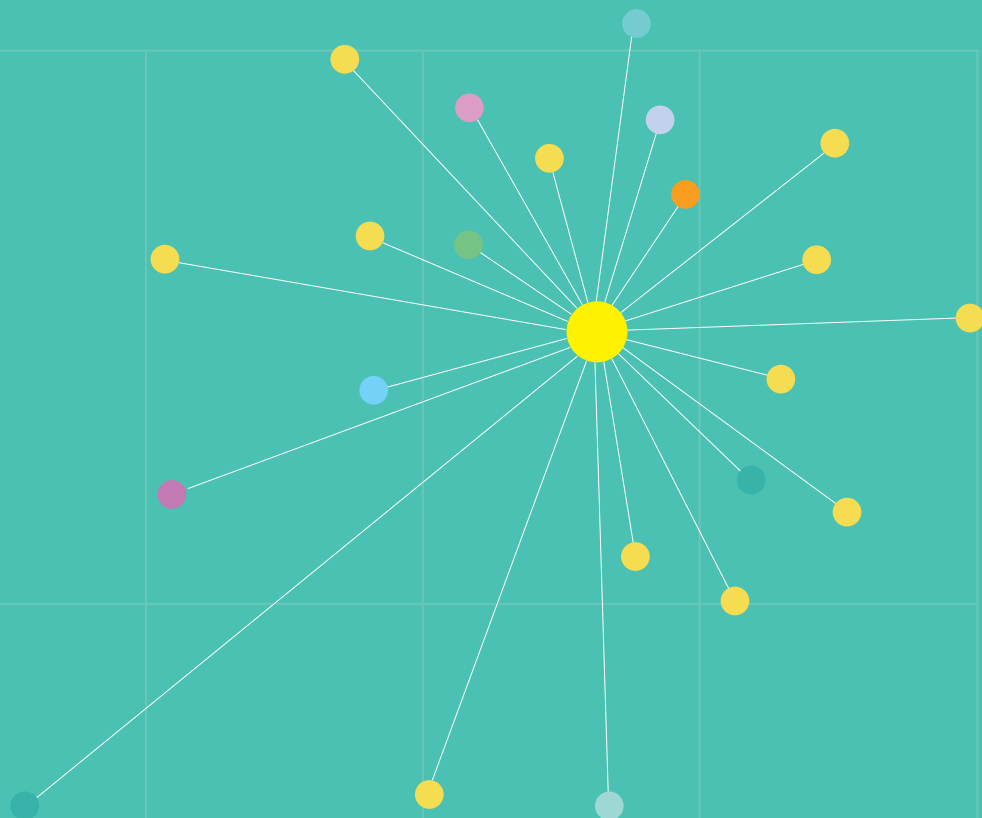




DATA COMMUNITIES

CROSS WORKS
MANIFESTOS

- | Introduction
- | Context
- | Impact on the City
- | New Typologies
- | Recommendations
- | Conclusion

Infrastructure is never neutral.
Every technological system
leaves a spatial footprint;
every spatial decision
encodes values.

Introduction

Artificial intelligence is often discussed as something immaterial; as software, 'LLMs', or as an ephemeral super-intelligence that lives in the cloud. In reality, it is profoundly physical. As both a pre-requisite for its existence and as a direct consequence, vast volumes of land, power and water are consumed. In order to maintain its intelligence, some of the planet's most coveted metals and rarest minerals are mined, at great human cost. ^{3,8,5}

It's most consequential artefact is not an interface; but a structure housing servers, commonly known as data centres. Vast, energy-intensive, and mostly located outside major urban areas within the open landscape, they bear a great burden on electrical grids, redirect investment, and quietly reorder the urban and rural condition. Yet they remain largely absent from architectural discourse; treated as technical necessities rather than crucial city-scale components that should be the subject of careful consideration. ^{3,4,6}

This manifesto begins from a simple position: infrastructure is never neutral. Every technological system leaves a spatial footprint, and every spatial decision encodes values. The rise of artificial intelligence has accelerated this relationship to a point where its urban consequences can no longer be ignored.

Cities have always been shaped by the infrastructures that powered them — water, transport, industry and communication. Data centres belong to this lineage, but differ in scale, opacity, and speed of deployment. They are typically designed to be faceless and defensive, prioritising security and isolation, over legibility, integration and public engagement. In doing so, they introduce an unfortunate urban condition – critical infrastructure that is spatially mute, and need not be. ³

AI's most consequential artefact is not an interface; but a structure housing servers.

This document does not argue for or against the mass construction of data centres. It argues that they are here to stay and grow, and as such should be designed as an essential component of urban and city design, and treated with longevity and sustainability in mind. To reposition them as part of the civic fabric, not as peripheral appendices. As data centres proliferate, architects and planners face a choice; accept these buildings as inevitable black boxes in the landscape, or view them as a new typology that requires a critical reassessment.

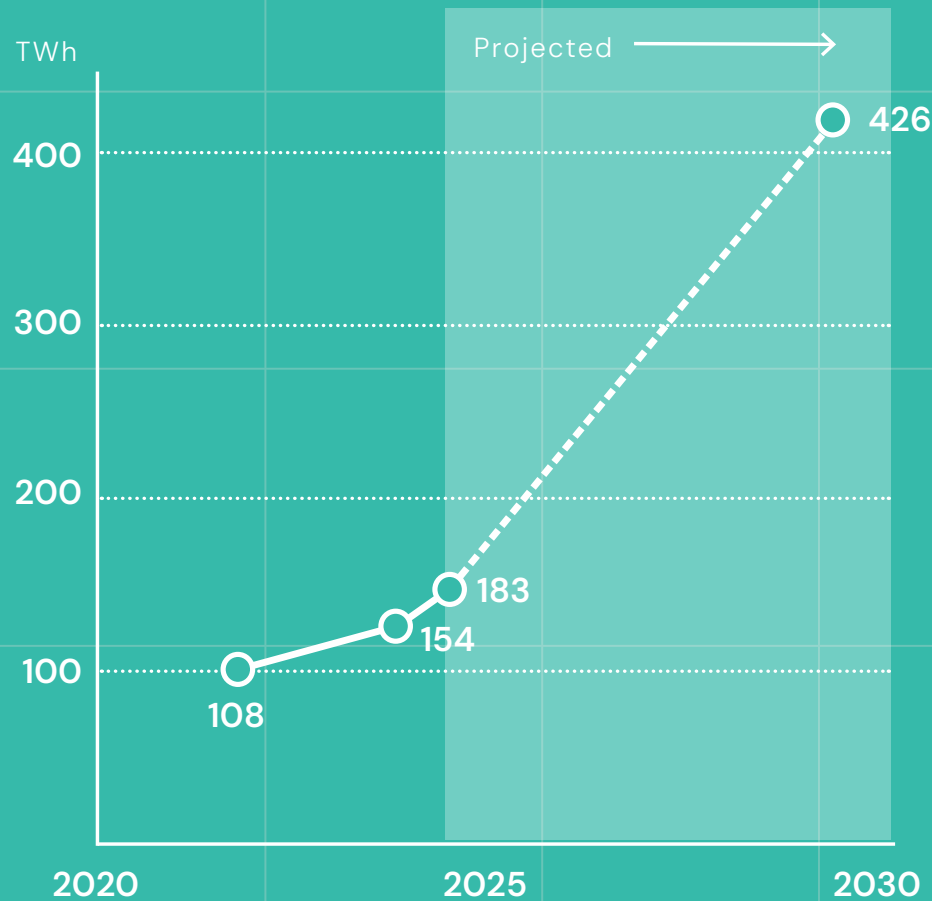
If artificial intelligence is reshaping the world, then its architecture and its impact on the city demands equal scrutiny. Cities deserve more than silent infrastructure. They deserve intent.



It's not necessary for human intervention to be negative; it's not a given that infrastructure must be a blight.

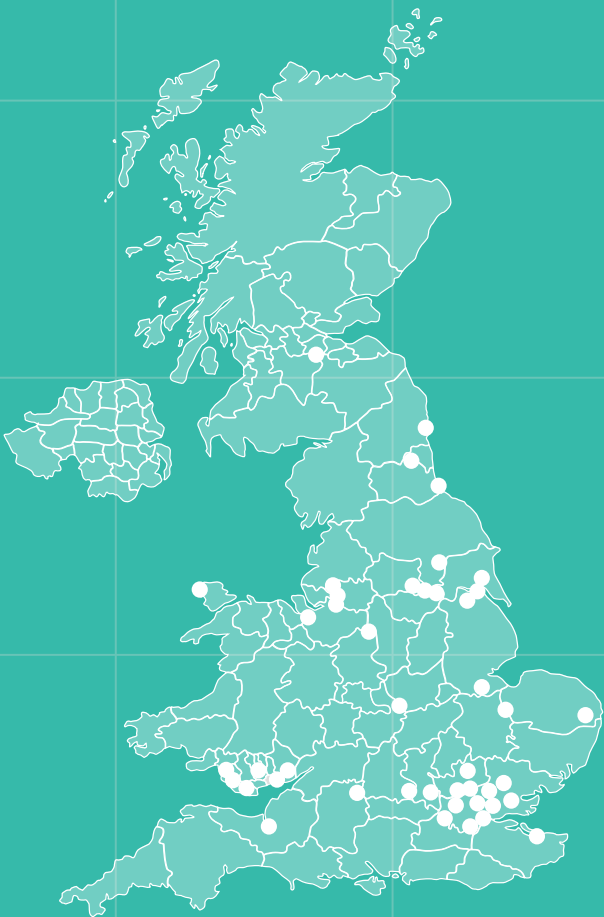


Total Electricity Consumption by U.S Data Centres ¹¹



Electricity demand at U.S data centres is expected to double by 2030 ¹¹

Planned data centres in the UK



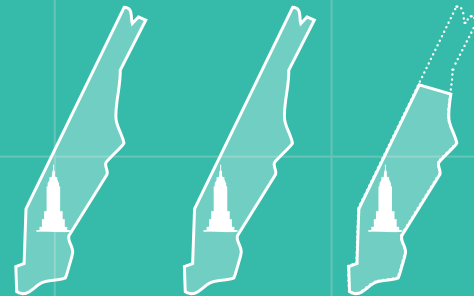
100+ data centres are planned across the United Kingdom over the next 5 years ¹⁰



PARIS



or



MANHATTAN

Globally – 16,187 hectares of powered land will be required by 2030 to meet forecasted data centre development needs : 1.5 X the size of Paris or nearly 3 X the size of Manhattan¹²

Current estimated global water demand for the data centre sector⁵



560 billion litres

 = 1 billion litres

Forecast global water demand for data centre sector by 2030⁵



1,200 billion litres

Each major technological change has reshaped landscapes, cities and daily life, often in ways that extend far beyond its original purpose.

