

THE WORKING WIKIPEDIA DEFINITION OF A SACRIFICE ZONE IS A GEOGRAPHIC AREA THAT HAS BEEN PERMANENTLY IMPAIRED BY ENVIRONMENTAL DAMAGE OR ECONOMIC DISINVESTMENT. HOWEVER, SUCH AN EXPANSE AND NON-SPECIFIC DEFINITION CAUSES TWO PROBLEMS. FIRSTLY, IT ALLOWS FOR LEGAL DISPUTES OVER WHAT IS MEANT BY "IMPAIRED" AND "PERMANENTLY". THESE DISPUTES OFTEN EXIST BETWEEN WHAT A LEGAL FIRM INSTRUCTED BY A CORPORATION DEFINES AS IMPAIRED OR PERMANENT AND HOW A COMMUNITY ABOLISHING INJUSTICE DEFINES THESE TERMS BASED ON THEIR EVERYDAY LIVED EXPERIENCE.

SECONDLY, IT MEANS THAT POLICY AND LEGALITY ONLY IS CONCERNED WHEN THE BAD THING IS AN EXTREME CASE. THIS LEAVES COMMUNITIES UNABLE TO SEEK JUSTICE AT THOSE FIRST INSTANCES OF POOR HEALTH OUTCOMES. IN THIS REPORT, WE ARE PROPOSING THE USE OF GEOSPATIAL AND PHYSIOLOGICAL DATA TO CREATE A MORE SPECIFIC WORKING DEFINITION OF "URBAN SACRIFICE ZONES", ONE THAT WILL ALLOW COMMUNITIES TO HOLD INDUSTRIAL POLLUTERS ACCOUNTABLE AT "FIRST HARM" OR AS CLOSE TO "FIRST HARM" AS POSSIBLE.



DEFINING RIGHT TO POLLUTE

ADAPTED FROM THE WORK OF <u>DR MAX LIBOIRON</u>, THE 'RIGHT TO POLLUTE' WAS COINED BY CENTRIC LAB TO DESCRIBE THE LEGAL RIGHTS GIVEN TO INDUSTRIAL POLLUTERS TO CONTAMINATE OUR SOIL, WATER, AND AIR.

IN THEIR WORK "POLLUTION IS COLONIALISM" DR. MAX LIBOIRON IDENTIFIES THE MECHANICS OF A PERMISSION-TO-POLLUTE SYSTEM AS FOLLOWS;

"A CORE SCIENTIFIC ACHIEVEMENT IN THE PERMISSION-TO-POLLUTE SYSTEM WAS THE ARTICULATION OF ASSIMILATIVE CAPACITY - THE THEORY THAT ENVIRONMENTS CAN HANDLE A SPECIFIC AMOUNT OF CONTAMINANT BEFORE HARM OCCURS".

ASSIMILATIVE CAPACITY ALSO EXTENDS TO HUMANS AND TO OTHER-THAN-HUMAN KIN. THE PROBLEM WITH THIS MENTAL UNDERSTANDING IS THAT IT FAILS TO HAVE AN ECOLOGICAL OR JUSTICE LENS. IT ALSO DOES NOT CONSIDER ETHICS - WHY SHOULD ENVIRONMENTS BE CONTAMINATED?

FINALLY, THIS MENTALITY INFLUENCES
INTERNATIONAL LAW, INCLUDING IN THE UK. THIS
GIVES LEGAL RIGHTS TO INDUSTRIAL POLLUTERS
THAT ALLOWS THEM TO CONTAMINATE US AND
OTHER-THAN-HUMAN KIN WITHOUT CONSEQUENCE.



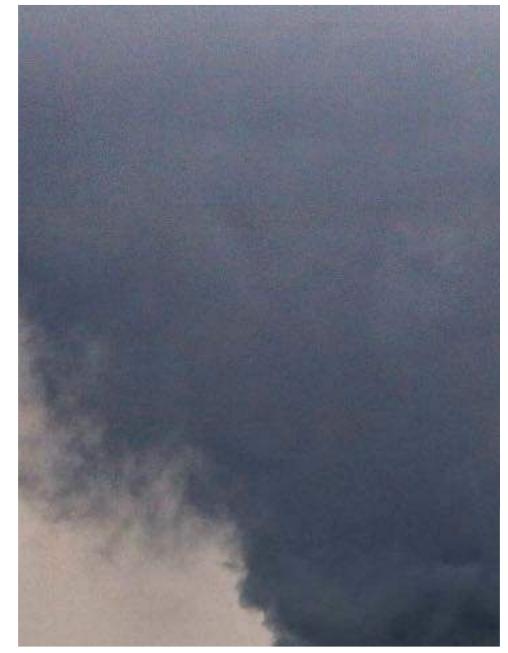
HOW THIS REPORT CAN BE USED

THE PURPOSE OF THIS DATA LED STUDY IS TO BRING ATTENTION TO EVERYDAY PEOPLE THOSE WHO HAVE THE RIGHT TO POLLUTE IN THEIR NEIGHBOURHOODS, SO THAT PEOPLE CAN MAKE MORE INFORMED DECISIONS WHEN IT COMES TO VOTING AND PRIORITIES FOR OUR SHARED HEALTH AND CLIMATE CHANGE ACTION POINTS.

THIS STUDY EXISTS BECAUSE YOU DON'T HAVE THE PERMISSION TO DROP LITTER BUT *they* HAVE PERMISSION TO POLLUTE.

THERE ARE NO SAFE LEVELS OF POLLUTANTS, ONLY AN EPISTEMOLOGY THAT PREFERS TO QUESTION HOW MUCH CAN SOMETHING BE PUSHED BEFORE IT BREAKS DOWN RATHER THAN HOW TO OPTIMISE LIFE; NATURE AND HUMAN.

YOU CAN USE THIS STUDY TO UNDERSTAND SOME KEY TRENDS AND GO TO RIGHT-TO-KNOW.ORG TO ENTER YOUR POSTCODE AND FIND WHO HAS THE RIGHT-TO-POLLUTE IN YOUR NEIGHBOURHOOD AND LOCALE.











INTRODUCTION

Health is ecological, meaning that it is influenced by our body's interactions with the environments in which we live, from microorganisms in natural spaces orchestrating human gut to quality of air that our lungs are ingesting for the function of our organs. It must be acknowledged that both the quality of our external microbiome and air is driven by systemic governance, such as "right to pollute" policies that allow our Land, Water, and Air to be contaminated.

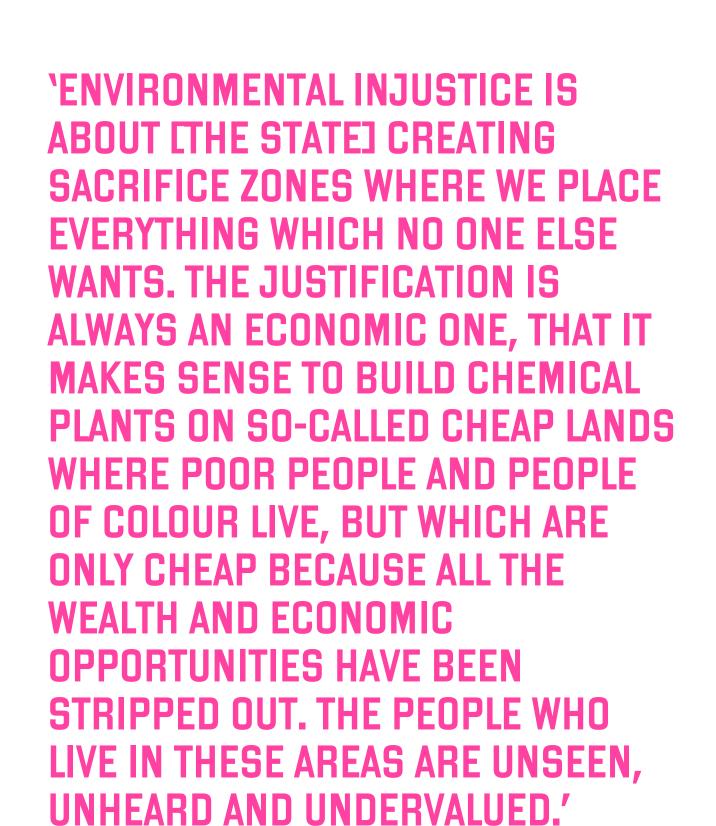
However, this ecological view is often erased by the more popular "individualised health" narrative, which centres responsibility on the person. We go to the GP as a single person to seek care for a particular ailment, being a cough, headache, or localised pain. The usual practice is that we are given specific treatment and we are sent on our way. Even when a person returns with a progression of the original ailment is the place where a person lives taken into consideration.

Additionally, there is abundance of medical practice, literature, and campaigning related to improving health outcomes by changing behaviours (what they eat and how much they move). Whilst these two factors are important, they are not the full ecological picture. We are not asking questions about a person's time poverty, due to working multiple jobs, which is driven by classists structures. Nor are we looking at the quality of air a person has access to when participating in outdoor physical

Therefore, to have impacts on population health we must stop treating the symptoms (health outcomes) and start identifying with more evidence the causes (pollutions).

This work is part of a continual series bringing light to the industrial systems that operate around us and the political and place based determinants of health.

This paper explores the intersection between two areas of politicised industrialisation that lead to 'environmental damage or economic disinvestment': the abundance of emissions sources in an area against the levels of deprivation. The word politicised is intentionally used here to refer to conscious decisions made by those who hold political office; an area that remains deprived over time is symptomatic of a lack of investment from the governing powers; an area that has emissions sources is legally protected and allowed to exist because political decision making deems it acceptable. These are the places deemed as acceptable to sacrifice in the name of wider economic development.



- Mustafa Ali in *The Guardian*, 2019 (<u>source</u>)





Polluters are given a right to emit into the air we breathe, in some cases these carcinogenic chemicals are done so where people live, work, and play. Polluters should not have the right to pollute in areas struggling from a history of neglect. If emissions occur from polluters' industrial activity, this is their issue to deal with, not ours to accept.

It is important to challenge the "Right to Pollute" that sits as an acceptable element of a market driven society.

BACKGROUND

Environmental justice is a social movement to address the unfair exposure of poor and marginalised communities to harms from hazardous waste, resource extraction, and other land uses. The origins of this movement lie in the USA in the early 1980's in Warren Country, North Carolina. Protests in 1982 in opposition to hazardous waste landfill designated to be placed upon a small African-American community; the protests sparked the mobilisation of communities across the US to combat unfair distribution of hazardous waste treatment, storage and disposal sites amongst vulnerable BIPOC communities. In Louisiana there is an area now dubbed 'Cancer Alley' due to the disproportionate rates of cancers being developed, an area that also happens to have the highest concentrations of petrochemical facilities in the USA.

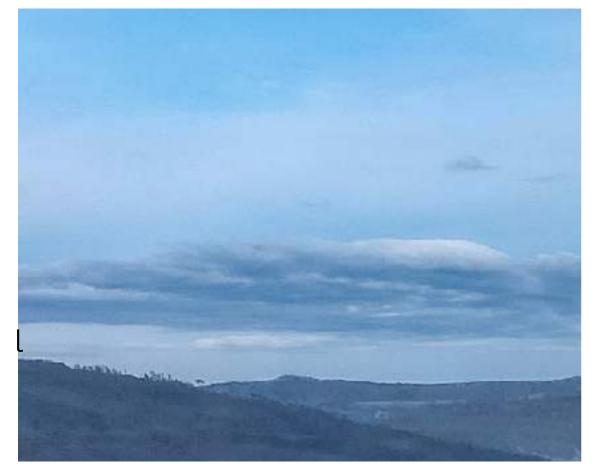
These areas are more often than not are populated by multi-ethnic working class communities, with a heavy emphasis on those racialised as Black, Brown and Indigenous. Intentional or not the outcome leads to certain areas and their communities being over contaminated and "sacrificed" for the sake of capital growth.

This behaviour is practised across the Globe where governments allow for the pollution of local environmental systems in the name of economic development brought by foreign national companies, pollution is therefore a form of colonialism and imperialism.

POLICY IMPLICATIONS

US Environmental Justice policy was a response to grassroots civil society action. In contrast, environmental justice policy in Europe, which developed later, is more a response to intergovernmental agreements on human rights, increasingly seen as a mechanism for achieving environmental sustainability.

