles-with-37-million-boost>

Energy Companies Obligation (ECO) Brokerage Results

<https://www.gov.uk/government/publications/energy-companies-obligation-eco-brokerage-results>

Boosting Access for SMEs to Energy Efficiency (BASEE): Competition

<https://www.gov.uk/government/publications/boosting-access-for-smes-to-energy-efficiency-basee-competition>

Green Book Supplementary Guidance: Valuation of Energy Use and Greenhouse Gas Emissions for Appraisal

<https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

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Energy Infrastructure Development: Applications under Consideration

<https://www.gov.uk/government/publications/energy-infrastructure-development-applications-under-consideration>

Renewable Energy Planning Database Quarterly Extract

<https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract>

International Climate Finance <https://www.gov.uk/guidance/international-climate-finance>

Heat Networks <https://www.gov.uk/guidance/heat-networks-overview>

Capacity Market Rules <https://www.gov.uk/government/publications/capacity-market-rules>

Heat Networks Pipeline <https://www.gov.uk/government/publications/hndu-pipeline>

Industrial Heat Recovery Support Programme: How to Apply

<https://www.gov.uk/guidance/industrial-heat-recovery-support-programme-how-to-apply>

Lower and Middle Super Output Areas Electricity Consumption

<https://www.gov.uk/government/statistics/lower-and-middle-super-output-areas-electricity-consumption>

UK Greenhouse Gas Emissions Statistics: Planned Methodology Changes

<https://www.gov.uk/government/publications/planned-methodology-changes-for-uk-greenhouse-gas-emissions>

Energy Savings Opportunity Scheme (ESOS): Evaluation of the Scheme

<https://www.gov.uk/government/publications/energy-savings-opportunity-scheme-esos-evaluation-of-the-scheme>

Energy Audits and Reporting Research, Including the Energy Savings Opportunity Scheme

<https://www.gov.uk/government/publications/energy-audits-and-reporting-research-including-the-energy-savings-opportunity-scheme>

The Future for Environmental Standards in the UK

<https://www.gov.uk/government/speeches/the-future-for-environmental-standards-in-the-uk>

Doing Well By Doing Good: How Business Can Tackle the Climate Emergency

<https://www.gov.uk/government/speeches/doing-well-by-doing-good-how-business-can-tackle-the-climate-emergency>

Electrification of Heat Demonstration Project <https://www.gov.uk/guidance/electrification-of-heat-demonstration-project>

Meeting Climate Change Requirements from 1 January 2021

<https://www.gov.uk/government/publications/meeting-climate-change-requirements-if-theres-no-brexiteal>

Power Purchase Agreement Scheme: Offtaker of Last Resort

<https://www.gov.uk/government/collections/power-purchase-agreement-scheme-offtaker-of-last-resort>

Combined Heat and Power Case Studies

<https://www.gov.uk/government/publications/combined-heat-and-power-case-studies>

Domestic Private Rented Property: Minimum Energy Efficiency Standard – Landlord Guidance

<https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance>

Innovations in the Built Environment <https://www.gov.uk/guidance/innovations-in-the-built-environment>

Energy Efficiency Scheme for Small and Medium Sized Businesses: Call for Evidence

<https://www.gov.uk/government/consultations/energy-efficiency-scheme-for-small-and-medium-sized-businesses-call-for-evidence>



## REMINDERS FOR LOCAL ENERGY HUBS

2019

CHPQA Workshop and Seminar – 2019 <https://www.gov.uk/government/publications/chpqa-workshop-and-seminar-2019>

Climate Change Agreements (CCA): Biennial Reports  
<https://www.gov.uk/government/publications/climate-change-agreements-cca-biennial-report>

BEIS Public Attitudes Tracker: Wave 31 <https://www.gov.uk/government/statistics/beis-public-attitudes-tracker-wave-31>

The United Kingdom – a Leader in Climate Protection  
<https://www.gov.uk/government/news/the-united-kingdom-a-leader-in-climate-protection>

Low-income Households to be Guaranteed Trusted Tradespeople for Home Energy Improvements <https://www.gov.uk/government/news/low-income-households-to-be-guaranteed-trusted-tradespeople-for-home-energy-improvements>

