DISSENTATIONS FOR A GREENER BRISTOL

Student handbook

Ola Michalec

Cover Image: Mural of Greta Thunberg, Southville; Credit: Wayne Powell
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Why green Bristol?

Climate change is the key challenge defining our times. According to the IPCC, we barely have a decade left to transform our world to become “Carbon Zero” and avoid likely dramatic repercussions of environmental collapse. It is not just emissions we need to drastically cut, sustainability is about defending nature from the myriad knock-on effects of global warming: a decline in biodiversity, pollution, pressures on water, food or soil. The challenge goes beyond scientific evidence; it encourages to ask: “what does nature mean to you?” Is it about the beauty to admire, outdoor pursuits, retreat from stress, beloved pets, a celebration of life? What does a sustainable society, city or life mean to you? What relationships, patterns of consumption, aspirations or norms would you like to see in a zero-carbon world?

Your dissertation is an opportunity to make a modest, yet a meaningful contribution towards tackling this challenge. You will have a chance to read up on the topics you were always curious about. You will be able to test your assumptions about the world and confront your worldview with others’. And who knows, maybe it will open the doors for new, exciting career opportunities?

As a student at UWE Bristol, you’re in a great place to start. Dozens of staff members at UWE have been working hard to gain and maintain UWE excellent sustainability credentials. We include sustainability in everything we do from renewable energy installations, edible (and bee-friendly!) community garden, student-led campaigning, teaching sustainability on every degree and providing internship opportunities in the green sector. By the way, if you would like to get involved in sustainability at UWE, the Green Team is the best place to start. A friendly team of students and staff works hard every year with an exciting programme of talks, films, workshops, volunteering and campaigning!

You’ve probably lived in Bristol for some time now and noticed its perks. River Avon cuts the city in half, carving a stunning view of the Avon Gorge. Parks and commons are providing a safe haven to deers, otters and badgers. Mendip Hills and the seaside are just a throw stone away. Bristol – as far as the UK cites go – has a reputation for being sustainable. In November 2018, Bristol City Council declared a climate emergency and agreed to aim towards “Carbon Neutrality” by 2030. Hundreds of organisations (many of them gathered under a banner of Bristol Green Capital Partnership) have been working to make Bristol greener. Improving cycle lanes, growing local food, retrofitting homes, setting up repair cafes – all of them together make Bristol an excellent case study for sustainable research and action. Still, we have a long way to go – will you be joining us?

This little handbook is your starting point to write a great dissertation on sustainability. I offer you a selection of practical tips: from embedding your research in a local organisation, planning your project to choosing the appropriate research question. I will signpost you to some interesting past research projects on sustainability in Bristol and provide you with a tailored list of excellent secondary datasets to analyse. By the way, you don’t have to do your research with Bristol as a case study, plenty of material in this guide will be relevant to you if you do sustainability research elsewhere!
Who is this book for?
This guide is designed for all undergraduate and Masters’ students considering writing their dissertations in the field of sustainability. I understand “sustainability” as a set of actions to tackle climate change and environmental degradation and enable a zero-carbon society. In particular, this book is for you if you:

- want to work with local organisations
- use local secondary data
- are interested in cities.

You can reach out for this book anytime during the academic year. However, the earlier the better. You will benefit the most from it in the planning stage – when you’re deciding what to research, who to contact and what data to gather.

Although the majority of examples are drawn from Bristol, the book contains plenty of general tips and resources. Feel free to skim through the relevant sections even if your research is based in another location!

A small disclaimer: this handbook provides a comprehensive list of data, past research, local organisations and planning tips. However, it’s by no means exhaustive. Treat this as a general guideline and please complement it with key textbooks and papers required on your course. When justifying your approach in the dissertation, you will be required to reference peer-reviewed academic outputs!

Finally, this guide is not aimed at any particular discipline or course. Just to give a few examples: since the handbook focuses on the urban scale and offers plenty of spatial data, I expect that it will be of interest to geographers and planners. Copious quantitative datasets will attract mathematicians or computer scientists. Finally, notes of policy and politics could be picked up those studying journalism or politics. In other words, sustainability needs every degree and discipline!

Good luck!