The Natural England report The Messy Challenge of Environmental Justice in the UK provides an insight into the need for change:



"ENVIRONMENTAL INEQUALITIES IN THE USA LED TO EJ CENVIRONMENTAL JUSTICEJ LEGISLATION AND A NATIONAL GOVERNMENT BODY TO CHAMPION EJ. THE UK HAS DEVELOPED CREDIBLE EVIDENCE OF ENVIRONMENTAL INEQUITY, YET GOVERNMENTAL RESPONSE HAS BEEN WEAK. PROGRESS TOWARDS EJ HAS BEEN SLOWER THAN MANY HOPED FOR GIVEN THE POLITICAL SUPPORT OF THE EARLY 2000'S"

By comparing the two approaches we can make the argument that without a grassroots and lived experience centring environmental justice efforts are less impactful. In order for a more accurate understanding of environmental injustice in the UK greater emphasis needs to be on creating pathways for communities and those with lived experiences to lead.









This data reporting sits in a long running research programme by Centric Lab to qualify pollutant based determinants of health and quantify them to geographic locations so that informed and appropriate actions can taken by the Peoples that live there.



KEY FINDINGS

REGION	TOTAL POLLUTANT COUNT	WORST AREA	LOCAL AUTHORITY	NUMBER OF EMISSION SITES	DEPRIVATION DECILE	POPULATION DENSITY (P/SQ KM)
North West	7666	Wolverham & Stanlow	Cheshire West & Chester	201	1	375
South East	7059	Manor Park	Slough	246	4	4492
Yorkshire & The	6136	Scunthorpe Frodingham	North Lincolnshire	213	3	627
Scotland	5852	Longside and Rattray	Aberdeenshire	162	7	(Data not available)
East of England	5073	Purfleet, South Stifford &	Thurrock	189	4	1335
West Midlands	4778	Hartlebury & Wychbold	Wychavon	139	6	107
East Midlands	4459	Chapel-en-le- Frith & Hope	High Peak	170	7	55
South West	4344	Alphington & Marsh Barton	Exeter	92	7	1371
London	4234	Canary Wharf	Tower Hamlets	307	7	8243
Wales	4185	Newport 015	Casnewydd - Newport	242	3	775
North East	2909	Billingham East & Haverton Hill	Stockton-on-Tees	385	1	323

OBSERVATION

The North West and South East have the highest values most likely as they are some of the most populated regions in England. This brings up the key proposition: why do we accept pollution as an accepted element of organised society? A society that intends to care for people would regulate externalities down to zero over a period of time rather than give them a right to pollute.

AREA

KEY

The given name of a Middle Super Output Areas (MSOA). MSOAs are gepgrahic regions established by the Office of National Statistics to measure the differences between areas. They comprise between 2,000 and 6,000 households and have a usually resident population between 5,000 and 15,000 persons. MSOAs fit within local authorities. There are 6,856 MSOAs in England and 408 in Wales. The Scottish authorities use the term Datazone which are of an equivalent measurement. We chose this unit of neasurement as the size elates to how a person conceived "their area".

POLLUTANT

he total number of sources where pollutants are being emitted. For example, a single mission site may emit 250 pollutants, whereas another may emit only 1 or 2. This number shows the total amount across the Region.

EMISSION SITES

This refers to the number sites on the National Atmospheric Emissions Inventory register. A site is a single property/asset.

DEPRIVATION

Indices of multiple deprivation (IMD) are widely-used datasets within the UK to classify the relative deprivation (essentially a measure of poverty) of small areas. Multiple components of deprivation are weighted with different strengths and compiled into a single score of deprivation. The geography at which IMDs are produced varies across the nations of the UK and has varied over time. Currently the smallest geography for which IMDs are oublished is LSOA level in both England and Wales, data zone level for Scotland. Ir the current English Indices of Deprivation 2019 (IoD2019) seven domains of deprivation are considered and weighted as follows: Income. (22.5%); Employment. (22.5%); Education. (13.5%); Health. (13.5%); Crime. (9.3%); Barriers to Housing and Services. (9.3%); Living Environment. (9.3%) For the purposes of this study the indicate the extent to which areas are structurally under-supported through investment. The 'DECILE' value ranges from 1-10, with 10 being of the least amount of deprivation, and 1 being the most amount on a relative basis between the 6,856 areas measured.

POPULATION DENSITY

The numbers of people recorded under the UK census who live in the MSOA on an average per square km.







METHODS

To demonstrate the number of emissions sources in an area with the right to pollute, we accessed data from the NAEI and plotted the points onto a map through QGIS. We then organised the data by which MSOA boundary the point fell within, and totalled up the amounts. This allowed us to match this data with the ONS Index of Multiple Deprivation 2019 data. We chose MSOA level data as this represents a more personalised association to place, a geographic area people identify with intimately. Using QGIS we created a series of bivariate colour maps that help show the various intersections.

INDEX MULTIPLE DEPRIVATION

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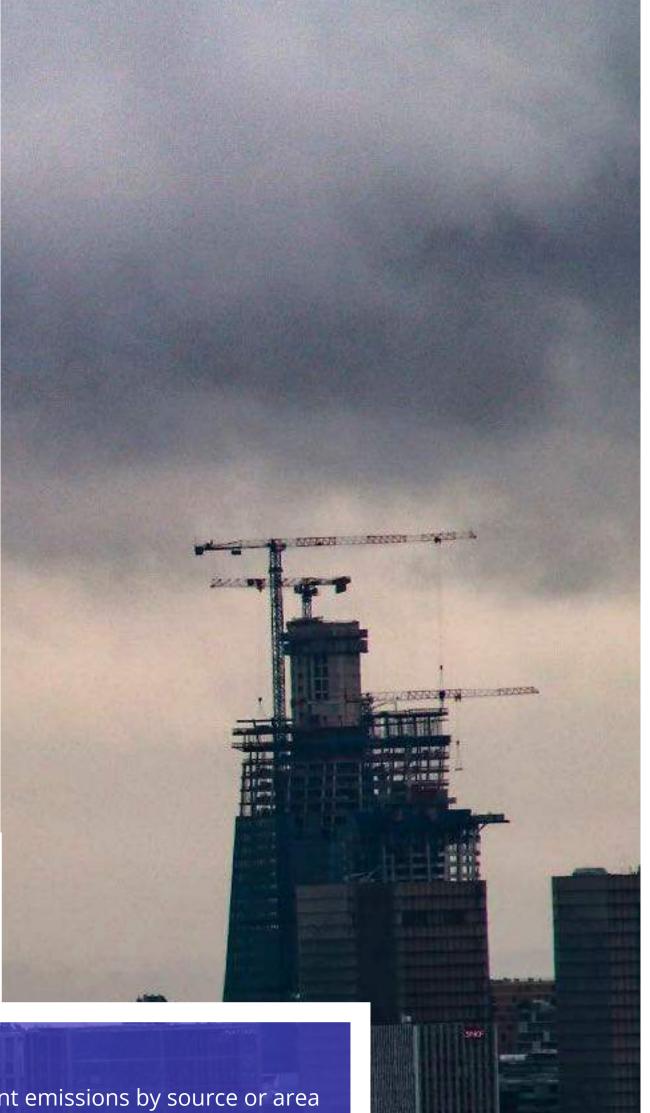
HOW WE USED THE DATA

We created a high/medium/low for each metric in order for the scale to work. The IMD runs from a value of 1-10 and is relatively consistent in the numbers spread across the range. For the NAEI data, due to the imbalance of a significant number of areas counting less than 1 we created a custom scale. When creating an equal interval scale it resulted in the medium range having values of between 120-240 emissions sources. Whilst this is a medium value from the dataset it does not represent a *medium* value in qualitative or colloquial terms; medium tends to mean "okay, but not great" however a location that has nearly 240 sites or emissions is high, certainly when you reflect that there are a handful of sites in those values. Therefore, we set the low value as below the average, the medium value as twice the average, and the high value as anything above that. This is an executive decision in order to ensure that the areas of extremely high value are not lost in the data and convey an area as *relatively okay* when in fact the area is

UK NATIONAL ATMOSPHERIC EMISSIONS INVENTORY (NAEI)

The NAEI is developed and maintained by Ricardo Energy & Environment, in collaboration with Aether, UKCEH, Forest Research, Rothamsted Research, ADAS and Gluckman Consulting. The NAEI is funded by the Department for Business, Energy & Industrial Strategy (BEIS), Department for Environment, Food and Rural Affairs (Defra), the Scottish Government, the Welsh Government and the Northern Ireland Department of Agriculture, Environment and Rural Affairs. The NAEI team collect and analyse information from a wide range of sources – from national energy statistics through to data collected from individual industrial plants. The data focuses on sites across England, Scotland, and Wales that are permitted to emit into the atmosphere. Each site may emit multiple gases and/or pollutants. We organised the data by selecting how many different counts of pollution were emitted in a given area. Some sites emit over 100 gases and/or pollutants, whereas others only one. Our aim was to organise the data that shows the transparency in the breadth of what is emitted into a local environment, rather than focus on the number of sites as that would hide the reality of situation.

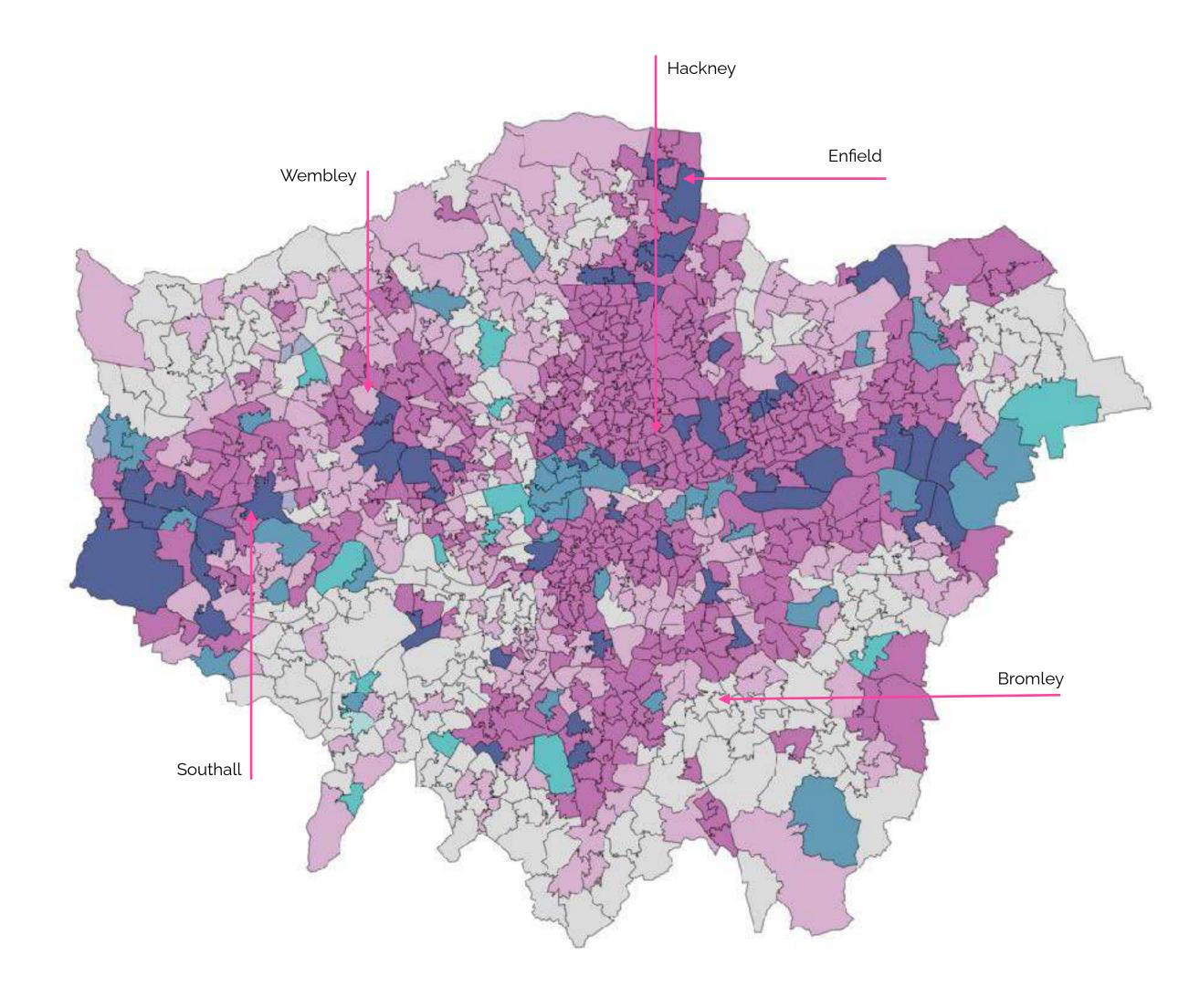


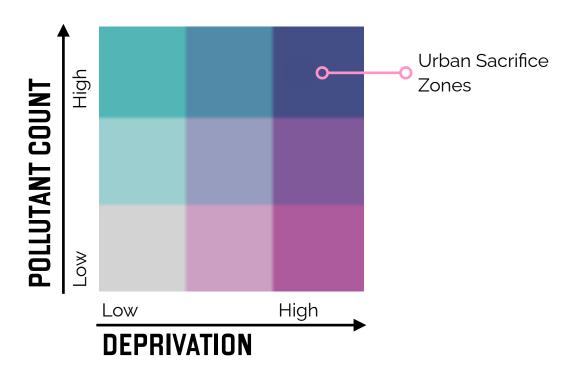


CAVEATS

We have not aimed to qualify the impact of the different emissions by source or area as this can remove the important factor of lived experience from the realities of the data. We are merely aiming to demonstrate the where through political decision making emissions are allowed to disperse into neighbourhoods and areas of Nature.