Regulator Calls on Businesses to do More to Protect the Environment  
<https://www.gov.uk/government/news/regulator-calls-on-businesses-to-do-more-to-protect-the-environment>

The Climate Emergency: '...This Year the Answers are Different.'  
<https://www.gov.uk/government/speeches/the-climate-emergency-this-year-the-answers-are-different>

Non-domestic Private Rented Property: Minimum Energy Efficiency Standard – Landlord Guidance <https://www.gov.uk/government/publications/non-domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance>

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Water Source Heat Map <https://www.gov.uk/government/publications/water-source-heat-map>

The Smart Metering System Leaflet <https://www.gov.uk/government/publications/the-smart-metering-system-leaflet>

Timber Standard for Heat & Electricity <https://www.gov.uk/government/publications/timber-standard-for-heat-electricity>

Smart Metering: A Guide for Local Authorities and Third Sector Organisations <https://www.gov.uk/government/publications/smart-metering-a-guide-for-local-authorities-and-third-sector-organisations>

Collective Switching: Guidance for Scheme Organisers <https://www.gov.uk/government/publications/collective-switching-guidance-for-scheme-organisers>

## 2013

Helping Consumers with Energy <https://www.gov.uk/government/publications/helping-consumers-with-energy>

Collective Switching Schemes around the Country (Infographic) <https://www.gov.uk/government/publications/collective-switching-schemes-around-the-country-infographic>

Varying Consents Granted under Section 36 of the Electricity Act 1989 for Generating Stations in England and Wales <https://www.gov.uk/government/publications/varying-consents-granted-under-section-36-of-the-electricity-act-1989-for-generating-stations-in-england-and-wales>

Factsheet: Energy Prices and Bills <https://www.gov.uk/government/publications/factsheet-energy-prices-and-bills>

Traffic Light Monitoring System (Shale Gas and Fracking) <https://www.gov.uk/government/publications/traffic-light-monitoring-system-shale-gas-and-fracking>

Climate Change Agreements: Eligibility, Metering Requirements and Target Setting <https://www.gov.uk/government/publications/climate-change-agreements-eligibility-metering-requirements-and-target-setting>

DECC Guidance on EU Funding Mechanism 'NER300' for Renewables Demonstration Projects: Second Call for Proposals <https://www.gov.uk/government/publications/decc-guidance-on-eu-funding-mechanism-ner300-for-renewables-demonstration-projects-second-call-for-proposals>

Smart Metering Implementation Programme – Licence Conditions for Operational Requirements and Accession to, and Compliance with, the Smart Energy Code <https://www.gov.uk/government/publications/smart-metering-implementation-programme-licence-conditions-for-operational-requirements-and-accession-to-and-compliance-with-the-smart-energy-code>

Supply Chain Code of Practice Leaflet <https://www.gov.uk/government/publications/supply-chain-code-of-practice-leaflet>

Energy Bill 2012: Memorandum on European Convention on Human Rights Compatibility – Supplementary (New Clauses) <https://www.gov.uk/government/publications/energy-bill-2012-memorandum-on-european-convention-on-human-rights-compatibility-supplementary-new-clauses>

Smart Metering Licence Conditions for Consumer Engagement Strategy; Data Access and Privacy; Monitoring and Evaluation; and Security Risk Assessments and Audits in the Period Before the DCC Provides Services <https://www.gov.uk/government/publications/smart-metering-licence-conditions-for-consumer-engagement-strategy-data-access-and-privacy->

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[monitoring-and-evaluation-and-security-risk-assessments-and-audits-in-the-period-before-the-dcc-provides-services](#)

### 2012

Supply Chain Code of Practice: Signatories

<https://www.gov.uk/government/publications/supply-chain-code-of-practice-signatories--2>

Energy Efficiency Training Funding: Competition Guidance Pack (2012 to 2013)

<https://www.gov.uk/government/publications/energy-efficiency-training-funding-competition-guidance-pack-2012-to-2013>

Energy Company Obligation: Guidance on Carbon Saving Community Obligation

<https://www.gov.uk/government/publications/energy-company-obligation-guidance-on-carbon-saving-community-obligation>

2050 Pathways Calculator: How to Use the Spreadsheet

<https://www.gov.uk/government/publications/2050-pathways-calculator-how-to-use-the-spreadsheet>