Ola Michalec
About the author

Ola Michalec is a Researcher at the University of Bristol. Before, Ola was a PhD student at UWE Bristol. Her research looked at co-designing environmental policies in Bristol, using the food waste and smart meters as case studies. Before joining UWE, Ola worked at Bristol City Council as Sustainable Transport Adviser.

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Disclaimer: The content of this book was a subject to a subjective selection of the author. The advice here is supported by 10 years of experience in sustainability education and work, consultations with senior academic colleagues and peer-reviewed literature. Use this guide as a starting point for your project and a signpost for further reading! When justifying your research approach, you will be required to cite peer-reviewed publications and/or academic textbooks.

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Chapter 1: Introduction to sustainable Bristol

Bristol is committed to tackling climate change. In 2015, the city adopted the local carbon management framework, "Our Resilient Future", which outlines GHG emissions reduction targets until 2050. The strategic document included a set of specific actions with an indication of their ownership, e.g. local council, businesses, universities. More recently, Bristol City Council declared an ambition to become "carbon neutral" by 2030.

The city strives to become sustainable beyond carbon accounting frameworks. For example, it received a silver "Sustainable Food Award" in 2016. It also aims to become a "Zero waste city" by producing the lowest amount of household waste by 2025 and sending less than 5% of waste to landfill by 2030. Bristol has a reputation of economically prosperous and "smart" city, with a significant IT sector, open data initiatives and a rich offer in the field of digital education. In 2018, the council launched the "City Leap" initiative, which outlines partnership and investment opportunities in the field of low carbon and smart futures.

However, despite its sustainable and smart ambitions, the city still struggles with a number of environmental issues. High levels of congestion and poor public transport infrastructure led to air pollution and high GHG emissions related to transport. Furthermore, the city is not water and energy secure in the long term. Due to the changing climate, the Bristol region might be affected both by droughts and floods. Similarly, there is no clarity with regards to the long-term energy supply in the region, with potential sources ranging from Hinkley Point nuclear energy, Severn Channel tidal energy or locally produced community energy.

Furthermore, not all residents can benefit from the city’s political, cultural and environmental offer to the same extent. Numerous datasets confirm that Bristol citizens are subjected to inequalities. In other words, the gap between the least and most deprived neighbourhoods is wide and shows no signs of narrowing. It is estimated that 69,000 (or 16%) people are amongst the poorest 10% of English residents. One in four children lives in poverty – which is the highest figure in the south-west of England. Economic deprivation directly affects everyday lives with 10% Bristolians living in fuel poverty and a growing number of residents resorting to food banks (an increase from 2,600 in 2011/12 to at least 10,600 in 2015/16).

The city is committed to improving social justice. Bristol is working on the “One City Plan” which aims to tackle the long-term issues like traffic congestion, affordable housing, poor air quality and child poverty. It also aims to give the residents voice in decisions made in local government using online “Citizens’ Panel”.

Tip: As you can see, “sustainability” is very broad and you can link it with every aspect of life. It concerns both social and physical scientists. You can research sustainability by looking at individuals, groups, households, politics, businesses, places, objects... Remember, there is no such thing as a topic “too small”. However, you need to resist the temptation of asking a question which is too big and focus on what’s doable within the timescales of your project. The following chapter will guide you through the process of planning your work and deciding on the research question!
Chapter 2: Getting started

Your dissertation module is so much more than the “writing up” part. In fact, it’s never too early to start planning your workload. If you put some work ahead in choosing your dissertation topic, gaining access to data or participants and familiarizing yourself with the previous research, you’re more likely to submit an excellent piece of coursework!