We are not inferring that the areas identified are 'sacrifice zones' but those that exist on a **soon-to-be** established scale that reflect the political and policy enabled decision making creating areas where the conditions for a quality of life are left unresolved. those who live in those areas or advocating for change.





URBAN SACRIFICE ZONES

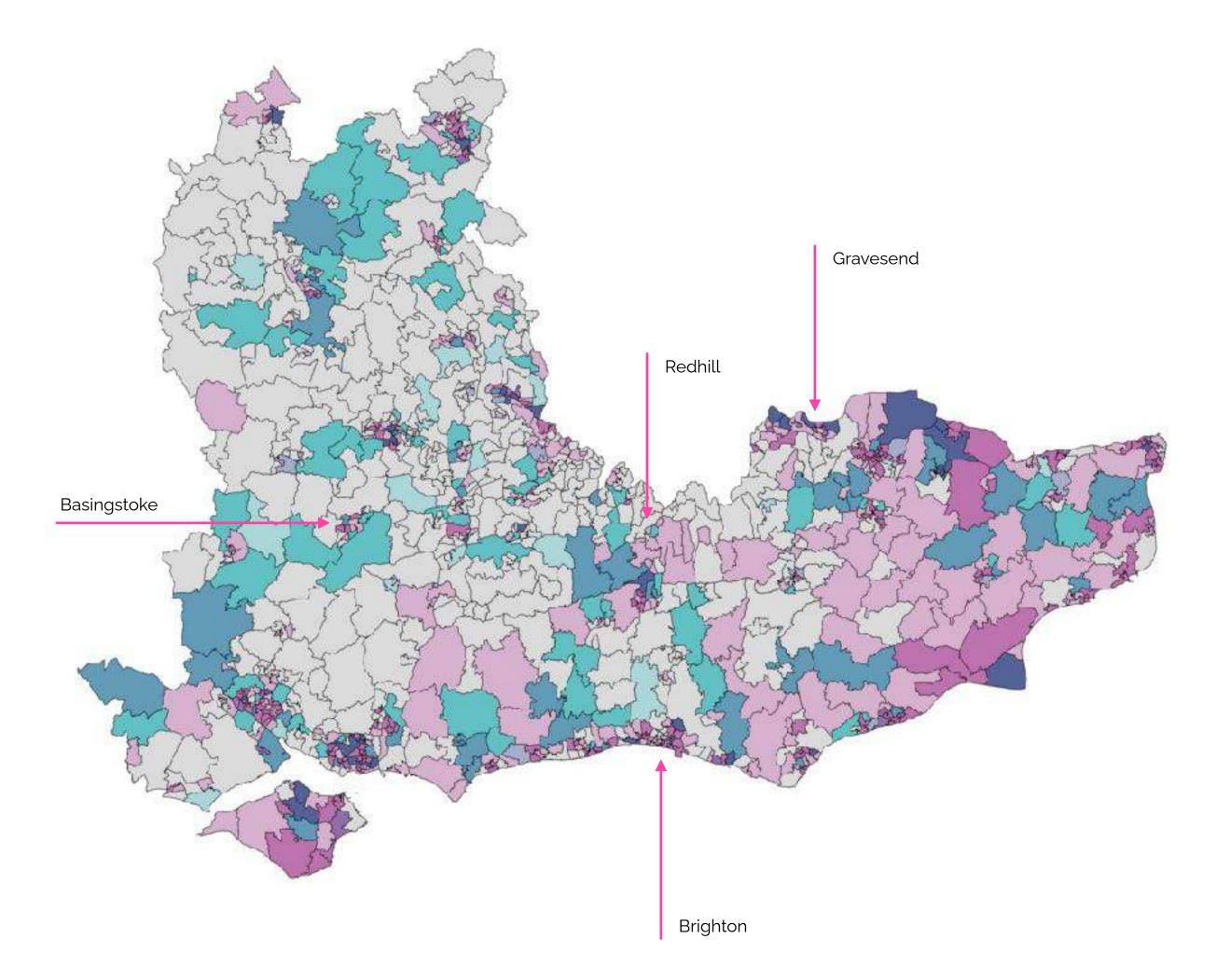
Places where deprivation and high pollutant count intersect to present an environmental risk to health.

Ave a Name	L I A II	IMD	Pollutant
Area Name	Local Authority	Decile	Count
North Acton	Ealing	3	97
Rylands Estate & Dagenham Dock	Barking and		88
Rytalius Estate & Dagelliaili Dock	Dagenham Hammersmith and	3	
Old Oak & Wormwood	Fulham	2	80
Brimsdown & Ponders End	 Enfield	2	73
Beckton	Newham	2	65
	Tower Hamlets	3	57
Yiewsley East	 Hillingdon	3	56
Hayes Town & Lake Farm	Hillingdon	3	53
 Erith East	Bexley	3	39
Norwood Green North & Windmill			
Park	Ealing	2	36
North Hyde & North Cranford	Hounslow	2	34
New Cross Gate	Lewisham	2	33
Edmonton Green	Enfield	1	30
Hornchurch Marshes	Havering	3	30
Somers Town	Camden	2	29
Lewisham Central & Park	Lewisham	2	29
Custom House	Newham	2	29
London Bridge & Bermondsey			
West	Southwark	3	29
St Helier South	Sutton	3	29
Bow North & Fish Island	Tower Hamlets	2	29
Whitechapel	Tower Hamlets	3	29
Upper Edmonton West	Enfield	2	29
Broad Green & Waddon Marsh	Croydon	3	28
Lower Edmonton South	Enfield	2	28
West Drayton East	Hillingdon	3	28
St Raphaels	Brent	1	27
	Kensington and		
Golborne & Swinbrook	Chelsea	1	25
Manor Park North	Newham	3	25
Roehampton South & Putney Vale	Wandsworth	3	25
Nine Elms & Patmore	Wandsworth	3	24
Enfield Wash	Enfield	2	22
Further Green	Lewisham	3	22
Olympic Park & Mill Meads	Newham	3	22
Canning Town North	Newham	2	22
Hainault East	Redbridge	3	22
	Barking and		
Goresbrook & Scrattons Farm	Dagenham	2	21
Stonebridge	Brent	1	18
Bowes	Enfield	3	18
	Hammersmith and		
Shepherd's Bush North	Fulham	3	18
Northumberland Park	Haringey Newham	1	18

FOR WHAT IT'S WORTH

	Pollutant
IMD Decile	Count
7	307
7	203
5	147
4	130
8	98
3	97
3	88
2	80
2	73
2	65
5	58
7	58
5	57
3	57
5	57
3	56
3	53
4	51
5	46
9	44
	7 7 7 5 4 8 3 3 2 2 2 2 5 7 5 3 5 3 4 5

SOUTH ENST



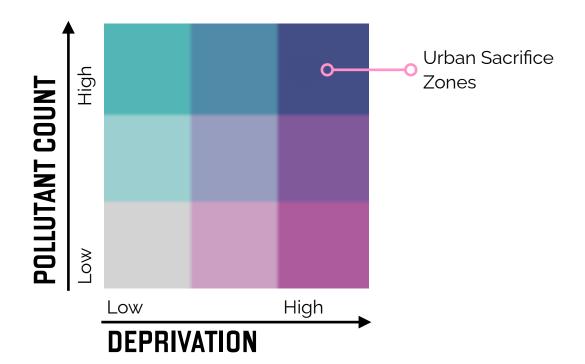
URBAN SACRIFICE ZONES

Places where deprivation and high pollutant count intersect to present an environmental risk to health.

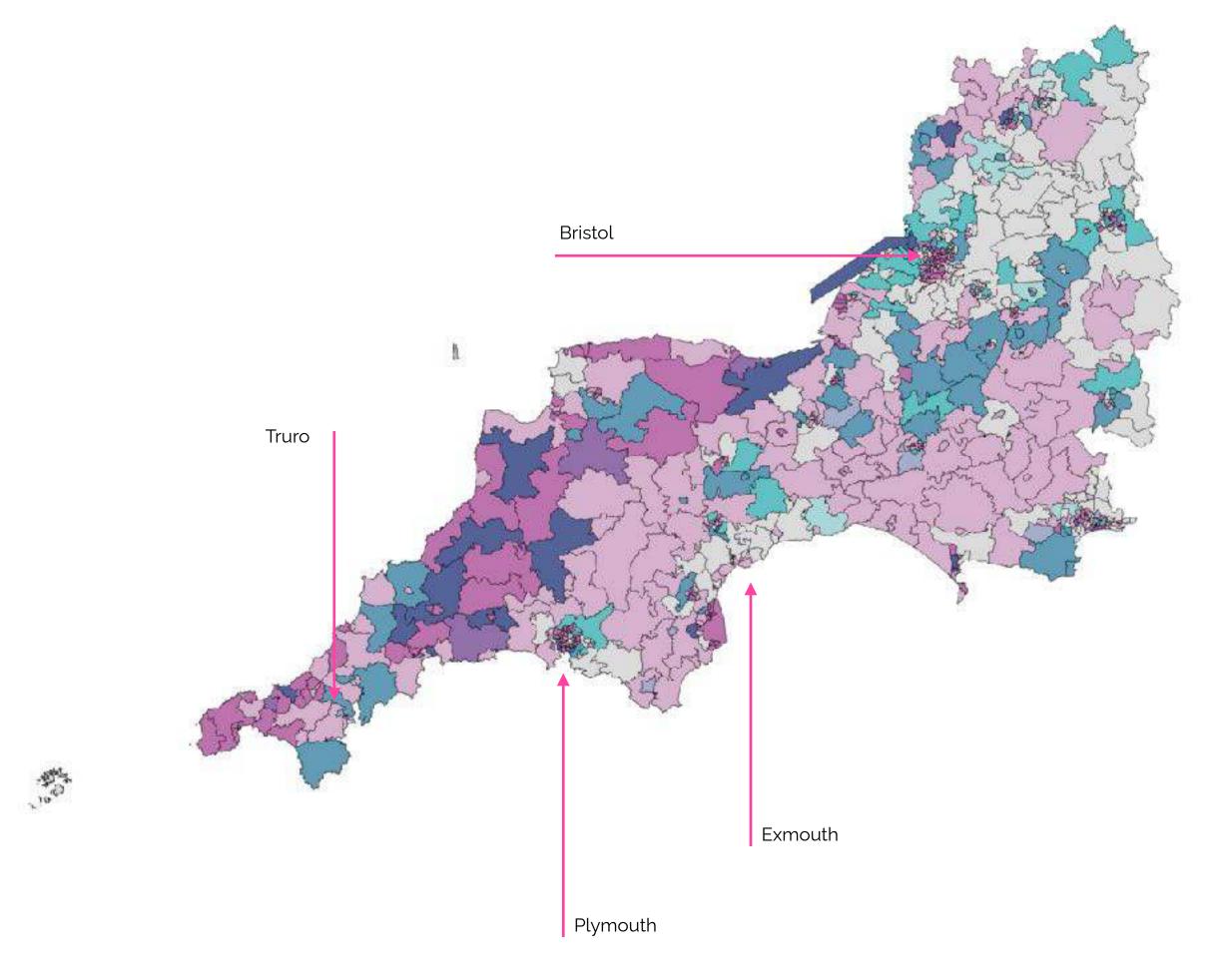
		IMD	Pollutant
Area Name	Local Authority	Decile	Count
Hoo Peninsula	Medway	3	140
Northfleet North	Gravesham	3	82
Newport East & Parkhurst East	Isle of Wight	2	62
Wymering	Portsmouth	1	50
Denbigh	Milton Keynes	1	49
Queenborough	Swale	2	40
Sittingbourne East	Swale	3	34
Banbury Neithrop	Cherwell	3	33
Gillingham South	Medway	3	29
Fratton West & Portsea	Portsmouth	1	29
Shirley Warren	Southampton	2	29
Temple Hill & Marshes	Dartford	2	29
Chalvey	Slough	3	28
Lydd & Dungeness	Shepway	3	26
Kingston & Southwick	Adur	3	26
Salmestone	Thanet	2	25
Kennet Island & Green Park	Reading	2	23
Stoneham	Southampton	3	22
Langney East	Eastbourne	3	22
Sheerness West	Swale	1	18
Sittingbourne Central & Milton Regis	Swale	1	16