Context

Throughout history, human settlements have been closely tied to the development of technology. Not as a simple progression of inventions, but as a series of shifts that have altered how societies organise labour, knowledge, and power. Each major technological change has reshaped landscapes, cities and daily life, often in ways that extend far beyond its original purpose.



From Survival to Structure (2.5 million BCE – 10,000 BCE)

Early technologies such as fire, stone tools and coordinated hunting extended people's physical capabilities. They reduced effort, improved reliability, and allowed knowledge to be shared and passed down through generations. These tools shaped patterns of behaviour, communication and cooperation, influencing how early societies formed and sustained themselves.

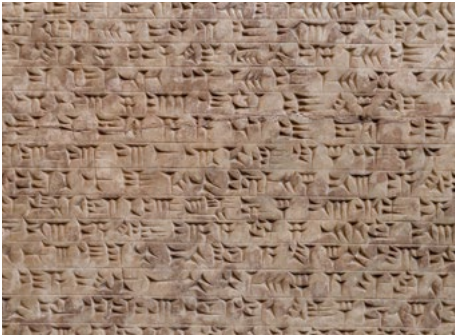
With the development of agriculture around 10,000 BCE,

technology became a catalyst for societal evolution. The cultivation of crops and domestication of animals allowed and required people to settle in one place. This shift created new challenges, such as coordinating labour during planting and harvest, tracking seasons for crop cycles, storing surplus grain and distributing resources. These practical demands drove innovations in irrigation, storage technologies, and social organisation.

Memory, Abstraction and Control (3,000 BCE – 500 BCE)

Writing and mathematics externalised information, making it possible to record complex thoughts and memories. Records of transactions, laws, astronomical observations, and administrative decisions could persist and circulate beyond the people who created them. Different societies developed these technologies for varied purposes; religious record-keeping in some cases, commercial accounting in others, through to sharing the news and information, and eventually propaganda. Complex governance systems emerged in some literate societies but not others, and

institutions varied widely in their reliance on written documentation. In Mesopotamian city-states, extensive cuneiform archives tracked grain rations, land transactions, and legal proceedings. Egyptian administration combined written records with established bureaucratic hierarchies. Early Chinese kingdoms established bureaucratic systems for the governance and administration of extensive networks of cities, towns and villages. Meanwhile, conversely some societies achieved considerable organisational complexity with limited or no writing at all.





Mechanisation and Industrialisation (1500 CE – early 1900s)

The scientific revolution reframed the natural world as something measurable and predictable. In the 19th Century, machines replaced physical labour as production shifted from individual craft to standardised systems that allowed for mass production. The Industrial Revolution reorganised cities and economies around production, efficiency and scale.

Work became specialised, time was expedited, and urban populations expanded rapidly. Infrastructure such as factories, railways, and power networks began to shape cities more decisively than social or cultural forces.

Technology increasingly shaped not only how things were made, but how people lived and worked.

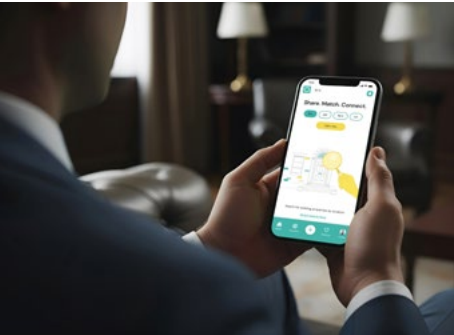
Computation and Networked Systems (1940s – 2010s)

The introduction of computers made it possible to process information at speeds and scales far surpassing our human bandwidth. Early computing supported governments, militaries, and large corporations, enabling complex planning, coordination, and automation.

From the late 20th Century onwards, the spread of the internet – through its proliferation into the consumer market – meant that information became widely accessible, whilst the early 21st Century

was characterised by rapid mobile device adoption. Networks of computation and communication began to underpin economic, social, and political systems.

These developments laid the groundwork for artificial intelligence, through the combination of logic-based systems, large datasets, machine learning, and ever-increasing computational power and advances in microchip manufacturing.





Artificial Intelligence: A Structural Shift (2010s – present)

For the first time, artificial systems can perform tasks including reasoning, pattern recognition, and content generation without direct human instruction. Contemporary AI systems came from a long history of development, dating as far back as the 1950s. Their current manifestation at the time of writing in 2026 comes first from deep learning breakthroughs including ImageNet (2012), AlphaGo (2016), and advances in speech recognition; followed very quickly by LLMs emerging around 2018–2020. Today AI does not simply respond to inputs from humans, but

can take actions and make decisions to achieve specified goals; these 'agentic' systems represent a significant technological leap in automation and capability, fundamentally different from earlier AI approaches. Coupled with rapid advances in robotics, we are entering into a new era, unlike any that came before.⁵ This shift raises practical questions about responsibility, authorship, and control — questions that become particularly urgent when artificial intelligence begins to shape the physical environments in which people live.

Impact on the City

As we've set out, cities once evolved around water, transport, labour, and trade. The exponential growth of data centres will not be a footnote in the history of urban development, but a structural force that will impact how cities expand, where value accumulates, and whose needs are prioritised. Data centres find large swathes of land, power transmission corridors and cooling capacity; and in turn, they attract investment and political will. Unfortunately, the current evidence is that in most cases, this investment does not find its way to the local community, but compartmentalised to feeding the invisible requirements of computation. Unlike the needs of power generation or agriculture of past generations, which required significant human labour, thereby necessitating some level of human satisfaction in their living quarters or neighbourhoods; data centres are similarly resource hungry but lacking in the need for a human workforce.

Where there is a need for people to interact and utilise the latest technology for the greater good – the farming community, the

miner's town, etc – there is a local community pride that becomes ubiquitous and often synonymous with the identity of a place. The technology feeds the people, and the people feed the technology with their time and labour.

It is perhaps furthermore worrying that this new technology not only needs an insignificant level of human capital beyond the initial construction of its server shelters; that as agentic AI takes over the jobs of a large section of society (particularly in white collar employment), it is looking increasingly likely that there will be significant societal disruption caused by it. This will likely lead to a re-ordering of the city; a mass exodus of some people out of cities, to be replaced by others. Or indeed, a re-imagining of the city itself; one where non-residential uses take the lion's share of floor space.

Of course, this can be avoided if there was an internationally coordinated, state level intervention, to deal with the re-training and re-deployment of city-dwellers, which currently looks entirely unlikely.



Per hectare, data centres provide significantly fewer permanent jobs than other commercial or industrial land uses.^{16,17}



Data centre:
1-5 jobs/ha



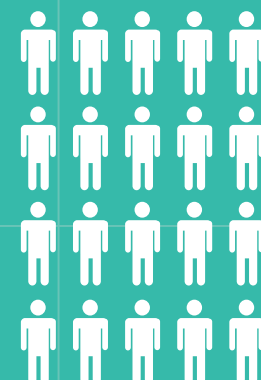
Warehouse:
10-15 jobs/ha



Light industry:
20-30 jobs/ha



Office:
100 jobs/ha



 = 5 jobs

The result is a new form of sprawl; growth without public streets or spaces, buildings without life and in turn, expansion without urbanism.

Such macro-economic, and mass societal disruption might render the city the best place for the data centre, making use of redundant structures. Adaptive re-use may then become ever-more crucial; replacing people with server racks. If this were to happen, society itself would reshuffle, with people contending with their true purpose, and coming to a better understanding of their meaning.

The big shifts set out here will be overshadowed by the emergence of Artificial General Intelligence (AGI); which will be upon us in the next 3 – 10 years according to leading minds in the field. This will no doubt catalyse and exaggerate some of these potential visions of the future. As such, we need a better way to think about these places we're creating to house this critical infrastructure; this

critical component of our future.

The following pages will set out the physical impact of the current data centre model; and then look at some typical solutions. Data centres demand large, single-purpose footprints, security setbacks, and risk-averse surroundings supported by planning policy which has had to respond to their distinct operational and security needs.³ Once established, these sites are effectively locked in for decades, resistant to adaptation, densification, or mixed-use integration. The result is a new form of sprawl; growth without public streets or spaces, buildings without life and in turn, expansion without urbanism.





Total Land per person = 0.39 ha.



Total Land per person = 3.01 ha.