Planning your research

- **Timing is key:** some fieldwork is strictly seasonal (especially with plants and animals!). If you interview people, consider how your timescales for data collection work around your participants. For example, it might take longer to get hold of people in summer!
- ** Unsure how long will the whole process take?** Factor in buffer time – schedule in an extra couple of days dedicated to your coursework. In big projects, things take longer than expected. You might have to wait to access the data, gather enough interviews or learn a new technique of data collection.
- **Think about your past assignments and deadlines.** When is your motivation the highest/lowest? Are you a planner or a crammer? What aspects of your degree did you enjoy the most? Is there a research skill you’d like to perfect during your final year? Reflect on your past experiences and learn from them!
- **Asking “how much data I should collect? How much should I read?” is a bit like asking “how long is a piece of string” 😊** Unless you’re doing research which aims to be “statistically significant”, there are no fixed rules on how big your sample size should be (e.g. how many participants, case studies or secondary sources analysed). For the majority of senior researchers, it will be a combination of theoretical guidelines, professional experience and budget constraints. Meanwhile, chances are you don’t have the same level of mastery! If in doubt, look for journal articles and past dissertations which applied methods similar to yours. You can also consult your supervisor for informal guidelines.
- **On the topic of your supervisor:** choose your advisor carefully. Make full use of the staff directory (search by keywords or disciplines). You might not be able to find someone who covers your exact topic interest – in this case, make sure you work with someone in (at least!) a similar discipline! Before committing to a supervisor, make a judgement: do they seem interested? Are they responsive? Do they have the capacity to work with you?
- **Be realistic about your scope and data you can gather.** For example, it might be easier for you to research your peers rather than children. Similarly, it might be easier to get hold of a local business than a CEO of a major corporation.
- **Make lots of notes!** Reflect on how your initial question develops, how your knowledge grows, how you collected and analysed the data. You need to write so you have enough information to repeat the research. Firstly, this is a basic requirement of research. Secondly, you’ll need a back-up log in case of emergency: your PC might get stolen, your files might get corrupted and so on...
- **More on security:** I cannot stress it enough - **Back up** your files regularly! Weekly or fortnightly back-up would do. In the final stages of your write up, you might want to consider daily back-ups.
How to come up with a great research question?

- Identify what interests you! You might use a broad topic as a starting point (e.g. recycling, public transport, food growing, air quality)
- Alternatively, you can be guided by a theory. Here are just a few key concepts related to sustainability: circular economy, climate justice, planetary boundaries, resilience (think about your favourite module – what ideas did it introduce?)
- Start with reviewing the literature using UWE Library. This way you'll know what questions have been answered and where is the gap for your research (usually you can find this is the final sections of peer-reviewed papers. Look out for headings like “Further Research” or “Recommendations”)
- By far the most common mistake is asking a question which is too big. The wording of your question should be specific so there is no room for interpretation. Make sure you can answer it within your project timescales!
- The choice of words in your question will reflect your discipline and specific scope. For example, sustainability psychologists tend to research “behaviours” or “attitudes”, whereas social scientists “practices”, “norms”, “policies”
Searching through available literature

Sustainability in Bristol is a popular research topic. In addition to the official government data (summarized in Chapter 4), plenty of academic researchers are interested in our city. Here is a selection of recently published papers concerned with sustainability issues in Bristol. This will help you to find out what’s already been done and where are the current research gaps.

Did you like one of the papers and are interested in investigating the topic further? Why don’t you email the authors – they’d be happy to know that their research prompted some discussions!


Tip: search “Bristol” in the UWE Research Repository to see past research done in Bristol by UWE academics!
Chapter 3: Coproduction

What is coproduction?
Traditionally, researching was a domain of universities. Scientists were the ones who knew which questions to ask, how to gather the data and who should benefit from the findings. Last few decades, however, saw a reversal from this model. We have started to recognize that not only those who hold PhDs can be “in the know”. This led to a quest for recording the knowledge of actors such as: indigenous people, residents, non-academic practitioners, marginalised groups.

This shift in perceiving to “what counts” as knowledge holds multiple names, depending on your course or discipline. You might want to look up terms such as “action research”, “engaged learning”, “coproduction/co-design/co-creation”, and “transdisciplinary research”. Ask your supervisor for an approach most suited to your dissertation topic!

The table below compares the features of traditional and coproduced research projects. Bear in mind, there is no “one-size-fits-all” recipe, not every coproduced dissertation should aim to fulfil all the criteria below. When deciding on the depth of your engagement, consider your partner organisations, your mutual expectations, timescales and relevance to the research question. Most importantly, remember: Undergraduate and Masters’ dissertations are relatively small projects, done over a short period. If in doubt, keep your ambitions modest!