Energy Efficiency in Buildings: Resources for Councils

<https://www.gov.uk/government/publications/energy-efficiency-in-buildings-resources-for-councils>

2012 Update to Carbon Valuation Methodology for UK Policy Appraisal

<https://www.gov.uk/government/publications/2012-update-to-carbon-valuation-methodology-for-uk-policy-appraisal>

Energy Entrepreneurs Fund: First Phase Documents

<https://www.gov.uk/government/publications/energy-entrepreneurs-fund-first-phase-documents>

Wetland Biomass to Bio-energy Competition

<https://www.gov.uk/government/publications/wetland-biomass-to-bio-energy-competition>

Advanced Heat Storage Competition

<https://www.gov.uk/government/publications/advanced-heat-storage-competition>

Carbon-saving Community Obligation: Rural and Low Income Areas

<https://www.gov.uk/government/publications/carbon-saving-community-obligation-rural-and-low-income-areas>

Carbon Capture and Storage: Frequently Asked Questions

<https://www.gov.uk/government/publications/carbon-capture-and-storage-frequently-asked-questions>

Collective Purchasing and Switching: What Potential Providers Need to Know

<https://www.gov.uk/government/publications/collective-purchasing-and-switching-what-potential-providers-need-to-know>

Map of Nuclear Power Stations in the UK <https://www.gov.uk/government/publications/map-of-nuclear-power-stations-in-the-uk>

### 2011

Local Carbon Framework: Pilots with Links to Outputs

<https://www.gov.uk/government/publications/local-carbon-framework-pilots-with-links-to-outputs>

Fuel Poverty: The Problem and its Measurement (Presentation)

<https://www.gov.uk/government/publications/fuel-poverty-the-problem-and-its-measurement-presentation>

Carbon Valuation Methodology for UK Policy Appraisal

<https://www.gov.uk/government/publications/carbon-valuation-methodology-for-uk-policy-appraisal>

## REMINDERS FOR LOCAL ENERGY HUBS

Draft Social and Environmental Guidance to the Gas and Electricity Markets Authority

<https://www.gov.uk/government/publications/draft-social-and-environmental-guidance-to-the-gas-and-electricity-markets-authority>

Guidance on Estimating Carbon Values Beyond 2050: an Interim Approach

<https://www.gov.uk/government/publications/guidance-on-estimating-carbon-values-beyond-2050-an-interim-approach>

## Appendix Two

# MHCLG ARCHIVED GUIDANCE

Energy Performance of Buildings: Changes to The Energy Performance of Buildings Regulations 2012, No. 3118 <https://www.gov.uk/government/consultations/energy-performance-of-buildings-changes-to-the-energy-performance-of-buildings-regulations-2012-no-3118>

Review of the Ban on the Use of Combustible Materials in and on the External Walls of Buildings <https://www.gov.uk/government/consultations/review-of-the-ban-on-the-use-of-combustible-materials-in-and-on-the-external-walls-of-buildings>

Housing Infrastructure Fund <https://www.gov.uk/government/publications/housing-infrastructure-fund>

Government Update on Building Safety <https://www.gov.uk/government/publications/government-update-on-building-safety>

Technical Review of Approved Document B of the Building Regulations: A Call for Evidence <https://www.gov.uk/government/consultations/technical-review-of-approved-document-b-of-the-building-regulations-a-call-for-evidence>

Final Report of the Expert Group on Structure of Guidance to the Building Regulations <https://www.gov.uk/government/publications/final-report-of-the-expert-group-on-structure-of-guidance-to-the-building-regulations>

Building a Safer Future: Proposals for Reform of the Building Safety Regulatory System <https://www.gov.uk/government/consultations/building-a-safer-future-proposals-for-reform-of-the-building-safety-regulatory-system>

First Homes <https://www.gov.uk/government/consultations/first-homes>

House Building Statistics: Proposed Changes <https://www.gov.uk/government/consultations/house-building-statistics-proposed-changes>

Planning for the Future <https://www.gov.uk/government/publications/planning-for-the-future>

Housing Supply; Net Additional Dwellings Statistics: Proposed Changes to Revisions Policy <https://www.gov.uk/government/consultations/housing-supply-net-additional-dwellings-statistics-proposed-changes-to-revisions-policy>