FOR WHAT IT'S WORTH

		Pollutant
Area Name	IMD Decile	Count
Manor Park	4	246
Hoo Peninsula	3	140
Holbury North, Blackfield &		
- awley	7	130
Reading Central	4	123
wade & Kemsley	6	115
Colnbrook & Poyle	4	110
Horsted Keynes, Ardingly &		
Sharpthorne	9	96
Redhill East	9	89
Sutton Courtenay, Drayton &		
Steventon	9	86
Highfield & Willesborough	7	82
Northfleet North	3	82
Haymill & Lynch Hill	5	79
Dakley, Brill & Edgcott	8	75
Sandwich & Eastry	7	75
「hatcham South East &		
Bradfield	8	75
Broughton, Middleton & Kents		
Hill	9	72
Paulsgrove West & Port Solent	4	66
Binfield & Popeswood	10	65
Newport East & Parkhurst East	2	62
Marchwood & Dibden	8	61



SOUTH WEST



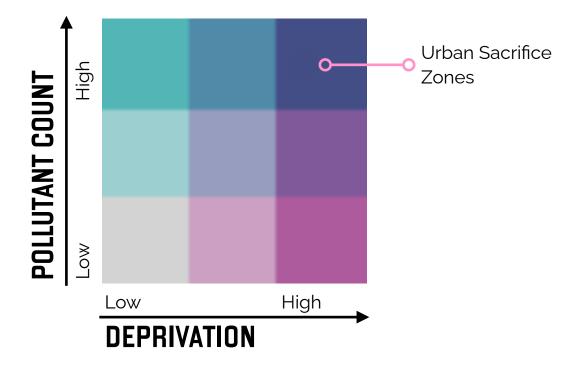
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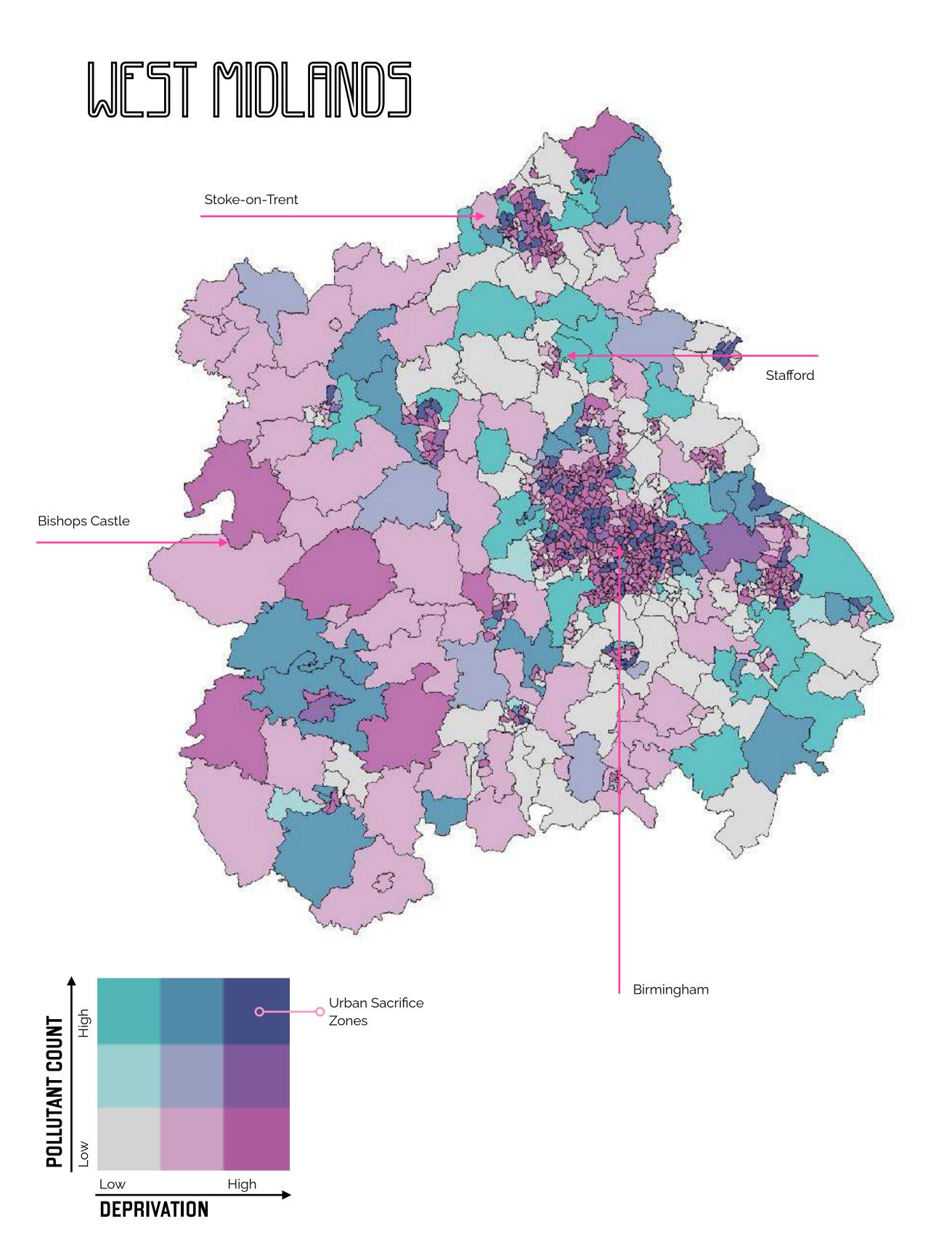
Places where deprivation and high pollutant count intersect to present an environmental risk to health.

Area Name	Local Authority	IMD Decile	Pollutant Count
Roche & Goss Moor	Cornwall	3	85
Lawrence Weston	Bristol	1	75
Shirehampton & Avonmouth	Bristol	3	63
Keyham	Plymouth	2	52
Devonport, Mount Wise & Morice Town	Plymouth	1	33
Kingsholm & Wotton	Gloucester	3	32
East Cliff	Bournemouth	3	29
Camelford & Tresmeer	Cornwall	3	29
Wonford & St Loye's	Exeter	3	29
Central Gloucester & Hempsted	Gloucester	2	28
Podsmead & Linden	Gloucester	3	28
Camborne West	Cornwall	2	22
Westham South	Weymouth and	3	22
Oakley	Cheltenham	2	22
Blatchcombe & Blagdon	Torbay	2	21
Holsworthy, Bradworthy & Welcombe	Torridge	3	21
Cattedown & Prince Rock	Plymouth	2	16

FOR WHAT IT'S WORTH

Area Name	IMD Decile	Pollutant Count
Alphington & Marsh Barton	7	92
Roche & Goss Moor	3	85
Almondsbury, Pilning & Severn Beach	8	80
Lawrence Weston	1	75
Middlemoor & Sowton	9	66
Woolwell & Lee Mill	8	65
Filton	7	65
Shirehampton & Avonmouth	3	63
Winchcombe & Washbourne	9	61
Derriford & Estover	5	59
Littledown	9	59
Bristol City Centre	5	58
Shiphay & the Willows	6	55
Coney Hill, Barnwood &	5	54
Keyham	2	52
Staverton, Hilperton & Semington	8	50
Dobwalls, Addington & Menheniot	4	50
Pawlett, Puriton & Woolavington	5	42
Cullompton	7	39
South Molton	5	38





URBAN SACRIFICE ZONES

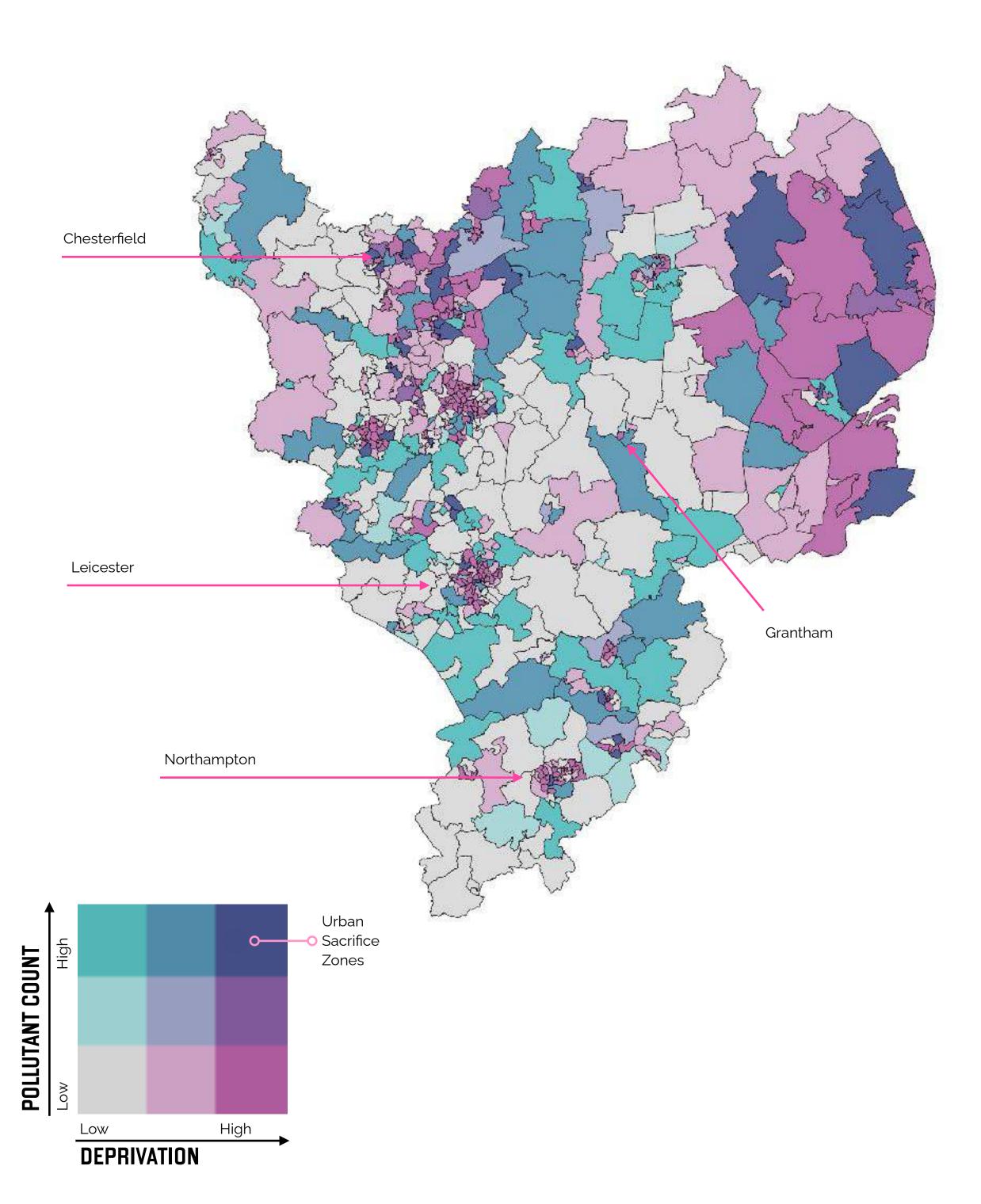
Places where deprivation and high pollutant count intersect to present an environmental risk to health.