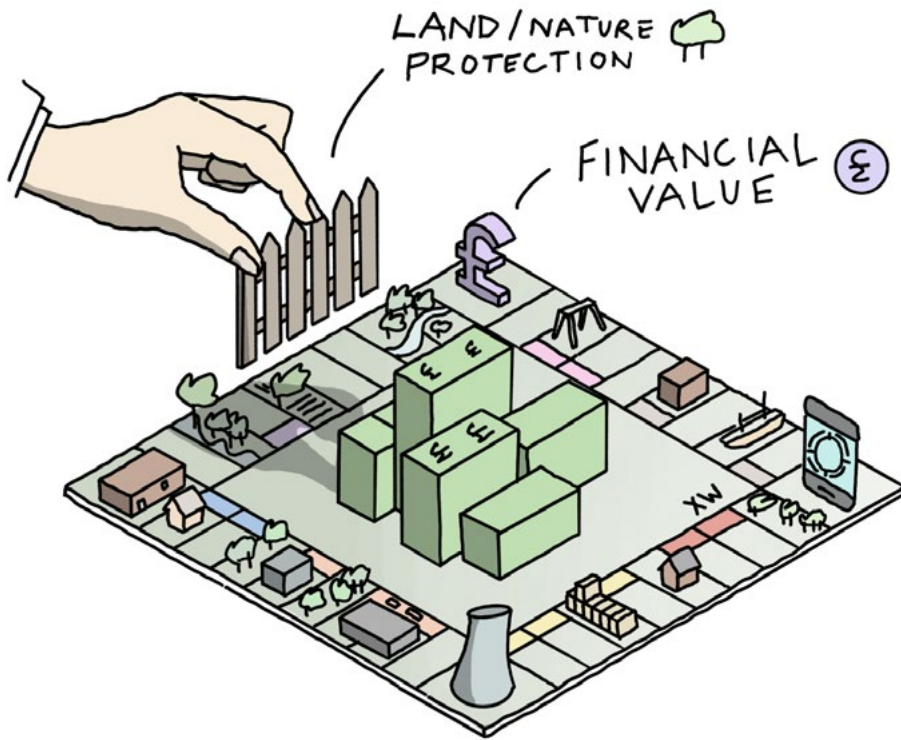
In 2023, data centres consumed approximately 33 – 42% of electricity demand in major cities such as London, Amsterdam & Frankfurt.¹⁸



Increasingly, data centre clusters are becoming larger than the cities that support them.¹⁵

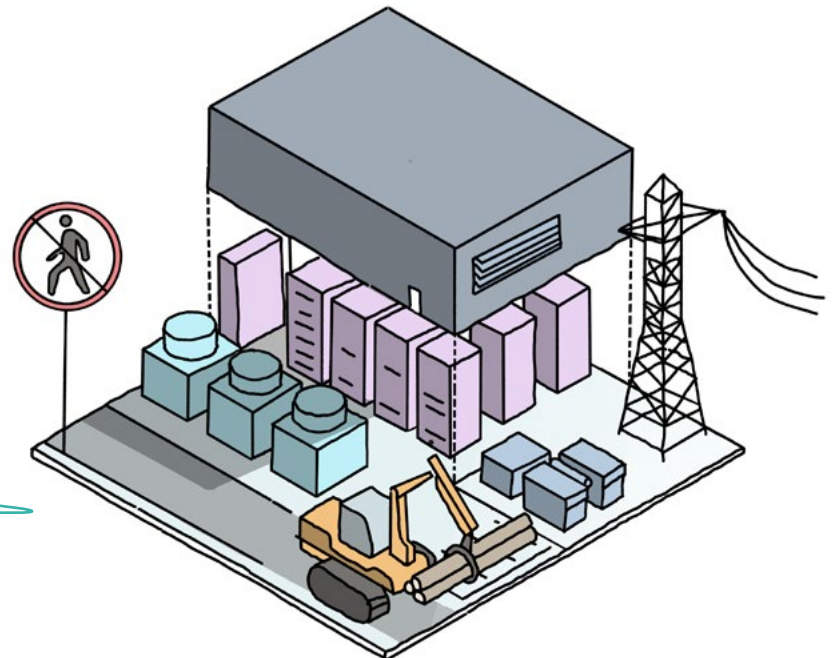
The Dilemma

The UK has substantially less land availability en masse, compared to the US; with 0.39 hectares of land per person, based on a gross calculation (of population into land). Land is a naturally valuable resource, and planning policies increasingly raise its level of scarcity, driving its value evermore higher. Whilst this is happening, data centres create an additional burden on our open spaces; so a conversation about making them less land hungry, and more efficient, is crucial.



Land is scarce and in demand and increasingly valuable; meanwhile maintaining a healthy balance of open space is essential for well-being.

Data centres are currently an antithesis to this delicate balance; land hungry and unsightly with no contribution to the landscape and cityscape beyond their provision of compute.



The speed at which
data centres are
delivered consistently
outpaces governance.

The speed at which data centres are delivered consistently outpaces governance. They are often approved through national digital agendas and economic urgency, framed as technical infrastructure rather than civic intervention.^{3,4}

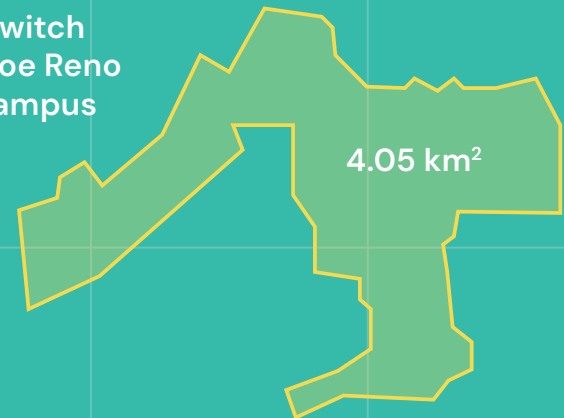
Decisions around land, power and water are made first; questions of public value, environmental burden, and long-term urban consequences are deferred or avoided. Once economically-driven decisions are made to justify their siting and construction, these facilities become extremely difficult to contest.

Their environmental load is no longer abstract. Data centres concentrate energy demand, expel heat, and consume water at a scale that directly reshapes local conditions. Power grids are stressed, substations expand, exclusion zones widen, and microclimates shift.

Despite their strategic importance, data centres contribute little to urban life. They attract capital but generate minimal employment density.³ Left unchallenged, this current system of data centre delivery will reduce our landscapes and cityscapes to hosts, rather than beneficiaries.



Switch
Tahoe Reno
Campus



4.05 km²

140%
OF THE CITY
OF LONDON

Google
Chesterfield
County
Campus



1.24km²

43%
OF THE CITY
OF LONDON

Meta
Prineville
Data Centre



0.97km²

33%
OF THE CITY
OF LONDON

Apple
Maiden
Data Centre



0.74km²

26%
OF THE CITY
OF LONDON

Scale comparison of data centre
sites with the City of London.
All outlines drawn to scale,
relative to each other.



2.9km²

CITY OF LONDON

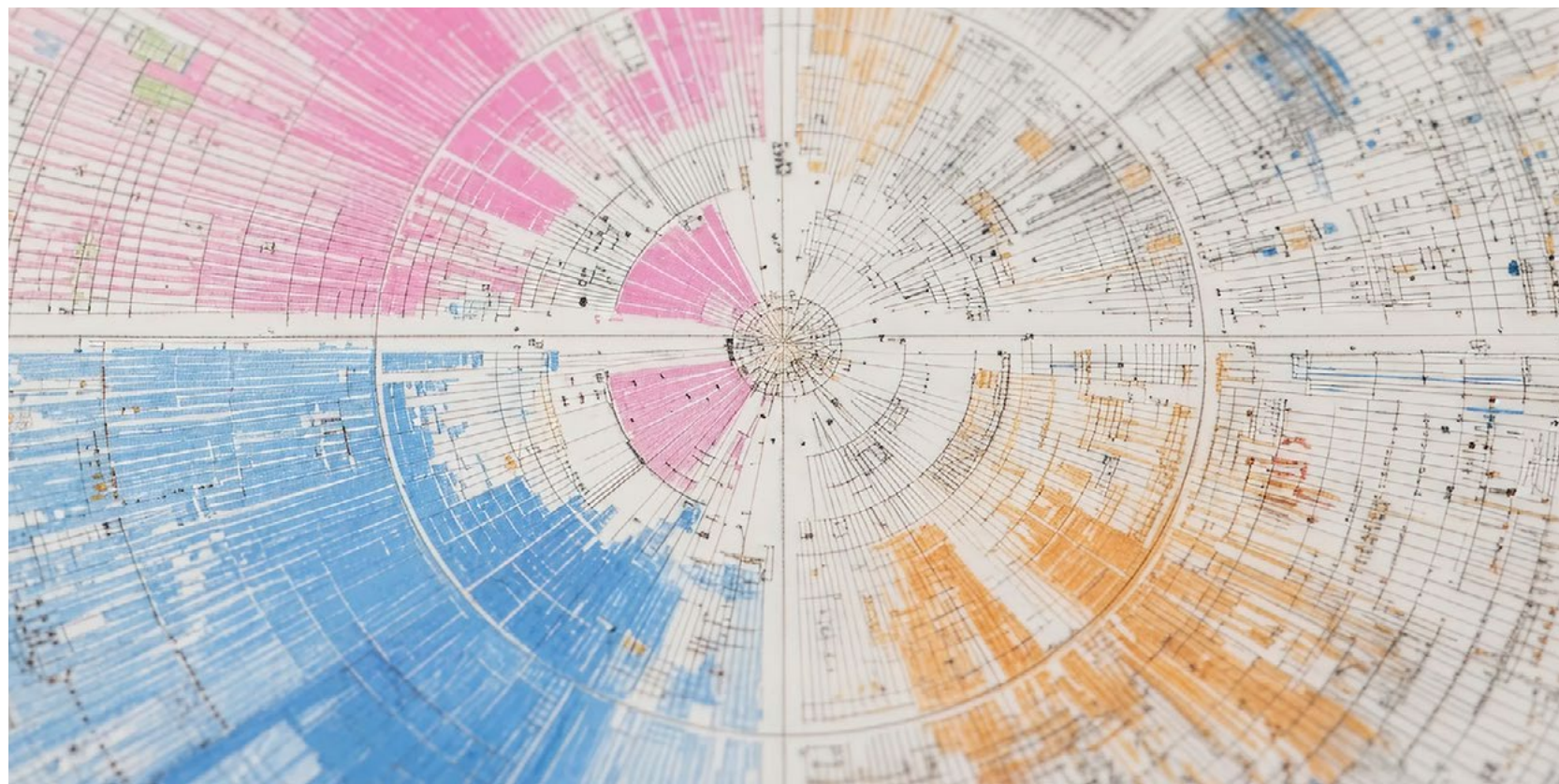
This transformation is already visible in the geography of recent data centre expansion. Established global players have consolidated around legacy infrastructure and connectivity, including London, Frankfurt, Amsterdam, Paris, and Dublin in Europe, and Northern Virginia in North America amongst others. These locations benefitted from early investment in fibre networks, subsea cable landings, and financial and institutional demand. However, the city environs and greenfield sites in their proximity are now increasingly constrained by power availability, land scarcity, and planning pressures.^{6, 7, 9} As a result, growth is already spilling into secondary cities and peri-urban regions where grid capacity and land availability matter far more than proximity to urban life.