Local Authority Housing Statistics: Proposed Changes <https://www.gov.uk/government/consultations/local-authority-housing-statistics-proposed-changes>

Grenfell Tower Inquiry Phase 1 Report: Government Response <https://www.gov.uk/government/publications/grenfell-tower-inquiry-phase-1-report-government-response>

Fire Safety: Risk Prioritisation in Existing Buildings – A Call for Evidence <https://www.gov.uk/government/consultations/fire-safety-risk-prioritisation-in-existing-buildings-a-call-for-evidence>

Development Corporation Reform: Technical Consultation <https://www.gov.uk/government/consultations/development-corporation-reform-technical-consultation>

The Future Homes Standard: Changes to Part L and Part F of the Building Regulations for New Dwellings <https://www.gov.uk/government/consultations/the-future-homes-standard-changes-to-part-l-and-part-f-of-the-building-regulations-for-new-dwellings>

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Building Regulations and Fire Safety: Government Response to the Select Committee Report  
<https://www.gov.uk/government/publications/building-regulations-and-fire-safety-government-response-to-the-select-committee-report>

The Future Homes Standard Consultation Impact Assessment  
<https://www.gov.uk/government/publications/the-future-homes-standard-consultation-impact-assessment>

Modern Methods of Construction: Government Response to the Select Committee Report  
<https://www.gov.uk/government/publications/modern-methods-of-construction-government-response-to-the-select-committee-report>

New National Model for Shared Ownership  
<https://www.gov.uk/government/consultations/new-national-model-for-shared-ownership>

A New Deal for Renting: Resetting the Balance of Rights and Responsibilities Between Landlords and Tenants  
<https://www.gov.uk/government/consultations/a-new-deal-for-renting-resetting-the-balance-of-rights-and-responsibilities-between-landlords-and-tenants>

Housing Health and Safety Rating System: Outcomes of the Scoping Review  
<https://www.gov.uk/government/publications/housing-health-and-safety-rating-system-outcomes-of-the-scoping-review>

Making Better Use of Energy Performance of Buildings Data: Privacy Impact Assessment  
<https://www.gov.uk/government/publications/making-better-use-of-energy-performance-of-buildings-data-privacy-impact-assessment>

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

Good Practice on How Residents and Landlords Work Together to Keep their Home and Building Safe: Call for Evidence  
<https://www.gov.uk/government/consultations/good-practice-on-how-residents-and-landlords-work-together-to-keep-their-home-and-building-safe-call-for-evidence>

Developer Contributions Reform: Technical Consultation  
<https://www.gov.uk/government/consultations/developer-contributions-reform-technical-consultation>

Land Use Change Statistics: Proposed Changes  
<https://www.gov.uk/government/consultations/land-use-change-statistics-proposed-changes>

Planning Reform: Supporting the High Street and Increasing the Delivery of New Homes  
<https://www.gov.uk/government/consultations/planning-reform-supporting-the-high-street-and-increasing-the-delivery-of-new-homes>

Changes to Planning Policy and Guidance Including the Standard Method for Assessing Local Housing Need  
<https://www.gov.uk/government/consultations/changes-to-planning-policy-and-guidance-including-the-standard-method-for-assessing-local-housing-need>

Independent Review of Planning Appeal Inquiries: Call for Evidence  
<https://www.gov.uk/government/consultations/independent-review-of-planning-appeal-inquiries-call-for-evidence>

Electrical Safety in the Private Rented Sector  
<https://www.gov.uk/government/consultations/electrical-safety-in-the-private-rented-sector>

Housing Monitoring and Evaluation Strategy  
<https://www.gov.uk/government/publications/housing-monitoring-and-evaluation-strategy>

Assessments in Lieu of Tests Consultation: Impact Assessment  
<https://www.gov.uk/government/publications/assessments-in-lieu-of-tests-consultation-impact-assessment>

Approved Document B (Fire Safety): Amendments to Statutory Guidance on Assessments in Lieu of Tests  
<https://www.gov.uk/government/consultations/approved-document-b-fire-safety-amendments-to-statutory-guidance-on-assessments-in-lieu-of-tests>