Area Name	Local Authority	IMD Decile	Pollutant Count
Burton Central	East Staffordshire	3	65
Hay Mills & Tyseley	Birmingham	1	58
Wednesbury South	Sandwell	2	56
Sheldon South	Birmingham	3	50
Rushall	Walsall	3	48
Burton Shobnall	East Staffordshire	3	46
Greets Green West	Sandwell	1	45
Shrewsbury Harlescott Grange	Shropshire	3	37
Castle Vale	Birmingham	1	36
Oldbury & Rood End	Sandwell	2	36
Kitts Green		1	_
	Birmingham		35
Clifford Park	Coventry	3	35
Hadley & Horton	Telford and Wrekin	3	34
Birches Green	Birmingham	2	33
Washwood Heath	Birmingham	1	33
Oakhill & Trent Vale	Stoke-on-Trent	3	33
Birchfield East	Birmingham	1	32
Metchley	Birmingham	3	32
Walsall West	Walsall	1	32
Donnington	Telford and Wrekin	3	32
Dixons Green	Dudley	2	30
Fenton	Stoke-on-Trent	2	30
Nechells	Birmingham	1	29
Winson Green & Gib Heath	Birmingham	1	29
Yardley Fields	Birmingham	1	29
Lifford & Walkers Heath	Birmingham	1	29
Russell's Hall	Dudley	1	29
West Bromwich North	Sandwell	2	
			20
West Park	Wolverhampton	2	28
Greenlands	Redditch	2	27
Batchley & Brockhill	Redditch	3	26
Wolverhampton Central	Wolverhampton	1	25
Chesterton & Knutton	Newcastle-under-	2	24
	Lyme		
North Central & Dartmouth Circus	Birmingham	2	23
Acocks Green East	Birmingham	2	22
California	Birmingham	2	22
Greets Green East	Sandwell	1	22
Blackheath	Sandwell	2	22
Bushbury	Wolverhampton	3	22
Abbey Hulton	Stoke-on-Trent	1	22
Charlemont	Sandwell	3	22
Tunstall	Stoke-on-Trent	1	20
	Nuneaton and		
Camp Hill	Bedworth	1	20
Cradley Heath	Sandwell	2	19
Longford	Coventry	3	18
Brockmoor & Woodside	Dudley	1	18
Stone Cross & Hateley Heath	Sandwell	2	18
East Park	Wolverhampton	1	18
Norton	Stoke-on-Trent	2	18
Ladywood -Summer Hill	Birmingham	2	18
Cannock South	Cannock Chase	3	16
Town North & Newbold on Avon	Rugby	3	15
Birchen Coppice	Wyre Forest	1	15
Willenhall Town	Walsall	2	14
Bilston Lunt & Loxdale	Wolverhampton	1	14

FOR WHAT IT'S WORTH

		Dallada
		Pollutant
rea Name	IMD Decile	Count
Hartlebury & Wychbold	6	139
eatherstone West, Coven &		
Shareshill	7	66
Bayston Hill & Atcham	8	66
Burton Central	3	65
Wilnecote West & Hockley	6	63
ostones, Warslow & Hamps		
/alley	6	61
ittleworth & Hopton	10	61
Hay Mills & Tyseley	1	58
Brinklow, Wolvey & Clifton	8	58
Hereford North West	7	58
Wednesbury South	2	56
Cannon Park & University	8	54
Aldridge Central	5	54
ronbridge, Admaston & Higher		
Frcall	7	53
Alrewas, Fradley & King's		
Bromley	10	50
sheldon South	3	50
Rushall	3	48
Marston Green & Airport	5	47
Burton Shobnall	3	46
Hartshill & Ansley	5	45
	•	

ERST MIDLANDS



URBAN SACRIFICE ZONES

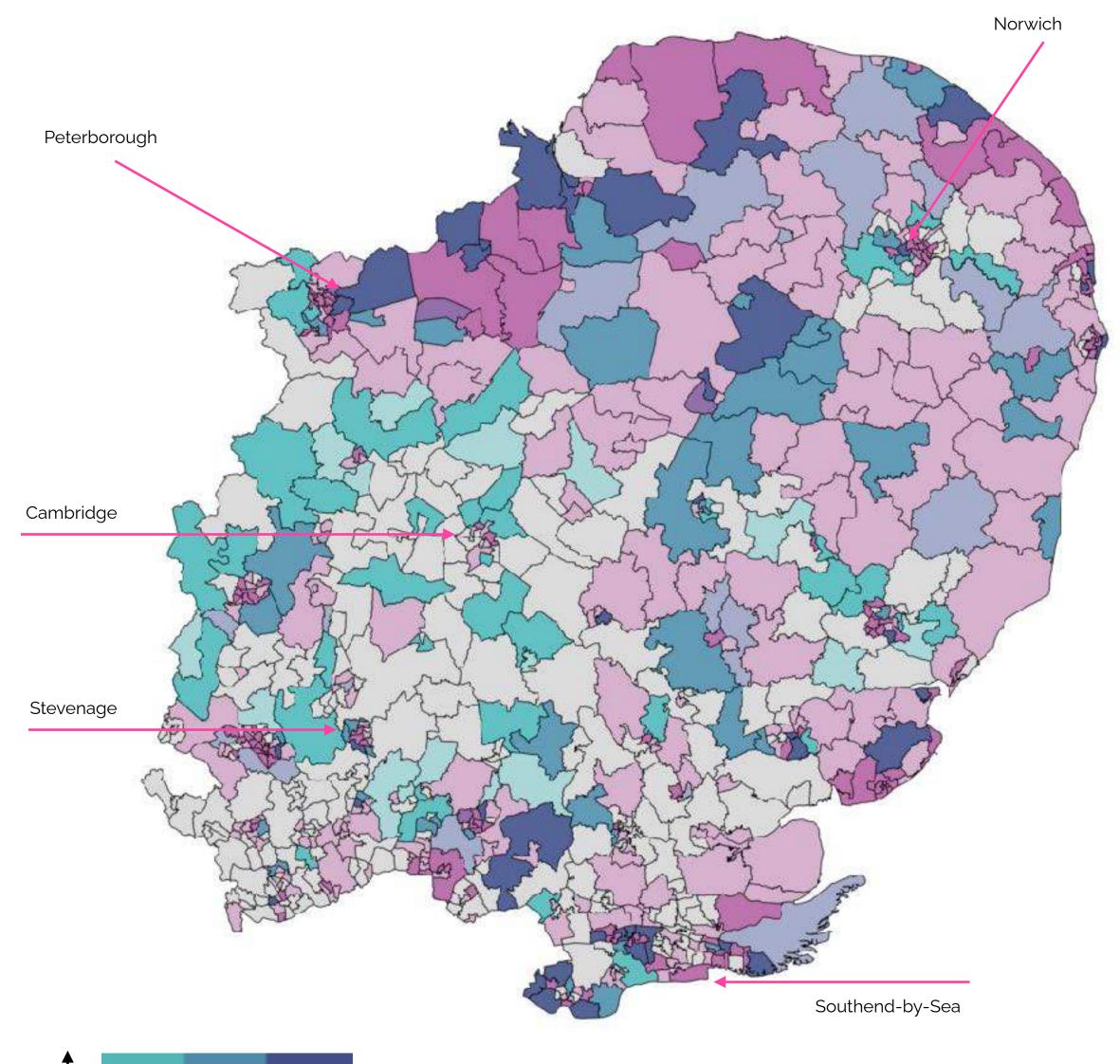
Places where deprivation and high pollutant count intersect to present an environmental risk to health.

		IMD	Pollutant
Area Name	Local Authority	Decile	Count
Sinfin	Derby	2	119
City Centre & Trent Bridge	Nottingham	3	50
East Kirkby	Ashfield	3	38
Bradgate Heights & Beaumont			
Leys	Leicester	2	31
Staveley & Norbriggs	Chesterfield	2	31
Alford, Withern & Willoughby	East Lindsey	3	31
	Newark and		
Newark North	Sherwood	3	31
Creswell & Hodthorpe	Bolsover	2	30
Dunston	Chesterfield	2	30
Sutton Forest Side & New Cross	Ashfield	2	29
Mablethorpe	East Lindsey	1	28
Croyland	Wellingborough	3	28
Somercotes & Pye Bridge	Amber Valley	2	26
Long Eaton Town	Erewash	3	26
	Newark and		
Ollerton & Boughton	Sherwood	3	25
Central Chesterfield &			
Stonegravels	Chesterfield	3	24
Town Centre & Semilong	Northampton	2	21
Gainsborough West	West Lindsey	1	18
Langwith, Shirebrook South &			
Pleasley	Bolsover	3	17
Loughborough Lemyngton &			
Hastings	Charnwood	2	14
Sinfin	Derby	2	119

FOR WHAT IT'S WORTH

		Pollutant
Area Name	IMD Decile	Count
Chapel-en-le-Frith & Hope		
Valley	7	170
Sinfin	2	119
Corby Village & Weldon	5	105
Tuxford, Markham & Rampton	5	94
Buxton Burbage & Harpur Hill	9	75
Markfield & Thornton	8	67
Ratcliffe, Sutton Bonington &		
Gotham	9	66
Clarborough, Beckingham &		
Misterton	8	60
Leicester City South	4	58
Spalding North	8	57
Long Sutton East & Sutton		
Bridge	4	56
Ranskill, Everton & Gringley	6	56
Burton Joyce & Lambley	10	54
lbstock & Ellistown	7	52
Lenton & Dunkirk	6	52
Clarendon Park & Stoneygate		
South	7	50
City Centre & Trent Bridge	3	50
Aston-on-Trent & Barrow-		
upon-Trent	9	50
Harlaxton, Colsterworth &		
South Witham	6	48
North Hykeham North	9	43

ERST OF ENGLAND



Urban Sacrifice Zones Low High DEPRIVATION

URBAN SACRIFICE ZONES

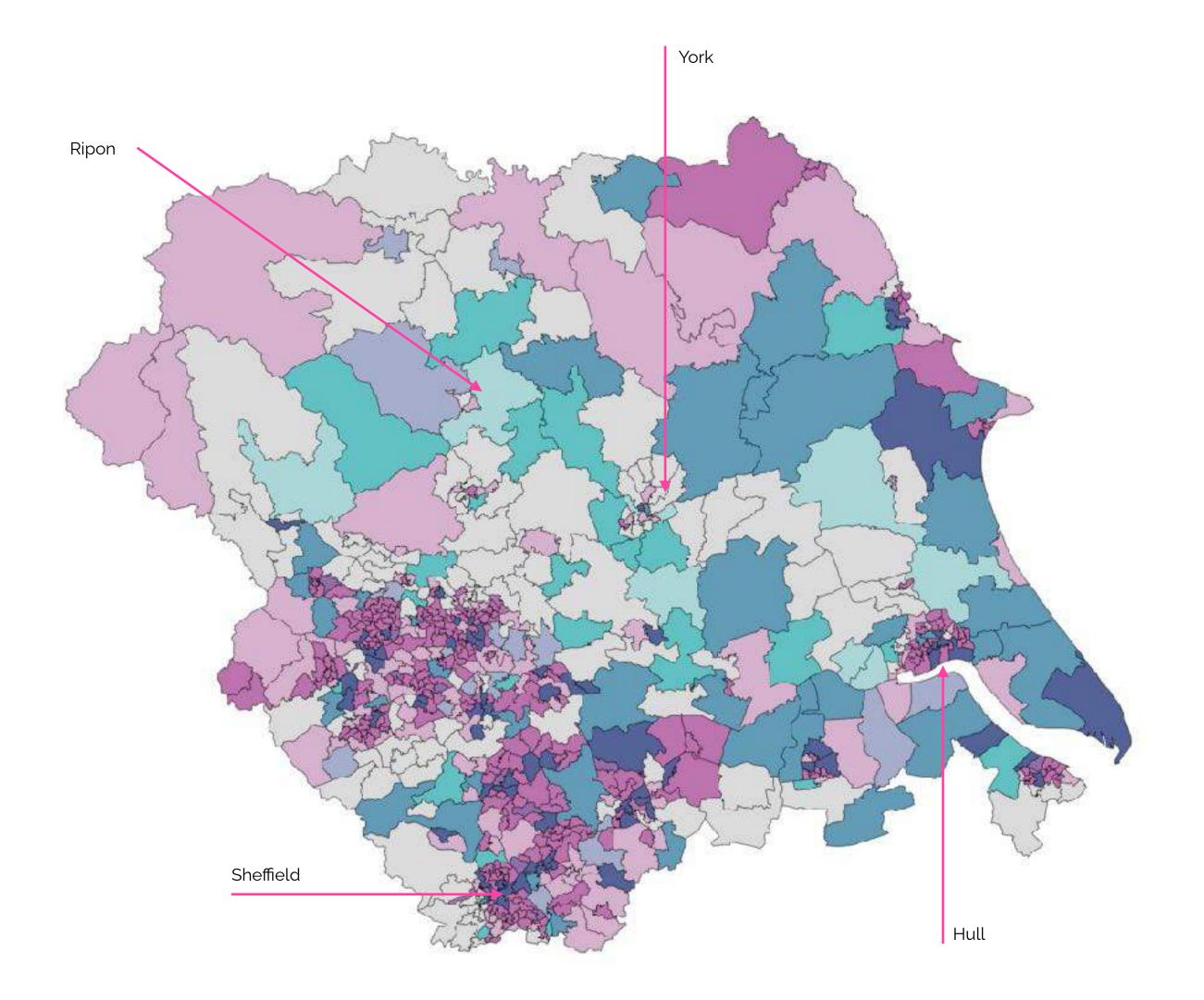
Places where deprivation and high pollutant count intersect to present an environmental risk to health.