The future of the city proper will be defined by how deliberately and intelligently it embeds these structures into the urban fabric of its cities, coastal areas, and every other urban morphology that may be relevant and potentially feasible for their siting. It is this way that architects and city planners can ensure that we avoid blighting our landscapes and save the environs of our cities from

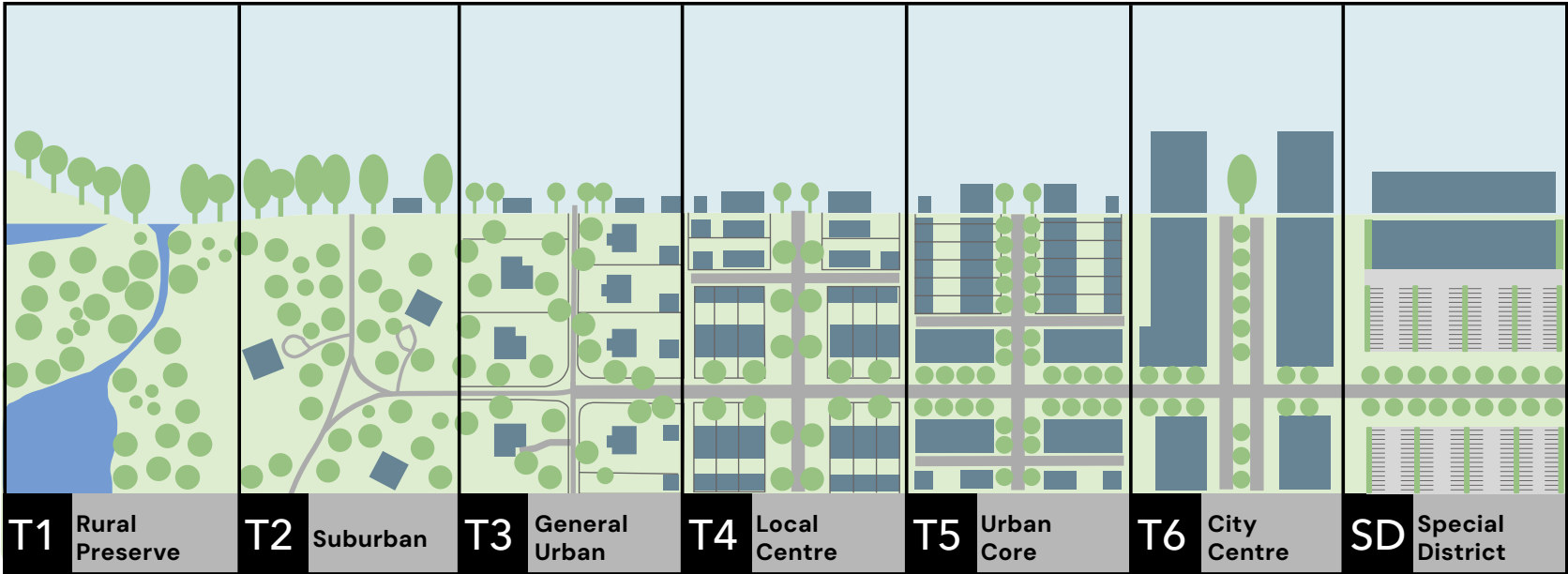
the fragmentation, severance and mass no-go zones that poorly designed facilities can create.

It is the contention of this manifesto, that this should be at the forefront of our creativity at this moment in time, when the physical manifestation of this new technological revolution (or evolution) is being rolled out, at an almost uncontrolled rate. Whilst there are reported fluctuations in the rate of the roll-out of these facilities, with Microsoft recently reporting a brief pull back on a portion of its planned data centre construction in the US, it is likely that these are merely the natural ebbs and flows of large scale construction caused by macro-economic factors, and in turn may only be temporary. Drop-offs in pace will likely be followed by massive surges; the peaks and troughs will continue for many years to come.

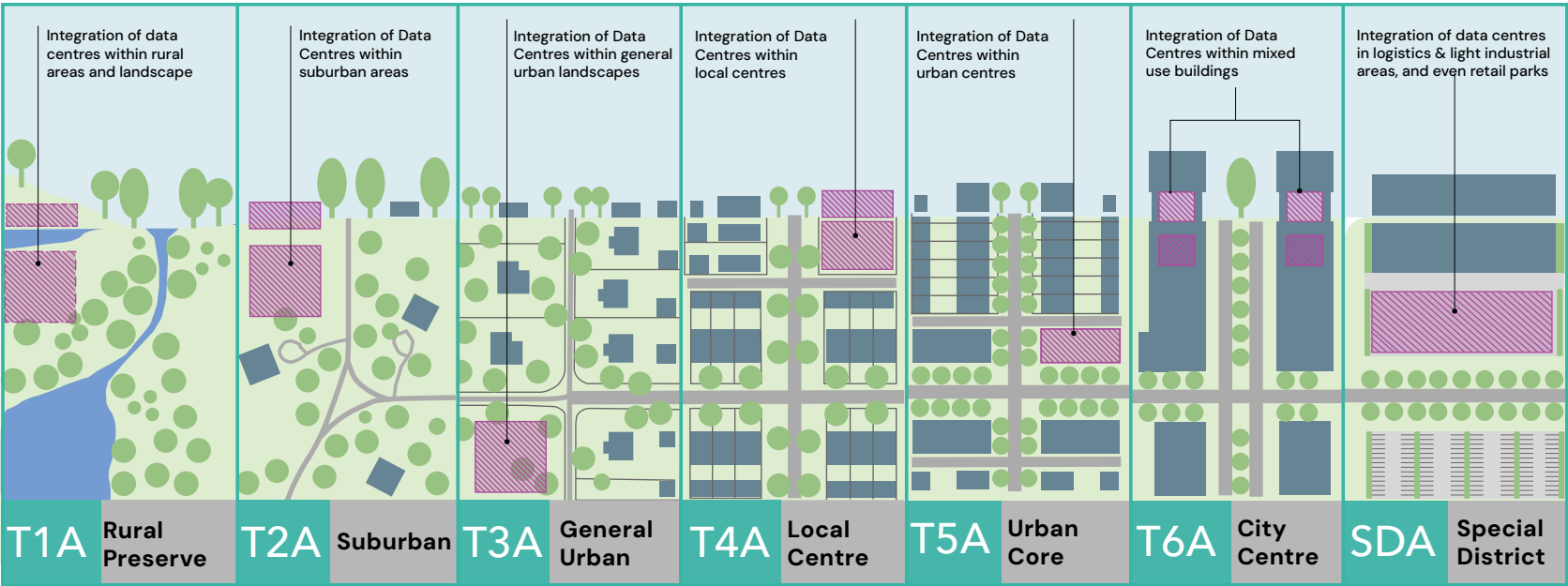
Architects and city planners once led the discourse around our physical environments, advising Heads of State and guiding policy; it's important we return to this at such a pivotal time in the reshaping of our towns, cities and their surroundings.



The Impact on the City Transect



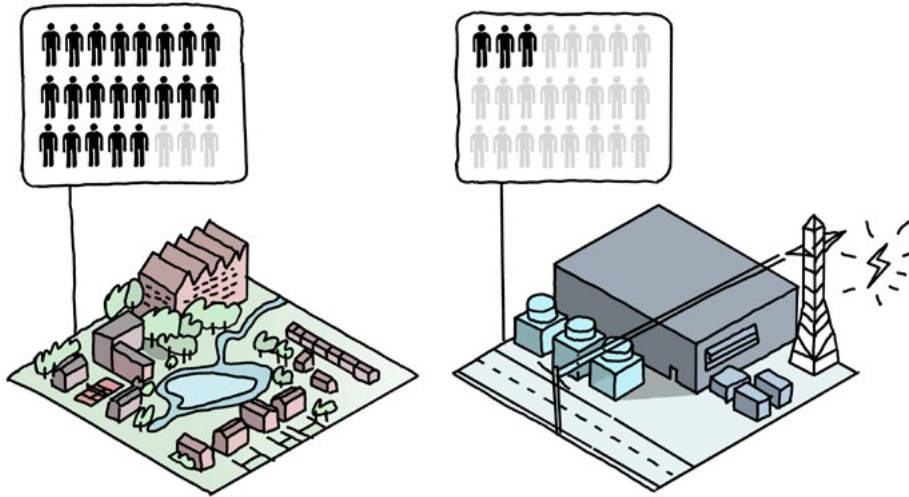
A typical 'transect' through a human settlement.



The addition of Data Centres and their potential impact from one transect to another. Integration of the data centre into the urban fabric (from T4 upwards) is certainly preferable, and in turn, protects T3 and below. Building them in T1 and T2 seems to be the current norm.