<table>
<thead>
<tr>
<th>Traditional research</th>
<th>Coproduced research</th>
</tr>
</thead>
<tbody>
<tr>
<td>The researcher decides on the question and scope</td>
<td>Research question and scope is negotiated with non-academic partners</td>
</tr>
<tr>
<td>The researcher acts as a neutral observer</td>
<td>The researcher questions the possibility of being neutral and is explicit about their ethical or political stance</td>
</tr>
<tr>
<td>The researcher likely to interview or survey participants once – no relationship established</td>
<td>The researcher likely to establish a relationship with participants who become research partners over time. They are likely to meet on multiple occasions</td>
</tr>
<tr>
<td>Investigation can take place at a number of scales</td>
<td>Most suited to small-scale research: e.g. an organisation or a resident group as a case study</td>
</tr>
<tr>
<td>Self-reflection not a standard part of the research</td>
<td>The researcher reflective of emotions, relationship building and learning resulting from the process</td>
</tr>
<tr>
<td>Focuses on describing and understanding the problem</td>
<td>Focuses on improving the situation, often within an organisation</td>
</tr>
<tr>
<td>Knowledge is circulated mainly through peer-reviewed publications</td>
<td>Apart from peer-reviewed publications, emphasis on producing outputs in a format accessible to the non-academic partners</td>
</tr>
</tbody>
</table>
Benefits for you and your collaborators

- Hundreds of organisations already work on sustainability in Bristol – we are lucky to have a wealth of knowledge and experience already!
- You will have a chance to work on a real-world question
- You will learn about day-to-day work in a sustainability organisation
- You will have a chance to develop deep relationships – who knows, maybe it will lead to improved career prospects?
- Your collaborators will receive pro-bono support on issues which matter to them!
- Your collaborators could use your dissertation as evidence in decision-making or leverage for funding

Tips

- Coproducing research takes time just like building relationships and trust does. This type of approach is challenging and will work best if you already have a working relationship with your potential collaborator (e.g. you worked or volunteered with them previously). Otherwise, be prepared to put a lot of effort into building one (and have a Plan B in place, in case the project doesn’t turn out as expected!)
- When approaching an organisation with a collaboration request, estimate their time involvement in advance: are you asking for bi-annual, quarterly, monthly meetings? Will you be organising workshops or interviews?
- You need to manage mutual expectations around the project. Your participants and collaborators will most likely be able to provide you with some raw data or ideas for a research question. Perhaps they could take part in your interviews, surveys or workshops. Analysing the data and writing up will be your responsibility!
- Deciding on a research question is a process of negotiation between your interests, gaps in the academic literature and your collaborator’s needs. Read up on the available literature before deciding on the research question!
- Work around the timescales: organisations and people (including yourself!) have busier and quieter times during the year. They might relate to change of seasons, public holidays, tax years, political events, funding deadlines. Ask your collaborators: when is the best time to work with them? Make sure their timescales align with your dissertation deadlines.
- By far, the most common issue is a delay in communication. You can do a number of things to encourage timely responses: 1) make it clear what your collaborators/participants would gain from the project; 2) keep your emails concise; 3) following the meetings – assign actions and circulate short summaries; 4) don’t be afraid to politely follow up if you don’t receive a response within 2-3 weeks
- You will be working in the organisational context, which means that you need to be aware of the powers and constraints of your collaborators when providing advice. For example, will your results be “actionable” by your collaborator, or are they a subject to national, if not global decision-making?
- Above all, you will be required to develop strong interpersonal skills. You might have to manage tensions. You might have to facilitate group conversations with people who speak too much or too little. Don’t lose your voice while pursuing the collaborative agenda!
Examples of coproduced dissertations
Skills Bridge – blog posts on students’ dissertations in Bristol
https://skillsbridge.ac.uk/?s=dissertation

Participatory Research Dissertations (UK and international)
http://www.peoplesknowledge.org/resources/dissertations/

National Union of Students – Dissertations for Good. Case studies of coproduced dissertations (UK)
https://forgood.nus.org.uk/

Doctoral and Masters’ theses using Action Research (University of Bath)
http://people.bath.ac.uk/mnspwr/doc_theses_links/index.html

Recommended reading


Key organisations

**The Bristol Bike Project** – workshop and teaching space improving mobility among marginalised communities. BBP organise bike mechanics workshops for adults with health issues, school kids and refugees. They operate “earn a bike” programme for low-income residents. They previously worked with students on dissertations!