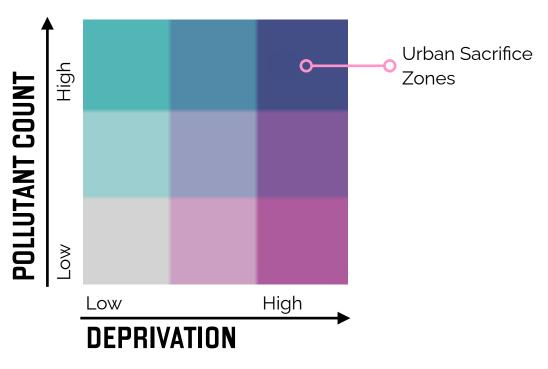
		IMD	Pollutant
Area Name	Local Authority	Decile	Count
Fengate & Parnwell	Peterborough	2	82
Wisbech South & Peckover	Fenland	2	65
Felmore & Bowers Gifford	Basildon	3	47
Town, South Lynn & West Lynn	King's Lynn and West Norfolk	2	43
North Lynn	King's Lynn and West Norfolk	1	38
Gainsborough, Greenwich & Orwell	lpswich	2	38
Basildon Central & Pipps Hill	Basildon	2	34
St Anns Hill	Luton	3	33
Whitmore Way & Fremnells	Basildon	3	32
Harwich Parkeston	Tendring	3	32
Lowestoft Harbour & Kirkley	Waveney	1	32
Tilbury	Thurrock	2	31
Laindon West & Southfields	Basildon	3	31
Earlham	Norwich	2	30
Leverington, Gorefield & Tydd St Giles	Fenland	3	28
Wisbech North	Fenland	2	28
Thetford North	Breckland	2	28
Peartree	Welwyn Hatfield	3	26
Yarmouth Parade	Great Yarmouth	1	26
Vange & Pitsea	Basildon	2	23
Gorleston West	Great Yarmouth	2	22

FOR WHAT IT'S WORTH

		Pollutant
Area Name	IMD Decile	Count
Purfleet, South Stifford &		
Lakeside	4	189
Maylands & Adeyfield	5	93
Mundesley, Trunch & Bacton	4	84
Fengate & Parnwell	2	82
Needham Market South &		
Graeat Blakenham	8	79
Eye, Palgrave & Occold	6	74
Duxford, Whittlesford & the		
Abingtons	10	73
East Tilbury	5	68
Eastgate & Southgate	8	66
Mark Hall & Templefields	4	65
Wisbech South & Peckover	2	65
Grimston, Gayton & East Winch	4	64
Whittlesey	5	62
Melbourne Park, Chignall &		
Pleshey	5	58
Ware West	10	58
Marston Moretaine, Lidlington		
& Woburn	8	58
Addenbrooke's & Queen		
Edith's	10	56
Kesgrave East & Martlesham	10	54
Southery, Feltwell & Hockwold	5	52
Wyboston, Great Barford &		
Cople	7	48

YORKSHIRE & THE HUMBER





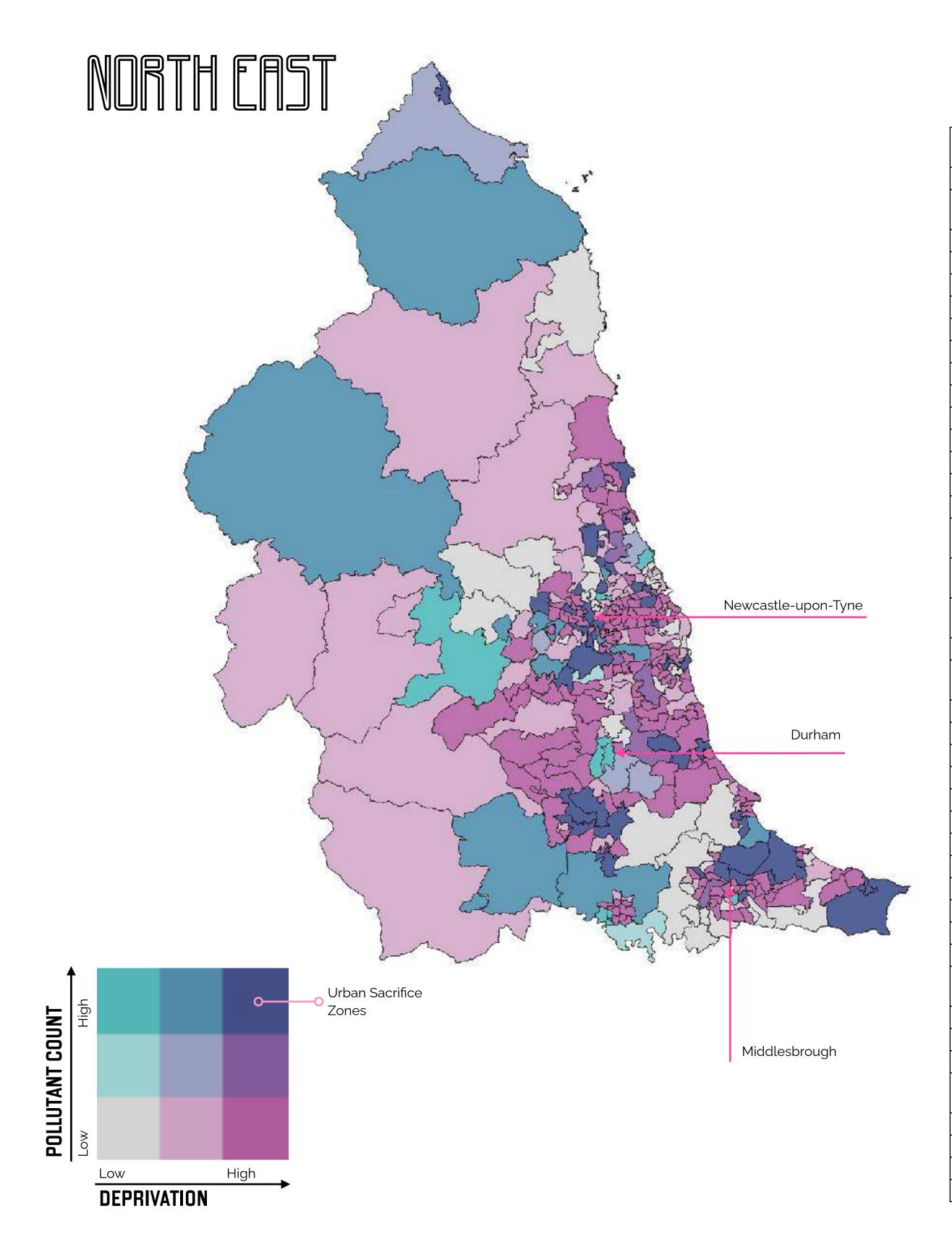
URBAN SACRIFICE ZONES

Places where deprivation and high pollutant count intersect to present an environmental risk to health.

Area Name	Local Authority	IMD	Pollutant
Scunthorpe Frodingham	North Lincolnshire	Decile	Count
Immingham & Habrough	North East Lincolnshire	3	213 143
Tinsley & Carbrook	Sheffield	1	129
Ferrybridge & West Knottingley	Wakefield	1	117
Osmondthorpe & Neville Hill	Leeds	1	96
Knottingley	Wakefield	3	92
Withernsea East & Patrington	East Riding of Yorkshire	2	87
Great Coates & The Willows	North East Lincolnshire	3	85
Selby Town	Selby	3	82
Park Hill & Wybourn	Sheffield	2	80
Huddersfield Leeds Road & Fartown	Kirklees	1	76
Burngreave & Grimesthorpe	Sheffield	1	74
Leeds Dock, Hunslet & Stourton	Leeds	2	67
Wheatley Hills	Doncaster	2	65
Broomfields & East Bowling	Bradford	1	62
Rotherham Central	Rotherham	1	60
East Herringthorpe	Rotherham	1	53
Balby Carr	Doncaster	2	50
Lincoln Green & St James	Leeds	1	47
Castleford Town	Wakefield	2	46
Southcoates Central & Docks	Kingston upon Hull	2	41
Scunthorpe North	North Lincolnshire	3	41
Lundwood	Barnsley	1	38
Sculcoates	Kingston upon Hull	1	37
Masbrough & Bradgate	Rotherham	1	36
Hull City Centre	Kingston upon Hull	1	36
Grimethorpe & Brierley	Barnsley	2	34
Buttershaw	Bradford	2	33
Elland	Calderdale	3	33
Stoneferry & Sutton Fields	Kingston upon Hull	3	30
Intake	Doncaster	2	29
Crabtree & Fir Vale	Sheffield	1	29
Wakefield Central	Wakefield	2	29
Eastfield, Crossgates & Seamer	Scarborough	2	28
Dewsbury Moor Lower & Westtown	Kirklees	1	27
Askern, Campsall & Norton	Doncaster	3	26
Central Doncaster & Hyde Park	Doncaster	1	26
Ravensthorpe	Kirklees	1	26
Beeston West & Cottingley	Leeds	1	25
Pontefract North West	Wakefield	2	23
Cantley Park	Doncaster	3	22
Scholemoor	Bradford	2	22
Wyke	Bradford	2	22
Kettlethorpe & Chapelthorpe	Wakefield	3	22
Falsgrave	Scarborough	3	22
Hatfield West	Doncaster	3	20
Barnsley Town & Park Road	Barnsley	2	18
Agbrigg & Belle Isle	Wakefield	2	18
Wath upon Dearne	Rotherham	3	17
Maltby East	Rotherham	1	17
South Kirkby	Wakefield	1	17
Eastwood & East Dene	Rotherham	1	14
	1		<u> </u>

FOR WHAT IT'S WORTH

		Pollutant
Area Name	IMD Decile	Count
Scunthorpe Frodingham	3	213
Laceby, Healing &		
Stallingborough	8	158
Barnetby, Ulceby &		
Killingholme	5	151
Immingham & Habrough	3	143
Hedon & Preston	7	136
Tinsley & Carbrook	1	129
Ferrybridge & West		
Knottingley	1	117
Osmondthorpe & Neville Hill	1	96
Knottingley	3	92
Withernsea East & Patrington	2	87
Eggborough, Kellington &		
Smeaton	7	86
Great Coates & The Willows	3	85
Selby Town	3	82
Park Hill & Wybourn	2	80
Huddersfield Leeds Road &		
Fartown	1	76
Burngreave & Grimesthorpe	1	74
Goole West	5	69
Leeds Dock, Hunslet &		
Stourton	2	67
Pickering & Thornton Dale	7	67
Wheatley Hills	2	65