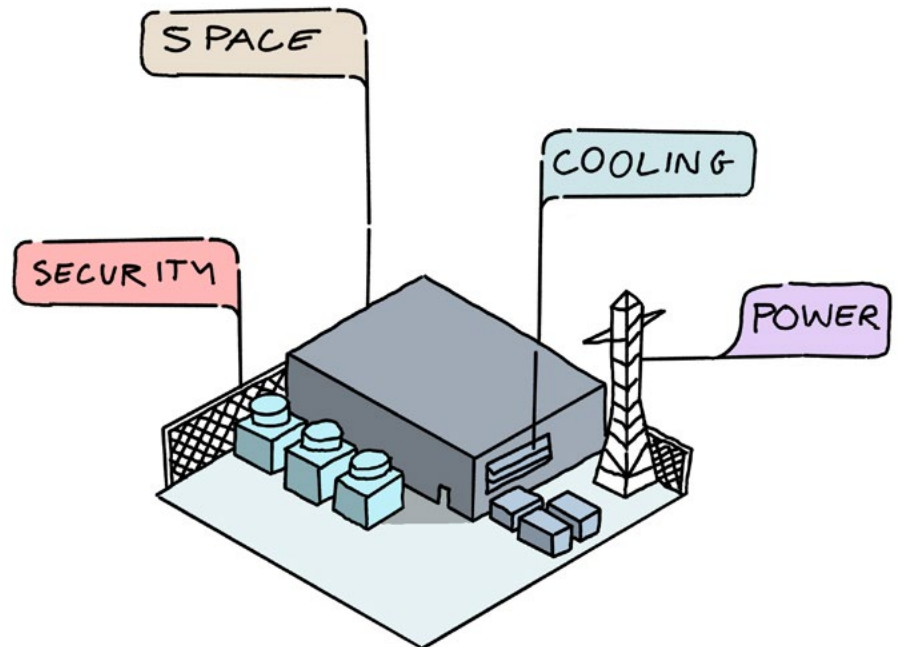
Competing for Land

Whilst land scarcity might not be avoidable, the conventional city transect need not tolerate yet another single-use item, solely in it's 'Special Districts'. Instead, a new approach would insert these data centres into the various transects from T3 to T6 in particular (as shown opposite), thereby also avoiding T1 and T2 where possible.



Data centres also compete for land that could be allocated to much-needed housing and healthy mixed-use development, creating vast, inactive sprawl & providing very few permanent jobs.

Data centres need power, cooling and plenty of space; all of which can be provided within the block pattern of existing & proposed cities, if smartly integrated into our urban fabric.



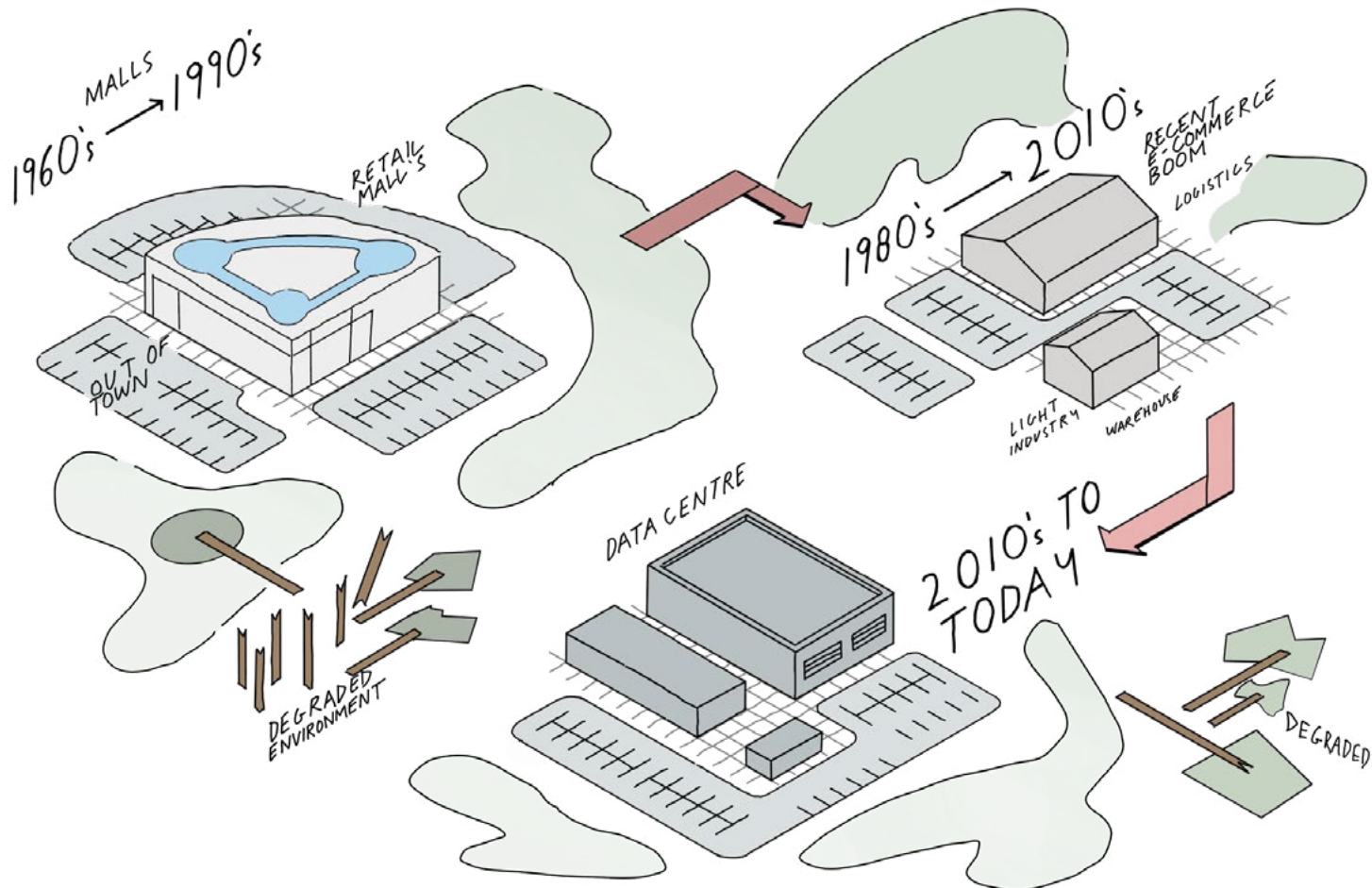
Lessons from the past

The situation we're facing, and the subject of this manifesto is unfortunately not novel. We've been here before. From the 1960s onwards, the West saw the rise of the shopping mall. A single-use chocolate box of shops and restaurants, all packaged efficiently under one air-conditioned roof. They were large and land hungry, so were almost always placed far outside of our town centres (where land was both available and relatively cheap) and surrounded with a sea of surface parking; creating an island of retail in celebration of the car.

Over time, and into the 1990s and 2000s, these malls became more mixed-use in nature, incorporating office space, hotels and residential uses on top; driven by their location becoming ever more centralised in towns and cities, thereby making the space above these large floor plate behemoths far more valuable. This mixed-use typology has endured and indeed evolved and now forms an

important part of a city's transect and palette of land uses.

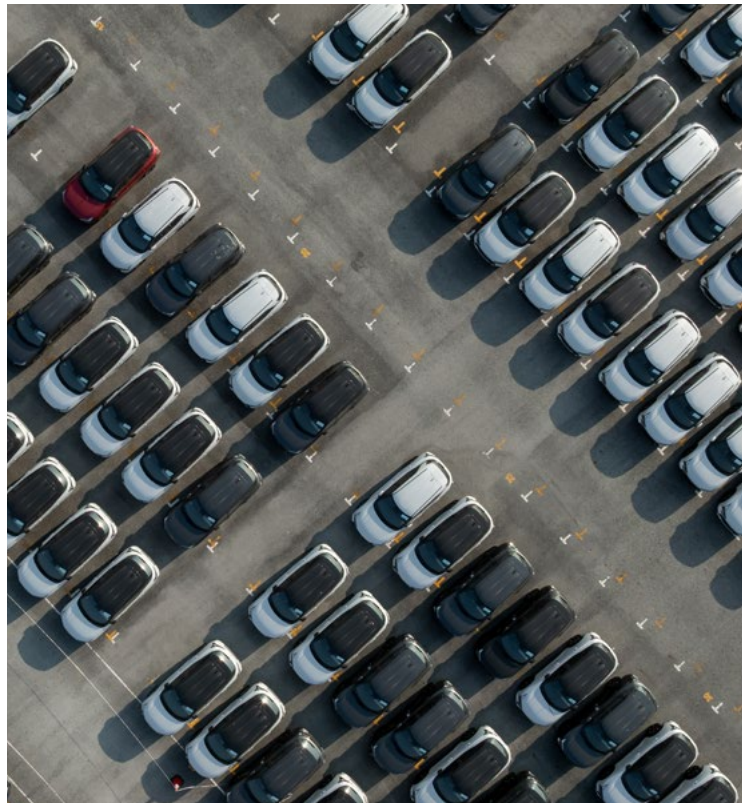
Similarly, light industrial, logistics and warehousing, sharing similar characteristics to data centres in their requirement for large clear floorplates, high ceilings and steel-frame lightweight construction, took over sites in similar edge conditions, on the peripheries of cities and brownfield sites. These too, created dead zones, and these too have been the subject of much discussion and discourse around the need for stacking uses, and making them more integrated with urban areas. However, these particular uses have not evolved in the way that retail and commercial uses have; and as such, they bear a striking similarity to the current roll-out of data centres, which themselves seem destined to follow the same path. The same issues in a different generation. This manifesto's point is that this should be avoided, and these upcoming problems mitigated now, with good design, before it's too late.



Single-use zoning in rural areas since the 1960s to present day



Single-use large floor plate buildings in a sea of parking come along every generation; these blight our landscapes and leave negative effects that last generations.