## REMINDERS FOR LOCAL ENERGY HUBS

Building a Safer Future: An Implementation Plan

<https://www.gov.uk/government/publications/building-a-safer-future-an-implementation-plan>

Ban on Combustible Materials in External Wall Systems: Impact Assessment

<https://www.gov.uk/government/publications/ban-on-combustible-materials-in-external-wall-systems-impact-assessment>

Banning the Use of Combustible Materials in the External Walls of High-rise Residential Buildings

<https://www.gov.uk/government/consultations/banning-the-use-of-combustible-materials-in-the-external-walls-of-high-rise-residential-buildings>

Land Value Capture: Government Response to the Select Committee Inquiry

<https://www.gov.uk/government/publications/land-value-capture-government-response-to-the-select-committee-inquiry>

Framework between RSH and MHCLG

<https://www.gov.uk/government/publications/framework-between-rsh-and-mhclg>

Geographical Targeting across 5 Housing Programme Funds

<https://www.gov.uk/government/publications/geographical-targeting-across-5-housing-programme-funds>

Supporting Housing Delivery through Developer Contributions

<https://www.gov.uk/government/consultations/supporting-housing-delivery-through-developer-contributions>

Private Shared Homeownership: Call For Proposals

<https://www.gov.uk/government/consultations/private-shared-homeownership-call-for-proposals>

Building Regulations and Fire Safety: Government Response to Select Committee Report

<https://www.gov.uk/government/publications/building-regulations-and-fire-safety-government-response-to-select-committee-report>

Progress Towards the Sustainability of the Building Stock in England: Sixth Parliamentary Report

<https://www.gov.uk/government/publications/progress-towards-the-sustainability-of-the-building-stock-in-england-sixth-parliamentary-report>

A New Deal for Social Housing <https://www.gov.uk/government/consultations/a-new-deal-for-social-housing>

Review of Social Housing Regulation: Call for Evidence

<https://www.gov.uk/government/consultations/review-of-social-housing-regulation-call-for-evidence>

Draft Revised National Planning Policy Framework

<https://www.gov.uk/government/consultations/draft-revised-national-planning-policy-framework>

Act Paper: Report On Compliance with Statutory Timetables for Planning Decisions 2017 to 2018

<https://www.gov.uk/government/publications/act-paper-report-on-compliance-with-statutory-timetables-for-planning-decisions-2017-to-2018>

The New Towns Act 1981 (Local Authority Oversight) Regulations

<https://www.gov.uk/government/consultations/the-new-towns-act-1981-local-authority-oversight-regulations>

Improving the Use of Planning Conditions: Consultation on Draft Regulations

<https://www.gov.uk/government/consultations/improving-the-use-of-planning-conditions-consultation-on-draft-regulations>

Business Rates in Multi-occupied Properties

<https://www.gov.uk/government/consultations/business-rates-in-multi-occupied-properties>

Protecting Consumers in the Letting and Managing Agent Market: Call for Evidence

<https://www.gov.uk/government/consultations/protecting-consumers-in-the-letting-and-managing-agent-market-call-for-evidence>



## REMINDERS FOR LOCAL ENERGY HUBS

Greater Manchester Housing Package <https://www.gov.uk/government/publications/greater-manchester-housing-package>

Local Authority Overview and Scrutiny: Government Response to Select Committee Report <https://www.gov.uk/government/publications/local-authority-overview-and-scrutiny-government-response-to-select-committee-report>

Planning for the Right Homes in the Right Places: Consultation Proposals <https://www.gov.uk/government/consultations/planning-for-the-right-homes-in-the-right-places-consultation-proposals>

Fixing our Broken Housing Market: Consultation <https://www.gov.uk/government/consultations/fixing-our-broken-housing-market-consultation>

Social Housing Regulation: Using a Legislative Reform Order to Establish the Regulator as a Stand-alone Body <https://www.gov.uk/government/consultations/social-housing-regulation-using-a-legislative-reform-order-to-establish-the-regulator-as-a-stand-alone-body>

Provisional Local Government Finance Settlement 2018 to 2019: Consultation <https://www.gov.uk/government/consultations/provisional-local-government-finance-settlement-2018-to-2019-consultation>

Final Local Government Finance Settlement 2018 to 2019: Equality Statement <https://www.gov.uk/government/publications/final-local-government-finance-settlement-2018-to-2019-equality-statement>