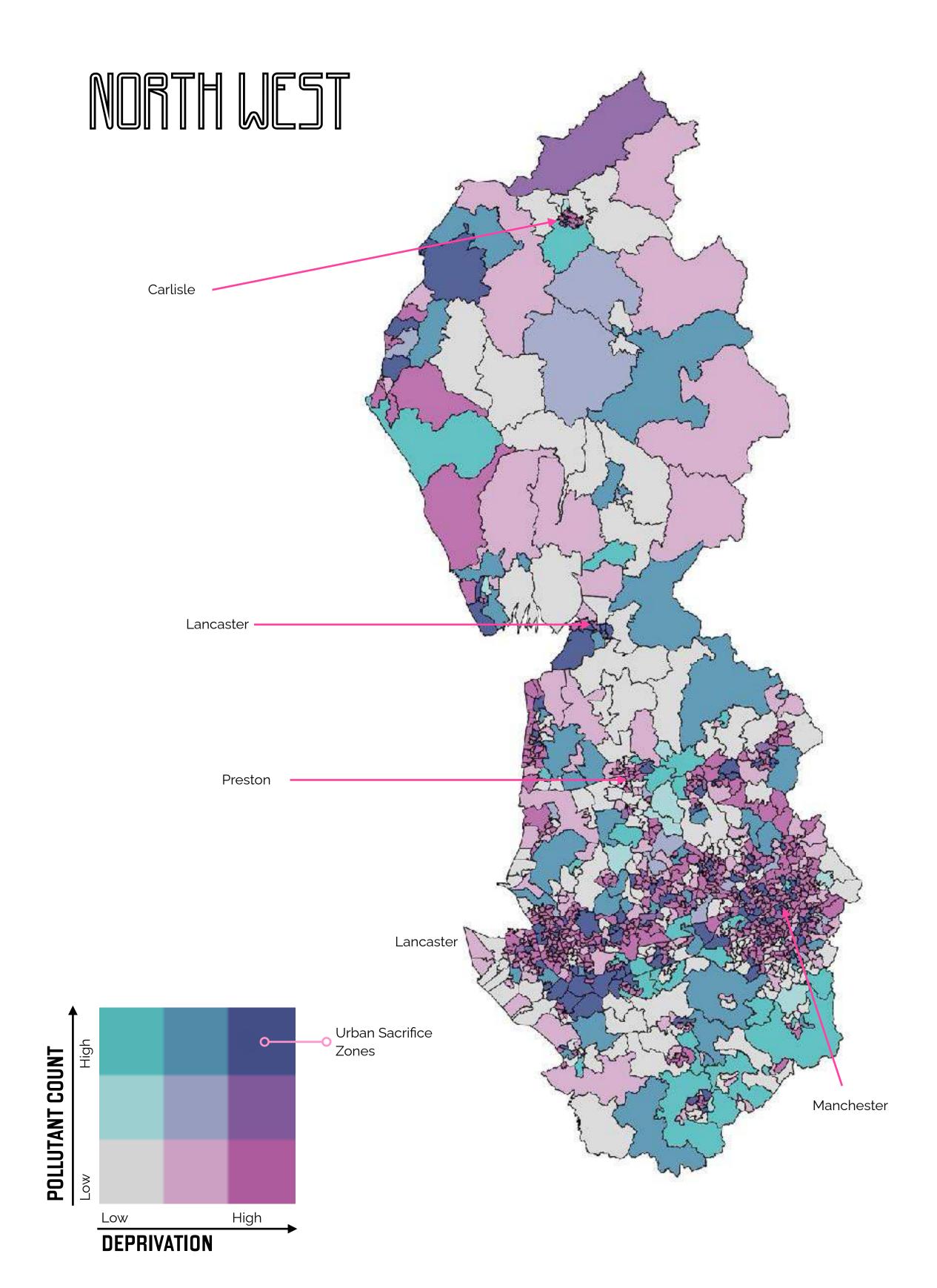
URBAN SACRIFICE ZONES

Places where deprivation and high pollutant count intersect to present an environmental risk to health.

Area Name	Local Authority	IMD Decile	Pollutant Count
Billingham East & Haverton Hill	Stockton-on-Tees	1	385
	Redcar and		
Dormanstown	Cleveland	2	324
Birtley North & Kibblesworth	Gateshead	3	93
Chilton	County Durham	3	84
Newton Aycliffe South	County Durham	3	75
City Centre & Arthur's Hill	Newcastle upon Tyne	3	60
Cramlington Town & Beaconhill	Northumberland	2	45
Throckley & Newburn	Newcastle upon Tyne	3	40
Shotton & Haswell	County Durham	1	39
New York	North Tyneside	2	
Millfield	Sunderland	2	
Rossmere & Mill	Hartlepool	2	
Beechwood & James Cook	Middlesbrough	1	
Spennymoor West	County Durham	3	_
Newbiggin	Northumberland	1	29
The world street the street that the street	Redcar and		29
Redcar Lakes South	Cleveland	1	28
	Redcar and		
Loftus & Skinningrove	Cleveland	1	28
	Redcar and		
Boosbeck, Lingdale & Easington	Cleveland	2	28
Percy Main	North Tyneside	1	27
Bishop Auckland North & Coundon			
Grange	County Durham	2	25
Middlesbrough Central	Middlesbrough	1	24
Fawdon South	Newcastle upon Tyne	2	23
Dunston & Teams	Gateshead	2	22
Bensham South & Saltwell	Gateshead	2	22
Fenham	Newcastle upon Tyne	3	22
Biddick Hill	South Tyneside	1	22
Rift House & Summerhill	Hartlepool	1	22
Roseworth	Stockton-on-Tees	1	22
Peterlee East	County Durham	1	22
Blyth Isabella	Northumberland	2	22
Hendon & Docks	Sunderland	1	21
Longbenton	North Tyneside	3	18
	Redcar and		
Grangetown	Cleveland	1	18
Gateshead Town	Gateshead	2	18
Coundon North	County Durham	1	16
Billingham East & Haverton Hill	Stockton-on-Tees	1	385
	Redcar and		
Dormanstown	Cleveland	2	324
Birtley North & Kibblesworth	Gateshead	3	93
Chilton	County Durham	3	84
Newton Aycliffe South	County Durham	3	75
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FOR WHAT IT'S WORTH

		Pollutant
Area Name	IMD Decile	Count
Billingham East & Haverton Hill	1	385
Dormanstown	2	324
Birtley North & Kibblesworth	3	93
Billingham South	4	89
Chilton	3	84
Newton Aycliffe South	3	75
Seaton Carew	7	66
City Centre & Arthur's Hill	3	60
Faverdale, Heighington &		
Sadberge	7	57
Cramlington Town &		
Beaconhill	2	45
Stocksfield, Riding Mill &		
Corbridge	9	45
Throckley & Newburn	3	40
Shotton & Haswell	1	39
Fordley	4	37
New York	2	35
Springwell & Usworth	6	35
Bellingham, Otterburn &		
Redesdale	6	32
Berwick-upon-Tweed Town	4	32
Millfield	2	31
Rossmere & Mill	2	31
	-	



URBAN SACRIFICE ZONES

Places where deprivation and high pollutant count intersect to present an environmental risk to health.

Area Name	Local Authority	IMD Decile	Pollutant Count
	Cheshire West and		
Wolverham & Stanlow	Chester	1	201
Runcorn Town & Westfield	Halton	3	142
Central Warrington	Warrington	3	111
Weaste & Seedley	Salford	2	104
Ellesmere Port Town & Rossmore	Cheshire West and Chester	1	104
Partington	Trafford	1	102
Thatto Heath & Lea Green	St. Helens	2	92
Clifton Green & Pendlebury East	Salford	2	79
Halton View	Halton	3	79
Speke West & Airport	Liverpool	1	64
Town Centre West	St. Helens	1	61
Busk	Oldham	1	59
Ardwick	Manchester	1	58
Edge Hill	Liverpool	2	58
Harper Green	Bolton	3	56
Bootle South	Sefton	1	52
Longsowerby & Caldewgate	Carlisle	3	
Ordsall & Salford Quays	Salford	2	50
Latchford	Warrington	2	48
Clayton-le-Moors & Huncoat	Hyndburn	3	
Crewe North East	Cheshire East	2	42
Dukinfield West	Tameside	2	41
Fernhill & Pimhole	Bury	1	39
Walney Island South & Barrow	Вигу		39
Island	Barrow-in-Furness	2	39
Widnes Riverside	Halton	1	36
Crewe North West	Cheshire East	2	35
Orsmgill & Hindpool	Barrow-in-Furness	1	34
Queensgate	Burnley	2	34
Pemberton North	Wigan	3	
Halewood South	Knowsley	1	33
Accrington North East	Hyndburn	2	33
Hapurhey North	Manchester	1	32
Salford Central & University	Salford	2	32
Parton & Distington	Copeland	3	
Central Bolton	Bolton	1	31
Abram & Bickershaw	Wigan	3	
West Park	St. Helens	3	30
Church	Hyndburn	1	30
Newall Green	Manchester	1	29
Woodhouse Park & Airport	Manchester	1	29
Ashton East	Tameside	3	29
Fazakerley North	Liverpool	1	
•	Blackburn with	2	29
Queen's Park & Higher Croft Ribbleton			29
Kirkdale South & Vauxhall	Preston	1	29
	Liverpool	1	28
Failsworth East	Oldham	2	27

FOR WHAT IT'S WORTH

		Pollutant
Area Name	IMD Decile	Count
Wolverham & Stanlow	1	201
Runcorn Town & Westfield	3	142
Central Warrington	3	111
Ellesmere Port Town &		
Rossmore	1	104
Weaste & Seedley	2	104
Partington	1	102
Trafford Park West & Kingsway		
Park	8	101
Northwich Central &		
Winnington	4	97
Clitheroe North	9	93
Thatto Heath & Lea Green	2	92
Culcheth East & Hollins Green	7	89
Lower Bebington &		
Bromborough Pool	5	89
Lancaster East	4	87
Upholland	7	85
Clifton Green & Pendlebury		
East	2	79
Halton View	3	79
Thornton West	5	79
Trafford Park East &		
Sevenways	6	76
Sandymoor, Daresbury &		
Preston Brook	8	74
Penrith Central & West	5	72

PLUS 32 more that couldn't fit onto a page!!

Aberdeen Glasgow Urban Sacrifice Zones **POLLUTANT COUNT DEPRIVATION** High

URBAN SACRIFICE ZONES

Places where deprivation and high pollutant count intersect to present an environmental risk to health.

		IMD	Pollutant
Area Name	Local Authority	Decile	Count
Alloa South and East	Clackmannanshire	1	47
High Blantyre	South Lanarkshire	2	46
Craigton	Glasgow	2	38
Irvine Central	North Ayrshire	3	36
Auchinleck	East Ayrshire	3	34
Drummoyne and Shieldhall	Glasgow	2	33
Caldercruix and Plains	North Lanarkshire	3	31
Toryglen and Oatlands	Glasgow	2	30
Craigmillar	Edinburgh	2	29
Methil Methilhill	Fife	2	29
Gorbals and Hutchesontown	Glasgow	2	29
Springburn	Glasgow	2	29
Harthill and Salsburgh	North Lanarkshire	3	29
Stranraer South	Wigtownshire	3	28
Dumfries Central	Dumfriesshire	3	25
Ardler and St Marys	Dundee	2	22
Paisley North West	Renfreshire	2	22
Farme Cross and Gallowflat North	Lanarkshire	2	22
Braeside, Branchton, Lower Larkfield and Ravenscraig	Inverclyde	2	19
Parkhead East and Braidfauld North	Glasgow	2	18
Craigneuk Wishaw	North Lanarkshire	1	18
Motherwell South	North Lanarkshire	2	18
Bellshill Central	North Lanarkshire	3	18

FOR WHAT IT'S WORTH

		Pollutant
ea Name	IMD Decile	Count
ongside and Rattray	7	162
olmont	8	112
20	8	103
orth Speyside	7	88
oringside and Rural	4	81
orth Mainland	6	78
ty Centre East	4	76
aillieston East	5	75
arrick South	4	73
outh Speyside and the		
abrach	6	71
nawfair	5	68
perdour and Auchtertool	7	64
est Pitkerro	8	62
urghead, Roseisle and		
ich	8	61
ucksburn North	7	60
ew Abbey	6	60
ochaber West	6	60
rwick North	6	57
offat	6	56
o'ness - Douglas	7	55

Bangor Carmarthen Urban Sacrifice Zones POLLUTANT COUNT Newport Swansea **DEPRIVATION** High

URBAN SACRIFICE ZONES

Places where deprivation and high pollutant count intersect to present an environmental risk to health.