UK New Towns

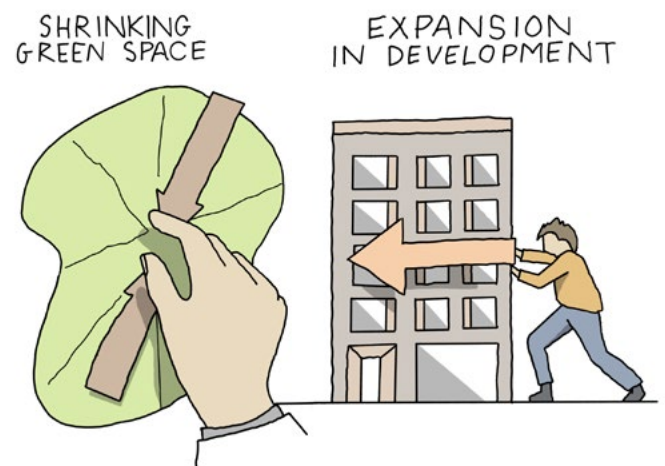
The New Towns Taskforce Report 2025 sets out a new generation of settlements as an attempt to regain spatial control over forces that have outpaced existing planning processes. It implicitly recognises that the UK's prevailing model of incremental, market-led development fails at scale: it fragments land, defers infrastructure, and allows private investment cycles to dictate urban form.¹⁸

In response, the Taskforce proposes twelve new or expanded settlements, typically exceeding 10,000 homes each, with a combined capacity of 300,000+ dwellings to be delivered over coming decades.² This threshold matters because below it, housing delivery cannot carry the upfront burden of transport, utilities, and social infrastructure, nor can it meaningfully shape regional labour markets.

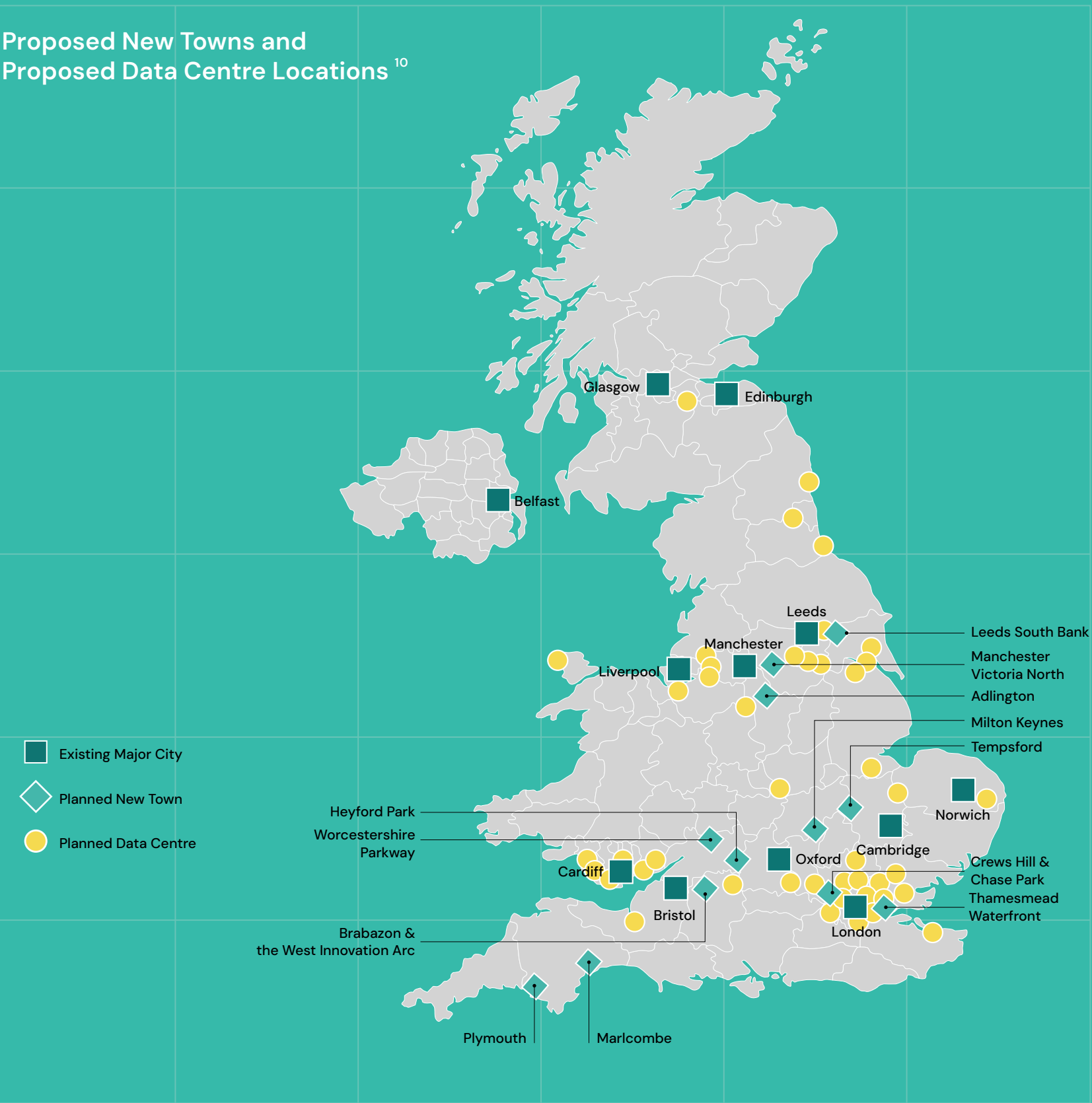
New towns are therefore positioned as systemic interventions — large enough to absorb growth pressure, stabilise affordability, and anchor

long-term investment — rather than as extensions of speculative patterns. These settlements are conceived as integrated systems, not collections of disparate plots. Land assembly, energy provision, transport, digital connectivity, social infrastructure, and employment space are intended to be planned concurrently and delivered through empowered local authorities and development corporations. This is not presented as a political gesture, but as a pragmatic correction to piecemeal land capture. By holding land at scale and over time, it is possible to coordinate infrastructure, resist fragmentation, and deliver a vision for future development that is both fit for today, and future-proofed for tomorrow. It is therefore, why this manifesto contends that there should be far greater emphasis on the proliferation of data centres in this New Towns 'call to action', than the singular mention of data centres on page 106 of 135 (in the September '25 version).

By 2050 – Agricultural Land in the United Kingdom is projected to decline by 8–12%, with Open Space projected to decline by 6–7%, whilst urban areas will increase by 2–3%¹³ – there is no margin for single-issue land decisions – integrated solutions must be sought.



Proposed New Towns and Proposed Data Centre Locations¹⁰



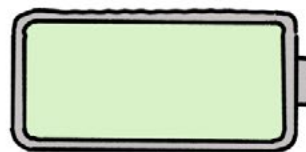
Certain locations — such as Milton Keynes — are identified as centres of AI, autonomous systems, and smart-city development, with new town designation framed as a means of sustaining these sectors by resolving housing, power, and connectivity constraints.²

Most importantly, the Taskforce recognises that energy availability now binds urban expansion more decisively than civic quality or land availability alone.¹ Power, transmission capacity, and utility coordination are treated as constraints on whether settlements can grow at all. New towns are therefore asked to plan not only for residents, but for future demand. This marks a shift from responsive planning towards anticipatory spatial planning or *masterplanning*. This is welcomed, but should have included more pro-active language around the importance of this particular subject.

There should be far greater emphasis on the proliferation of data centres in the New Towns Taskforce than their singular mention on page 106.



LOW ENERGY
SUPPLY

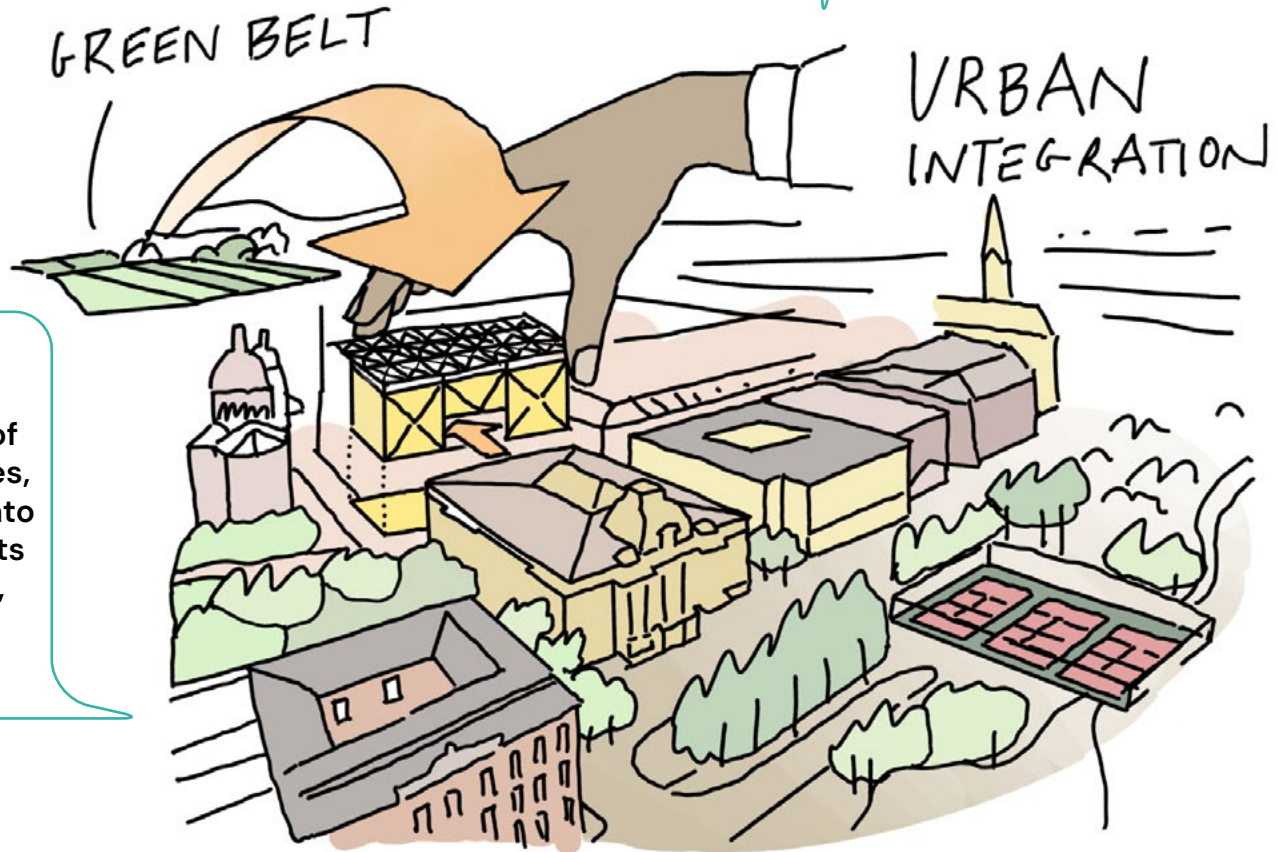


HIGH ENERGY
SUPPLY

A New Approach

Integration of these facilities into the existing urban block pattern of our towns and cities; and ensuring that they're designed to promote active streets and an efficient use of land. Stacking uses and avoiding severance, impermeability and defenceless spaces, should all be crucial policy items, to better house these components of critical infrastructure.