Website: [https://thebristolbikeproject.org/](https://thebristolbikeproject.org/)

**Bristol Energy Network** – an umbrella organisation for all local charities and residents group interested in renewable and affordable energy. They advocate, raise funds, campaign and provide advice to the citizens. Bristol Energy Network coordinates “C.H.E.E.S.E.” project which surveys houses for inefficiencies and drafts and provides affordable advice on warm homes. UWE worked with Bristol Energy Network and reviewed C.H.E.E.S.E. project

Website: [http://bristolenergynetwork.org/](http://bristolenergynetwork.org/)

**Bristol Green Capital Partnership** – a collective of over 800 local organisations interested in sustainability. They organise public engagement events, provide advice to businesses and advocate for greener policies in Bristol. Looking for future research partner or a potential employer? Why not attend a monthly Green Mingle?

Website: [https://bristolgreencapital.org/](https://bristolgreencapital.org/)

**Bristol Natural History Consortium** – a partnership organisation focused on environmental communication. They organise events such as Festival of Nature or BioBlitz. The place to go if you’re interested in public engagement and science communication!

Website: [https://www.bnhc.org.uk/](https://www.bnhc.org.uk/)

**Bristol Parks Forum** – a one-stop resource for all organisations interested in local parks and green spaces. They organise campaigns and contribute to decision-making on the green areas in Bristol. They previously worked with UWE students to develop a PARKHIVE app, which stores useful information on local parks and serves as a digital photography archive.

Website: [http://www.bristolparksforum.org.uk/](http://www.bristolparksforum.org.uk/)

**Bristol Walking Alliance** – a local campaign for a safe and pleasant walking environment. Gathers residents interested in sustainable transport, air quality, parking issues and inclusivity.

Website: [https://bristolwalkingalliance.org.uk/](https://bristolwalkingalliance.org.uk/)
City to Sea – a UK-wide not-for-profit organisation fighting plastic pollution in rivers and seas. They also run a campaign “Refill Bristol”, discouraging single-use plastic bottles.

Website: https://www.citytosea.org.uk/

Extinction Rebellion Bristol – a local branch of the international activist movement campaigning for climate action. Interested in protests, civil disobedience and non-violent direct action? Why don’t you research XR as your case study?

Website: https://xrbristol.org.uk/

FareShare SW – a regional branch of the national charity tackling food poverty and food waste. FareShare collects surplus food from retailers and redistributes it to people in need.

Website: http://faresharesouthwest.org.uk/

Feed Bristol (part of Avon Wildlife trust) – a community food-growing project located near UWE Frenchay. They run volunteering sessions, gardening workshops and provide activities for people suffering from poor health and social exclusion.

Website: https://www.avonwildlifetrust.org.uk/explore/urban-wildlife/feed-bristol

Friends of the Earth Bristol – one of the oldest international environmental movements. They run campaigns of issues like climate change or air pollution.

Website: http://www.bristolfoe.org.uk/

Sustrans – a UK-wide charity supporting active transport. They advocate for improved cycling and walking provision and build National Cycle Network. Search through the extensive portfolio of policy advice and previous research for inspiration!

Website: https://www.sustrans.org.uk/
Chapter 4: Secondary data

Your dissertation might rely on primary and secondary data – or a combination of both. The usefulness of secondary datasets goes well beyond your data analysis. You can draw from the key statistics for your introduction, summarise existing knowledge in your literature review, repeat a past study or evidence a gap in the literature.

This chapter will guide you through key considerations while researching with secondary datasets. Where can I find reliable and comprehensive datasets? How to tidy up and store the files? How to look at the data critically?

I encourage you to think about your data with caution, something to interpret rather than treat as information. In fact, even quantitative “hard” data is, at heart, qualitative as it is a subject to myriad decisions of those who collected the data. Why were the data collected? Where, when and for whom? How is the scale decided?

In Chapter 3, I recommended developing a Plan B for your dissertation based on secondary data in case you won’t manage to gather enough data through primary research. Arguably, secondary data is “easier” to collect – after all, it’s already out in the public domain. However, this doesn’t mean that conducting research based on secondary data is any simpler! Below there are a few things to consider before collecting and analysing secondary data:

- Secondary datasets weren’t originally designed to answer *your* research question. You need to justify *how* they fit your research topic.
- Assign a generous amount of time to find the right datasets. Some might require a request for access. Some might not be published at the right scale. Some might be out of date. Some might come in a poorly described file. Make the most of the “recommended datasets” list below and follow-up this compendium with some independent searching.
- You might need to learn extra skills to work with your data effectively. UWE offers plenty of methods-related modules like Geographical Information Systems (GIS) or statistics. Alternatively, take a look at self-taught courses at Lynda/LinkedIn Learning (free to UWE students!)
- Learn to look critically at the data: make all assumptions explicit in your dissertations! Are you arguing that the dataset is a proxy for a phenomenon in the society or environment? Be able to tell the difference between correlation and causation. Is your dataset up to date? Are all rows/variables complete?