		WIMD	Pollutant
Area Name	Local Authority	Decile	Count
Newport 015	Casnewydd - Newport	3	242
Flintshire 009	Sir y Fflint - Flintshire	3	88
Cardiff 038	Caerdydd - Cardiff	2	74
Flintshire 004	Sir y Fflint - Flintshire	3	57
Cardiff 037	Caerdydd - Cardiff	2	43
Neath Port Talbot 013	Castell-nedd Port Talbot - Neath Port Talbot	2	38
Caerphilly 001	Caerffili - Caerphilly	2	36
Rhondda Cynon Taf 005	Rhondda Cynon Taf - Rhondda Cynon Taf	3	35
Newport 019	Casnewydd - Newport	3	34
Newport 018	Casnewydd - Newport	1	33
Rhondda Cynon Taf 001	Rhondda Cynon Taf - Rhondda Cynon Taf	3	31
Rhondda Cynon Taf 022	Rhondda Cynon Taf - Rhondda Cynon Taf	3	22
Swansea 013	Abertawe - Swansea	2	21
Neath Port Talbot 017	Castell-nedd Port Talbot - Neath Port Talbot	2	18
Rhondda Cynon Taf 014	Rhondda Cynon Taf - Rhondda Cynon Taf	2	18
Conwy 005	Conwy - Conwy	3	13
Carmarthenshire 026	Sir Gaerfyrddin - Carmarthenshire	2	11
Powys 009	Powys - Powys	3	10
Blaenau Gwent 003	Blaenau Gwent - Blaenau Gwent	3	10
Blaenau Gwent 007	Blaenau Gwent - Blaenau Gwent	3	10
Torfaen 010	Tor-faen - Torfaen	3	9
Neath Port Talbot 016	Castell-nedd Port Talbot - Neath Port Talbot	2	8
Cardiff 046	Caerdydd - Cardiff	3	8
Wrexham 012	Wrecsam - Wrexham	3	6
Pembrokeshire 013	Sir Benfro - Pembrokeshire	3	6

FOR WHAT IT'S WORTH

	WIMD	Pollutant
Area Name	Decile	Count
Newport 015	3	242
Neath Port Talbot 019	4	209
Wrexham 020	9	152
The Vale of Glamorgan 014	8	91
Flintshire 009	3	88
Pembrokeshire 009	7	85
The Vale of Glamorgan 009	4	74
Rhondda Cynon Taf 031	8	74
Cardiff 038	2	74
Cardiff 048	9	71
Bridgend 015	9	70
Flintshire 011	5	68
Swansea 004	9	66
Wrexham 019	6	64
Pembrokeshire 015	4	60
Flintshire 004	3	57
Blaenau Gwent 001	4	57
Flintshire 015	7	56
Flintshire 007	4	54
Monmouthshire 006	8	52

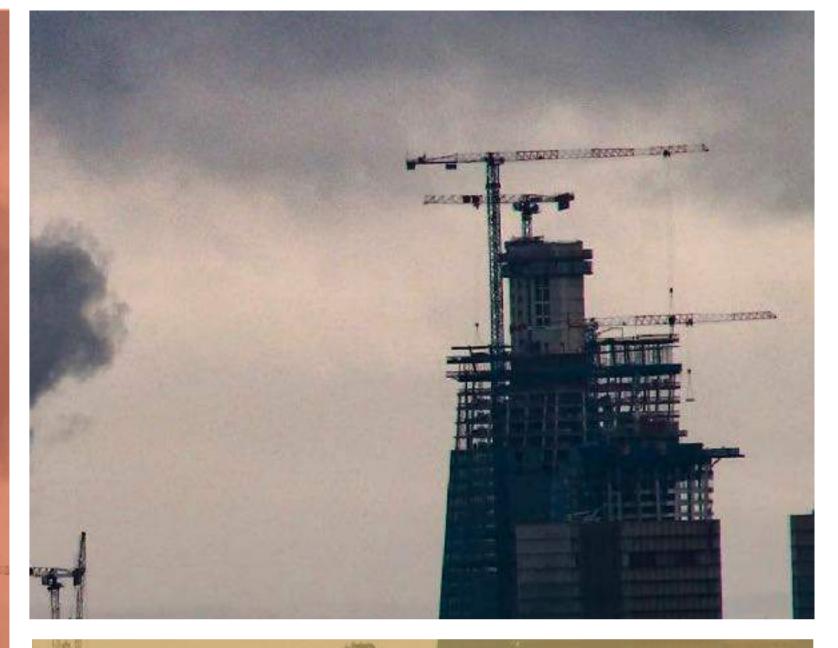
OBSERVATIONS

THERE IS NO LINEAR RELATIONSHIP BETWEEN LOCATION AND POLLUTER. A CORRELATION TEST SHOWED THERE IS NO DIRECT RELATIONSHIP TO INFER ANY INTENTION BETWEEN AREAS OF DEPRIVATION AND A FOCUS ON PUTTING SOURCES OF POLLUTANTS IN THOSE LOCATIONS.

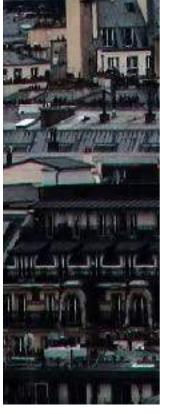
THE NORTH WEST AND SOUTH EAST HAVE THE HIGHEST VALUES - MOST LIKELY AS THEY ARE SOME OF THE MOST POPULATED REGIONS IN ENGLAND. THIS BRINGS UP THE KEY PROPOSITION: WHY DO WE ACCEPT POLLUTION AS AN ACCEPTED ELEMENT OF ORGANISED SOCIETY? A SOCIETY THAT INTENDS TO CARE FOR PEOPLE WOULD REGULATE EXTERNALITIES DOWN TO ZERO OVER A PERIOD OF TIME RATHER THAN GIVE THEM A RIGHT TO POLLUTE.

THERE IS A HIGH
NUMBER OF MSOA
REGIONS THAT HAVE
HIGH NUMBERS OF
POLLUTERS AND
HIGH DEPRIVATION.
IN THESE AREAS IT IS
IMPORTANT TO
QUESTION THOSE
WHO HAVE POWER
OVER CHANGE ON
THEIR DECISION
MAKING TO ALLOW
THE CURRENT
SITUATION TO BE.





THERE ARE 56,695 INDIVIDUAL CASES OF POLLUTANTS BEING EMITTED. WHEREAS THERE ARE ONLY 27,000 PUBLIC PARKS AND GREEN SPACES ACROSS THE UK AND 29,682 SCHOOLS IN THE UK.



POLLUTION DOES NOT APPEAR TO DISCRIMINATE ABSOLUTELY, THERE ARE HIGH LEVELS OF AREAS WHERE DEPRIVATION IS LOW (INDICATING AREAS OF RELATIVE WEALTH) AND HIGH LEVELS OF POLLUTANT COUNT.

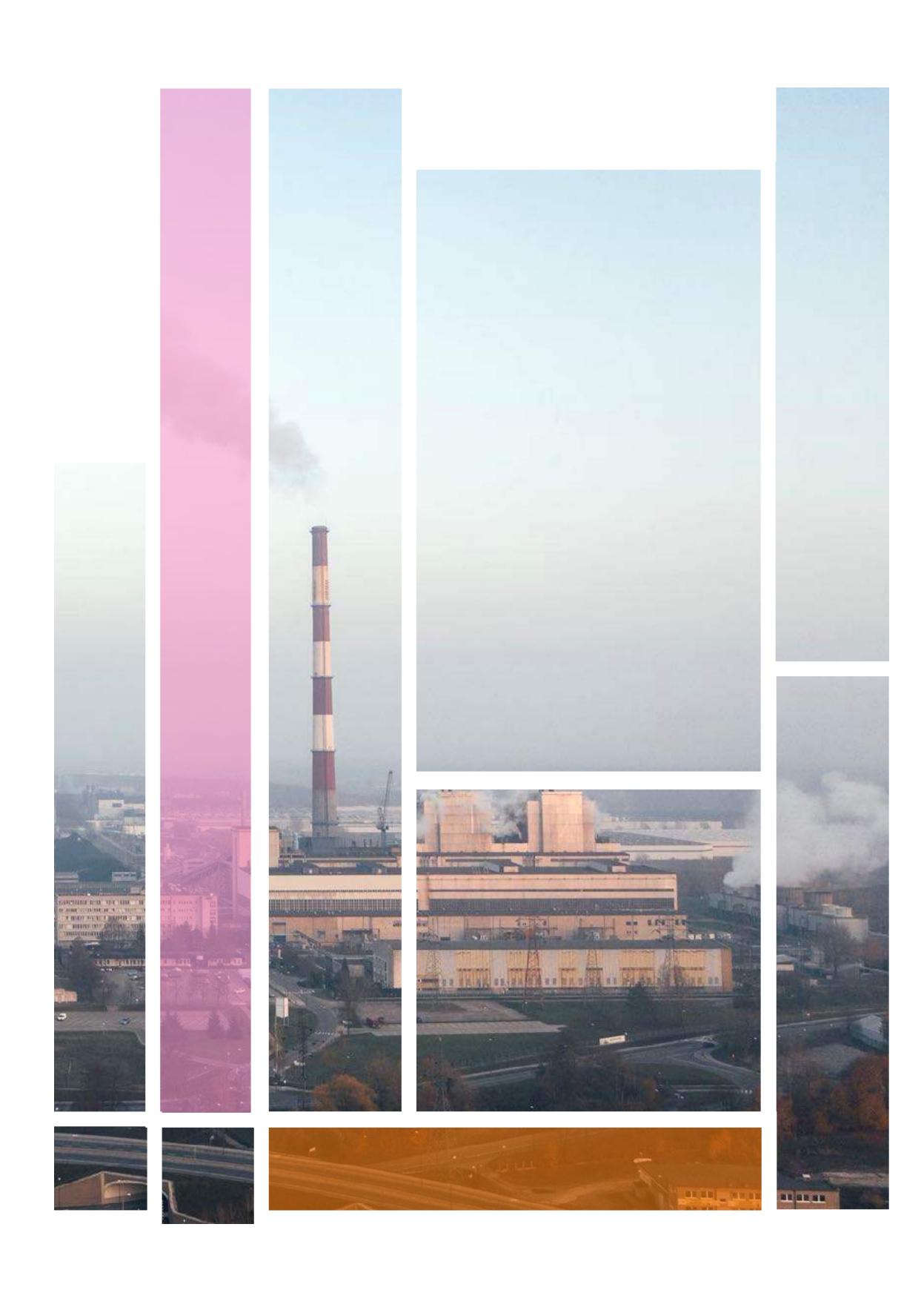
POLLUTION COMES FOR US ALL, JUST SOME FASTER THAN OTHERS.

WHERE DO WE GO FROM HERE?

THERE ARE TOO MANY AREAS WHERE THE INTERSECTION OF DEPRIVATION AND SITES OF EMISSIONS INTERSECT, MANY OF THESE ARE URBANISED AREAS INHABITED BY PEOPLE.

THE DATA AND HOTSPOTS PRESENTED IN THIS REPORT GIVES RESEARCHERS, CAMPAIGNERS, AND COMMUNITIES ALIKE THE OPPORTUNITY TO IDENTIFY AREAS FOR FURTHER INVESTIGATION. THE HOTSPOT FINDINGS CAN CONTRIBUTE TO THE SCIENTIFIC, POLITICAL, AND SOCIAL UNDERSTANDING OF SACRIFICE ZONES IN THE LARGER INVESTIGATION ON THE RIGHT TO POLLUTE.

THESE SITES HAVE BEEN GIVEN THE RIGHT TO POLLUTE THE AIR WE BREATHE AND THE ENVIRONMENT AROUND US. THE HISTORIC ENGINEERING TERM OF 'ASSIMILATIVE CAPACITY' THAT WAS DEVELOPED TO LEGITIMISE THE POLLUTING OF A NATURAL BODY OF WATER HAS UNDERPINNED THE EPISTEMOLOGY OF INDUSTRIAL CAPITALISM: PRIVATISE THE GAINS, SOCIALISE THE RISKS. THESE RISKS HAVE GROWN TOO GREAT AND ONLY BY STOPPING THE RIGHT TO POLLUTE WILL WE (A) REDUCE HEALTH RISKS BUT ALSO (B) STEM THE DYSREGULATION OF PLANETARY SYSTEMS LEADING TO CLIMATE CHANGE.



GO TO RIGHT-TO-KNOW.ORG TO LEARN ABOUT WHO HAS THE RIGHT TO POLLUTE IN YOUR AREA