Designed as part of the city, not as isolated metal boxes surrounded by dead and defenceless spaces.



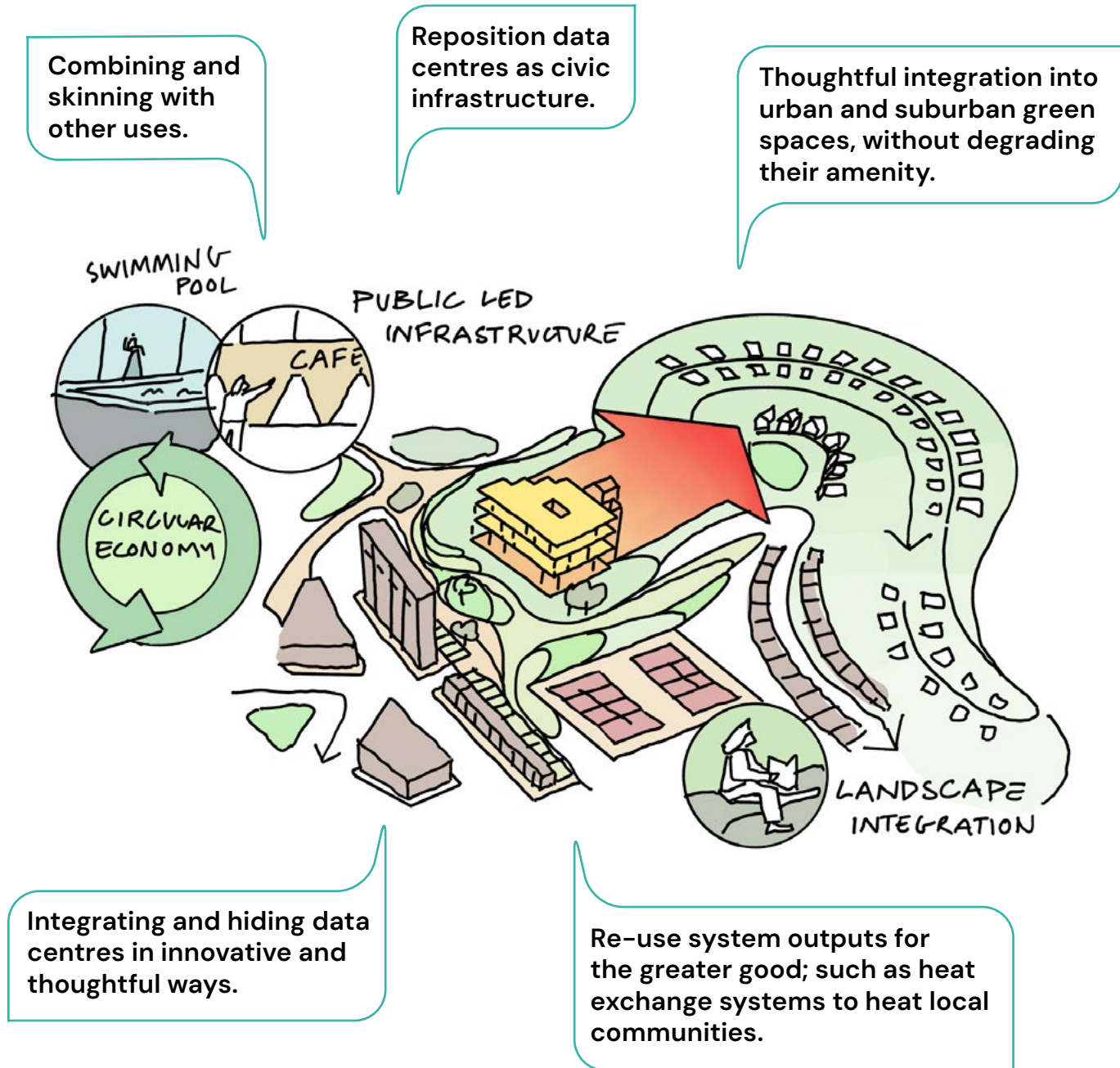
Smart use of existing plots, adaptive re-use of existing structures, and integration into new developments in the city proper, to preserve our landscapes.

Activated ground floors, absorption into existing and new mixed-use developments; woven into the urban fabric.

Horizontally and vertically stacked, utilising land efficiently and reducing the need for urban sprawl.

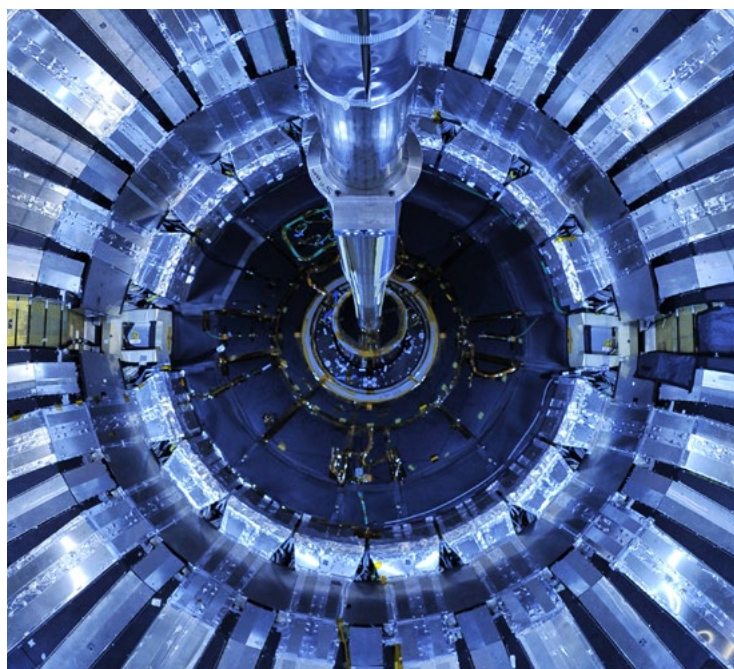
Circular Economy

Smart ways of skinning & hiding data centres so that they occupy otherwise dead spaces behind our active streets; thoughtfully integrating them into suburban areas; re-using the heat energy generated by introducing heat exchange to be used for district and neighbourhood heating in the same way that's being done currently in Switzerland at the LHC facility at CERN.





Heat recovered from the Large Hadron Collider in CERN has been supplying a heating network for the nearby town of Ferney-Voltaire



New Typologies

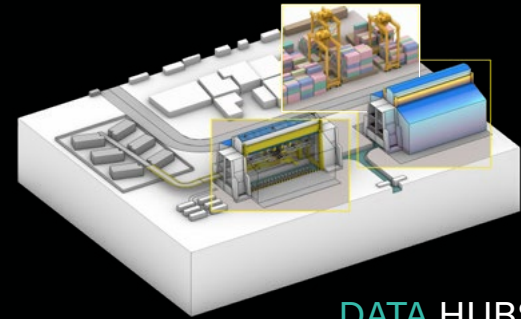
Unique urban typologies often emerge in response to the prevailing technology of a particular era. Railways produced stations and yards; heavy industry produced factories and associated worker housing; whilst finance, more recently, gave rise to towers and entire business districts, often displacing some of the uses that came before (such as Canary Wharf in London's old docklands, amongst others). AI and with it, data centres, introduce a different generative force, and so far they've been left somewhat to market forces to decide their form and location; which has had a largely destructive impact besides their objective use case.

As designers and city thinkers, we must now provide alternatives. However, it will be for strong top-down leadership to implement them, and force this difficult but important change to the status quo.^{3,6}

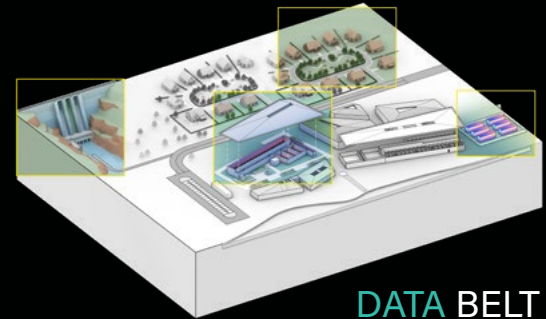
The following typologies offer alternatives to isolation, opacity, and spatial withdrawal. They are not aesthetic proposals. They are not intended to be renders of a real place, but rather, typological diagrams, demonstrating how this critical infrastructure might be integrated into multiple transects that exist across our cityscapes and landscapes. They're intended to blend AI infrastructure with our places and environments; making them more legible, accountable and symbiotic with other elements of the city and fundamentally more beneficial to its future.

The situation we're facing, and the subject of this manifesto is unfortunately not novel. We've been here before. New ways of thinking about data centres is essential.