Tip: When justifying your research approach, you will need to refer to academic literature. UWE library has plenty of books (and e-books!) available on research methods:


Common geographical scales

- Medium Super Output Area (MSOA): population 5000 - 15 000
- Lower Super Output Area (LSOA): population 1 00 – 3 000
- Postcode: 1-100 households
- Ward: electrical unit used in local authority elections and research (population c. 9 000 – 18 000)
- Household: average UK size 2.4 people

More information:
https://www.ons.gov.uk/methodology/geography/ukgeographies/censusgeography

Metadata – good practices

A simple way to think about metadata is imagining what information you need to have about the file, so you’d be able to understand it and repeat the research years after completion. If you download a large number of files from various resources, you will need a system which will help you to organise them! Here are a few basic tips:

- Folders: you can sort your files according to themes, authors, years etc. Create a consistent system which works for you!
- File names: again, consistency is the key. Your file name should contain information about dates, author and topic
- Attach “README” description – could be a separate .txt or .doc file or e.g. the first tab in an Excel file
- Things to consider when writing metadata: author, date range, scale, key definitions, variables, explanations of acronyms, units used, description of missing data points. Keep asking yourself: “what information about the file do I need to understand the information in 5 years time?”
- If you’re anonymizing participants, you need to create a file which outlines your approach. Keep this file secure!

This website provides some more in-depth information!

FOI requests

According to the Freedom of Information Act (FOI), you have a right to receive information recorded by any public body (for example, a governmental department, local council, school, BBC).

If you have a question in mind, but can’t find any published records online, it might be worth making an FOI request. However, you might not succeed, if you’re looking for personal or historical data!

A great place to start is https://www.whatdotheyknow.com/ - a user-friendly guide to making FOI requests. Here you can also browse all past FOIs!

Some considerations before making an FOI request:

- Ensure the data isn’t already available in the public domain
- Allow at least a month to receive a response – follow up if you don’t hear anything!
- Make your request specific and clearly worded. Don’t ask generic questions like e.g. “I’m looking for all data on recycling in Bristol”
- Use polite and formal language!
Recommended datasets

Below you can find a curated list of datasets on sustainability and/or Bristol. Starting from local and national datasets, it finally branches out to a few global “wildcard” data. The majority of records come from well-established, public bodies. Each website is described, together with key recommendations, pros, cons and a typical screenshot. Please treat this resource and a starting point of your search – there is lots more out there!

1. Open Data Bristol
https://opendata.bristol.gov.uk/pages/homepage/

A large collection of free datasets managed by the Bristol City Council. Range of topics covered, e.g.:

- Base maps (wards, LSOAs, MSOAs)
- Local demographics (age, ethnicity, religion, health, sex)
- Health data (statistics on premature mortality by cause, child obesity, asthma hospital admissions, life expectancy)
- Quality of life indicators (results of annual “Quality of Life” survey mapped by ward, over 200 indicators including measures of inequality, on topics such as health, lifestyles, community, local services and public perception of living in Bristol; available for 2015-2019 years)
- Deprivation in Bristol (2015 data, LSOA level)
- Foodbanks (locations, contact details, opening times)
- Cycle routes and facilities (map of Sustrans routes, bike pumps, cycle shops)
- Street furniture (location of streetlights, crossings etc)
- Car ownership (ward level –census data)
- Car parks (locations, capacity, operating times)
- Car club bays
- Electric vehicle charging points (locations and descriptions)
- air pollution (NO2, PM)
- Industrial pollution inventory
- Surface water quality
- Energy consumption (council-owned buildings)
- Solar potential +feed in tariff installations (a map of the suitability of roofs for solar panels)
- Parks, green spaces, commons, allotments, trees (locations and/or sizes)
- Council houses locations
- Housing data (from the 2011 census: house type, size, ownership, renting; by Ward)

**Pros:** regularly updated and maintained, large range of topics, reliable sources, many formats available, easily integrated into a map or a chart, easy to browse by filtering

**Cons:** most datasets at Ward level

Extra tools: Map builder, Chart Builder

Any questions? opendata@bristol.gov.uk
2. Bristol City Council: websites for policy analysis
Secondary datasets can also be qualitative! If you’re studying social sciences or humanities, you can use policy documents in your dissertations. Planning applications, strategic reports, cabinet meetings, statutory consultations. They are perfect for critical analysis and a rich description of contemporary politics.