Core Spending Power: Final Local Government Finance Settlement 2018 to 2019 <https://www.gov.uk/government/publications/core-spending-power-final-local-government-finance-settlement-2018-to-2019>

Settlement Funding Assessment Calculation Model: Final Local Government Finance Settlement 2018 to 2019 <https://www.gov.uk/government/publications/settlement-funding-assessment-calculation-model-final-local-government-finance-settlement-2018-to-2019>

Supplementary Information for Pilots: Final Local Government Finance Settlement 2018 to 2019 <https://www.gov.uk/government/publications/supplementary-information-for-pilots-final-local-government-finance-settlement-2018-to-2019>

Key Information for Pools: Final Local Government Finance Settlement 2018 to 2019 <https://www.gov.uk/government/publications/key-information-for-pools-final-local-government-finance-settlement-2018-to-2019>

Key Information for Local Authorities: Final Local Government Finance Settlement 2018 to 2019 <https://www.gov.uk/government/publications/key-information-for-local-authorities-final-local-government-finance-settlement-2018-to-2019>

New Homes Bonus Final Allocations 2018 to 2019 <https://www.gov.uk/government/publications/new-homes-bonus-final-allocations-2018-to-2019>

Final New Homes Bonus Calculator 2018 to 2019 <https://www.gov.uk/government/publications/final-new-homes-bonus-calculator-2018-to-2019>

Local Government Finance Report 2018 to 2019 <https://www.gov.uk/government/publications/local-government-finance-report-2018-to-2019>

Council Tax Alternative Notional Amounts Report 2018 to 2019 <https://www.gov.uk/government/publications/council-tax-alternative-notional-amounts-report-2018-to-2019>

Council Tax Referendum Principles Report 2018 to 2019 <https://www.gov.uk/government/publications/council-tax-referendum-principles-report-2018-to-2019>

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Proposed Changes to the Prudential Framework of Capital Finance

<https://www.gov.uk/government/consultations/proposed-changes-to-the-prudential-framework-of-capital-finance>

Independent Review of Local Council Tax Support Schemes: Government Response

<https://www.gov.uk/government/publications/independent-review-of-local-council-tax-support-schemes-government-response>

Houses in Multiple Occupation and Residential Property Licensing Reforms

<https://www.gov.uk/government/consultations/houses-in-multiple-occupation-and-residential-property-licensing-reforms>

## Appendix Three

# ENERGY SYSTEMS CATAPULT RESOURCES

Reshaping Regulation: Powering From the Future (**Challenging Ideas, Imperial College Business School, Grantham Institute, Imperial College London, Energy Systems Catapult** and **UK Power Networks**, 2017) [https://es.catapult.org.uk/wp-content/uploads/2017/10/Challenging-Ideas\\_single.pdf](https://es.catapult.org.uk/wp-content/uploads/2017/10/Challenging-Ideas_single.pdf)

Demand Side Response: DSR in Practice – What Goes on Behind the Wheel? (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/dsr-in-practice/>

Demand Side Response: Putting Consumers in the Driving Seat (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/route-to-domestic-flexibility/>

Domestic Heat Demand Study (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/domestic-heat-demand-study/>

Fuel Poverty in a Smart Energy World: How Vulnerable Energy Consumers Could Benefit from Smarter Heating Controls (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/fuel-poverty-in-a-smart-energy-world/>

Your Online Data Architecture – Data Best Practice Principles (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/modernising-energy-data-access-siemens/>

Your Online Data Architecture – Data Licensing and Standardisation (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/modernising-energy-data-access-siemens/>

Your Online Data Architecture – Metadata and Supporting Information Requirement (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/modernising-energy-data-access-siemens/>

Towards a Smarter and More Flexible European Energy System (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/europe-smart-energy-and-flexibility-market-study/>

D4E: An Energy Innovation Platform for the West Midlands (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/d4e-west-midlands-energy-incubator/>

Nuclear for Net Zero: A UK Whole Energy System Appraisal (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/nuclear-for-net-zero/>

Air Quality Modelling in ESME: Extending the Functionality of ESME by Incorporating Air Quality Pollutants [ESME: Energy Systems Modelling Environment] (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/air-quality-modelling-in-esme/>