2a. Planning Online
https://planningonline.bristol.gov.uk/online-applications/search.do?action=simple
Local government tool which you can use to track current planning applications and research historical planning procedures, including comments and supporting documents (from August 2005 onwards). You can register an account to save your searches and track specific applications. Use “major application” while filtering if you want to focus on the larger projects.

Pros: Multiple search options – by map, date, the status of the application
Cons: Planning document are protected by copyright – check with your supervisors whether their use is appropriate for your project. The number of planning applications might be a bit overwhelming!

![Planning Online](image)

2b. Policies, plans and strategies
https://www.bristol.gov.uk/policies-plans-strategies
This website outlines key strategic policies relevant to Bristol City Council as well as details on the devolution and regional powers. Before starting your research, it will be useful to know what local authorities are responsible for (as opposed to the regional, national governments, partnerships and private sector voluntary actions)

Bear in mind, the majority of policy documents on this website usually provide a strategic overview only. For details on policymaking procedures, you’ll need to search through decision register and cabinet meetings. Note, both websites aren’t particularly user-friendly and will inevitably yield an unnecessary amount of detail!
2c. Public consultations
https://bristol.citizenspace.com/

The democratic government have a responsibility to ensure each policy goes through statutory consultation with the citizens, end users, equalities groups, experts or other members of the public. This website provides access to a huge dataset of the current and past consultations. Just like with planning applications, you might find the number of consultations of the page quite overwhelming. Be patient while searching for the relevant documents and remember to narrow down your search with the relevant criteria.

3. Resident Segmentation: Acorn
http://profiles.bristol.gov.uk/IAS/dataviews/view?viewId=1068

A segmentation tool which categorises the UK population according to the socio-economic attributes. The result is a system of 62 “types”, such as “asset rich families”, “career-driven young families”, “term time terraces”, “families in right-to-buy estates” etc. 2015 data available at Ward and LSOA levels.

**Pros:** widely used by local authorities, more detailed than traditional notions of “social class”

**Cons:** commercial dataset – exact methodology of categorisation is unknown
4. Waste data flow
https://www.wastedataflow.org/
Councils’ reporting on collected, landfilled and recycled waste. Data are available on i.e. tonnages and types of waste processed on a quarterly and annual basis by the local councils. They range between 2004-present. Free, but requires registration.

**Pros:** free, comprehensive  
**Cons:** requires manual “tidying” from excess information, difficult to navigate, a few months’ lag in the data update
5. WRAP LA Portal
http://laportal.wrap.org.uk/
Datasets comparing local authorities’ recycling and waste disposal schemes. Requires free registration

Pros: Easier to navigate than WasteDataFlow, Free
Cons: Fewer details than WasteDataFlow

6. Centre for Sustainable Energy
https://www.cse.org.uk/projects/view/1259
Centre for Sustainable Energy is a national charity (they’re based in Bristol!) which researchers sustainable energy and fuel poverty. You can see a range of open data produced for their research for free.

Pros: A great level of detail, examples of innovative modelling and research applied to policy advice. Could be a useful source of inspiration!
Cons: Some datasets require technical knowledge, some datasets older than 10 years

1) Display Energy Certificate data
2) Lower Super Output Area data
3) Fuel poverty data (including ‘hard-to-treat’ data)
4) Energy Company Obligation data
5) Energy consumption data (domestic)
6) Heating and housing census data (at smallest output area level)
7) GB household emissions dataset
8) GB postcodes off the mains gas grid
9) Energy Performance Certificate data (at parliamentary constituency level)
7. UK Data Service
https://ukdataservice.ac.uk/
Collection of datasets from the UK and international research projects in the field of social sciences. A range of data types covered: census, international macrodata, longitudinal studies, UK surveys, mixed methods. Covers key national surveys, such as: Annual Population Survey, English Housing Survey, Living Costs and Food Survey, National Travel Survey. Free registration required if you need to download data. Selection of sustainability data, such as:

- British social attitudes survey (1983-present) attitudes to the environment, climate change, travel
- Eurobarometer (1970-present) major EU-wide survey on public attitudes, example questions on protecting environment, environment vs economic growth
- International Social Survey Programme – 1985-present, survey of c. 50 countries, example questions on pollution, economic growth, science, nuclear power, environmental behaviour, environmental knowledge
- World Bank development Indicators, 1960-present, questions on: agricultural production, biodiversity, density/urbanization, emissions, energy, freshwater, land use, natural resources contribution to GDP, water pollution

Pros: a source of inspiration for your dissertation – examples of previous research done in the UK, lots of longitudinal data, tutorials on referencing and conducting research available
Cons: many datasets older than 10 years, lack of local datasets

8. Consumer Data Research Centre
https://www.cdrc.ac.uk/
An initiative led by the Economic and Social Research Council aiming to open up commercial datasets for the researchers. Plenty of market research data, such as sales, travel behaviour, energy consumption, technology adoption. The website also showcases exciting “big data” projects - they would be of interest to Computer Science students! You can also browse the records by looking at the ready-made map visualisations at very fine scales! Some datasets are protected and they require access request.

Pros: An alternative look at the UK society – CDRC could answer many questions not covered by the government datasets; contains plenty of open-access tutorials on data science!
Cons: Considerable amount of datasets from the commercial companies require access (if not fees) – enquire early to avoid disappointment!
9. Office for National Statistics
https://www.ons.gov.uk/

The major provider of statistical information about the UK. Topics range from economy, labour, population, housing, tourism and migration. ONS also conducts the census in England and Wales every 10 years (the last one took place in 2011).

ONS website is a comprehensive and reliable source for both raw data and visualizations. Perfect for students in social science courses! Take a look at their methodology papers if you’re interested in learning more about statistical surveys as a method.

10. Open Government Data
https://data.gov.uk/

Free open data published by the central government, local authorities and public bodies. Tip: Apply “Open Government License only” to filter out unpublished datasets. Examples of relevant datasets:

- **Electricity and gas consumption** (LSOA, MSOA and IGZ scales)
- Bristol City Council: land assets, brownfield
- **Fly tipping** (total in England, separated by land type)
- GHG emissions data: Local Authority level by sector
- Renewable energy national data: planning applications database, monthly solar PV cost data
- **UK national statistics on waste**
- Overview of agriculture in the UK and English regions
- Water abstraction datasets
- **Fuel consumption** (broken down by vehicle types and local authorities)

**Pros:** All government departments and organisations on one website

**Cons:** Requires thorough filtering through potentially irrelevant datasets. Some datasets not updated on regularly – in such a case, access dataset via the relevant Department or organisation.
11. Our World in Data
https://ourworldindata.org/

Our World in Data is an Oxford University initiative aiming to communicate key statistics about the world in attractive and easy-to-read visualisations. It focuses on a global, rather than national or local scale! Each figure is thoroughly referenced so you can track down the raw data.

Pros: Each chapter contains an exhaustive literature review. Great visualisations could inspire you if you’d like to create own graphs or maps!
Cons: Doesn’t consider its own biases in selecting data. As a result, the overall growth-optimistic tone of the website lacks a critical debate on the notion of “progress” itself. For example, discussions on colonialism or consumerism are missing.
12. Reddit
https://www.reddit.com/r/datasets/
https://www.reddit.com/r/dataisbeautiful/
https://www.reddit.com/r/dataisugly/

A selection of online discussions on data – the good, the bad and the ugly! Here you might find some quirky datasets which you wouldn’t normally come across on the government website!

**Pros:** Up-to-date forum - lots of new datasets uploaded every day. A potential source of inspiration!

**Cons:** Watch out, Reddit can be addictive and quickly turn into a source of procrastination!

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Thank you for reading this handbook!
Feeling inspired? Motivated? Well informed? Data link not working? Or have we missed something? All feedback welcome! As we intend to update this document on annual basis, please let us know what we should include in the future versions of this handbook by emailing aleks.michalec@gmail.com