Digitalisation for Net Zero (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/digitalisation-for-net-zero/>

Energy from Waste Plants with Carbon Capture: A Preliminary Assessment of Their Potential Value to the Decarbonisation of the UK (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/energy-from-waste-plants-with-carbon-capture/>

Understanding Net Zero: A Consumer Perspective (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/net-zero-a-consumer-perspective/>

Innovating to Net Zero (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/innovating-to-net-zero/>

Towards an Enduring Policy Framework to Decarbonise Buildings (**Energy Systems Catapult**, 2020) <https://es.catapult.org.uk/reports/policy-framework-to-decarbonise-buildings/>

Dg Insight Paper: Lessons From Running the Living Lab (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/insight-paper-lessons-from-running-the-living-lab/>

## REMINDERS FOR LOCAL ENERGY HUBS

D7 Using the Living Lab to Sell Consumer Centric Heat Services that Encourage Adoption of Low Carbon Heating (**Energy Systems Catapult**, 2019)

<https://es.catapult.org.uk/reports/using-the-living-lab-to-sell-consumer-centric-heat-services-that-encourage-adoption-of-low-carbon-heating/>

Decarbonising Heat: Understanding How to Increase the Appeal and Performance of Heat Pumps (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/decarbonising-heat-understanding-how-to-increase-the-appeal-and-performance-of-heat-pumps/>

Energising our Electric Vehicle Transition (**Electric Vehicle Energy Taskforce (EVET)**, 2020) <https://es.catapult.org.uk/reports/energising-our-electric-vehicle-transition/>

Decarbonising Road Freight (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/decarbonising-road-freight/>

Broad Model for a Capacity Remuneration Mechanism in an ESP-led Market [energy-service-provider-led market] (**Energy Systems Catapult**, 2019)

Consumers, Vehicles and Energy Integration Reports (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/consumers-vehicles-and-energy-integration/>

Smarter Charging – A UK Transition to Low Carbon Vehicles: Full Report (**Energy Technologies Institute (ETI)**, 2019) <https://es.catapult.org.uk/reports/smart-charging-report/>

Energy Markets, Policy and Regulation (**Energy Systems Catapult**, continually updated) <https://es.catapult.org.uk/reports/the-policy-and-regulatory-context-for-new-local-energy-markets/>

Industry Insight: The Delight of Better Control (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/the-delight-of-better-control/>

Assessing the Potential Value from DSOs. A Report to Energy Systems Catapult (**Pöyry**, 2019) <https://es.catapult.org.uk/reports/assessing-the-potential-value-from-dsos/>

Enabling Domestic Interoperability: Insight Report (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/ssh2-enabling-domestic-interoperability/>

Heat as a Service: An Introduction (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/ssh2-introduction-to-heat-as-a-service/>

Rethinking Decarbonisation Incentives: Future Carbon Policy for Clean Growth (**Energy Systems Catapult** and **Energy Technologies Institute (ETI)**, 2019)

<https://es.catapult.org.uk/reports/rethinking-decarbonisation-incentives-future-carbon-policy-for-clean-growth/>

Field Trial Learnings: Insight Report (**Energy Systems Catapult**, 2019) <https://es.catapult.org.uk/reports/ssh2-field-trial-learnings-insight-report/>

Pathways to Low Carbon Heating: Dynamic Modelling of Five UK Homes (**Energy Systems Catapult** and **Energy Technologies Institute (ETI)**, 2019) <https://es.catapult.org.uk/reports/pathways-to-low-carbon-heating-dynamic-modelling-of-five-uk-homes/>

## Note on Methods

Reports referenced in this document are not endorsed by Government unless expressly stated. Reference to these documents does not constitute endorsement by local energy hubs.

The inclusion of resources from commercial suppliers does not imply endorsement – these are included because commercial organisations often lead on the development of key energy efficiency technologies and processes.

Most entries include the names of bodies or individuals who have played a key part in the development of the resources in question. This information should not be taken to imply authorship in all cases: a named party will in some cases be a commissioning body or a sponsor rather than a party with the right to be named as an author.



**Hosted by Liverpool City Region**

**Growth Platform**

No.1 Mann Island

Liverpool, L1

Produced by LEP Co. 2021

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