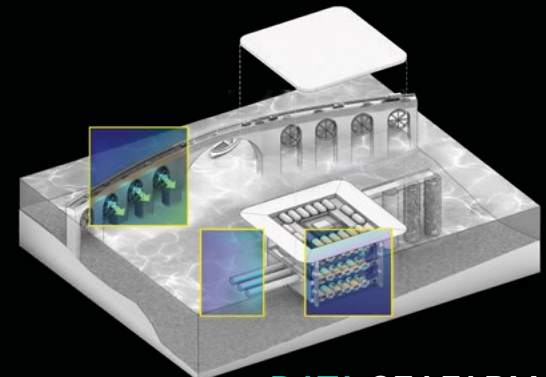
NEW TYPOLOGIES



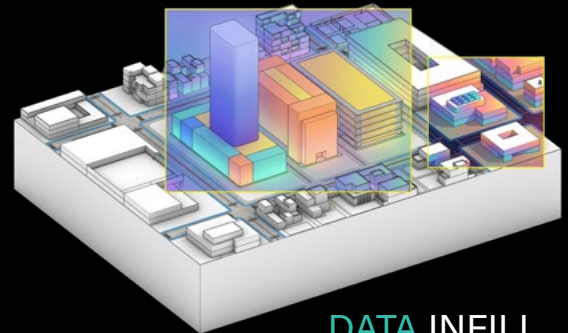
DATA HUBS



DATA BELT



DATA SEAFARM



DATA INFILL



Unique urban typologies often emerge in response to the prevailing technology of a particular era. Finance, more recently, gave rise to towers and entire business districts, often displacing some of the uses that came before.



DATA HUBS

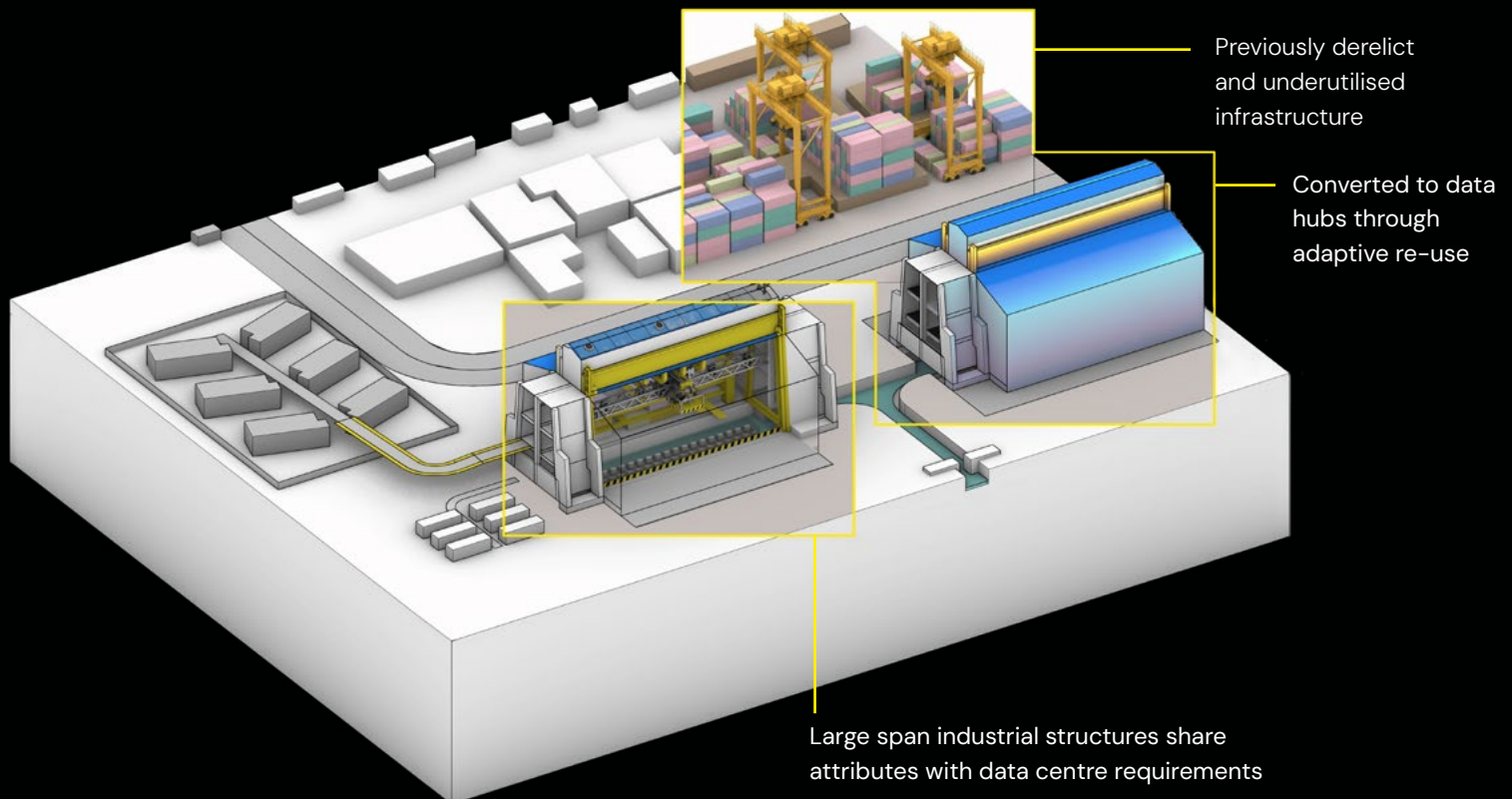
Compact, strategically sited facilities integrated with existing urban and industrial areas.

What it solves

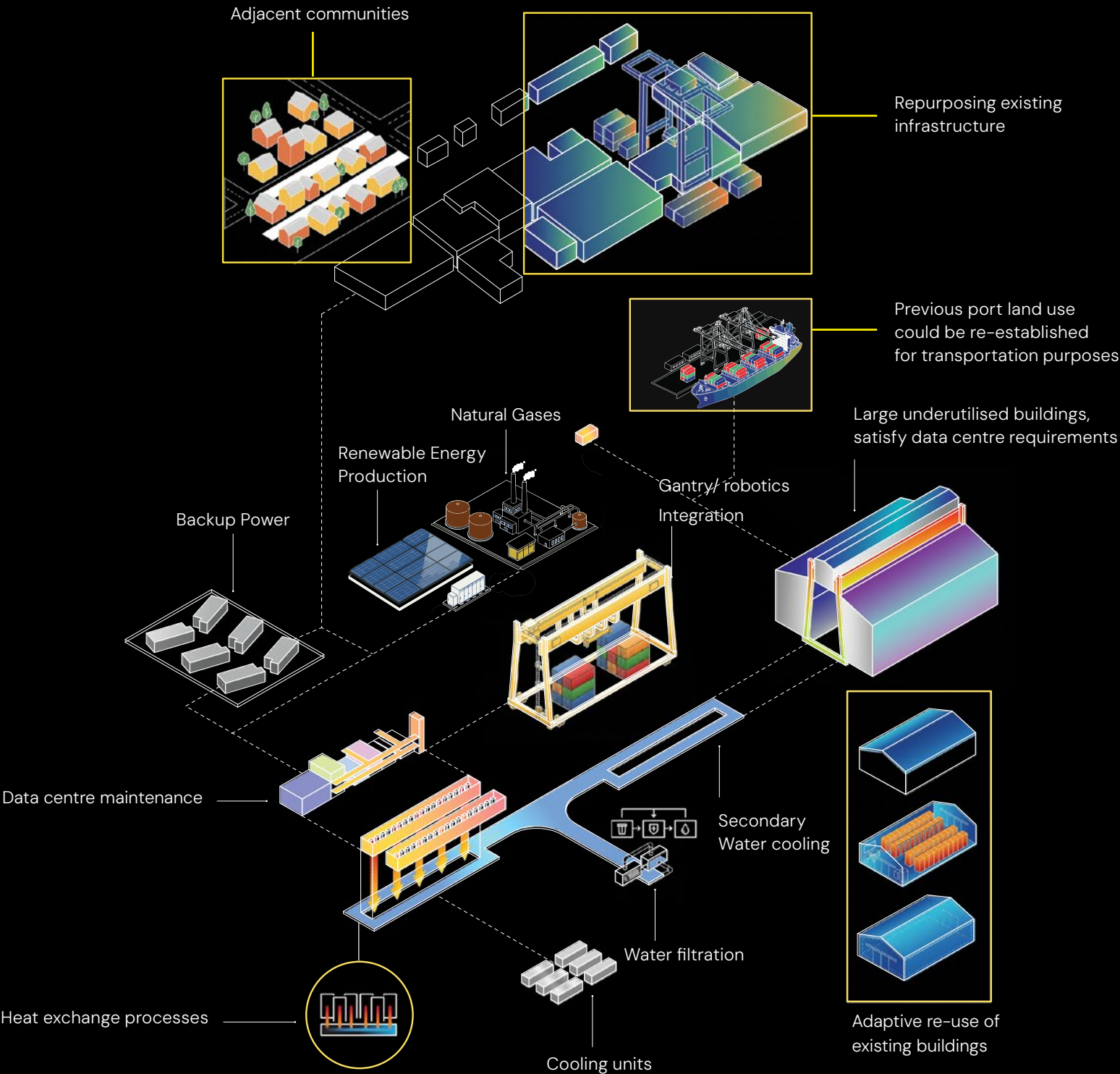
- Reduces sprawl by concentrating compute into smaller footprints where infrastructure already exists.
- Allows more nuanced relationships with surrounding uses (industrial, commercial, civic).
- Creates the conditions for urban symbiosis: heat exchange and re-use, shared utilities and power upgrades, local workforce, and the regeneration of brownfield or under-utilised sites, bringing investment and local improvements to the immediate surroundings.

Design and planning principles

- Replace the 'black box' with a layered building; active ground planes, re-use of existing structures and revitalisation of the area.
- Ensure the building's skin is well-considered and the building has a well-designed threshold / public realm surrounding it.
- Ensure parking and servicing strategies do not disrupt but enhance the surrounding community.
- Plan for modular change; structural and servicing strategies that allow for retrofit, expansion, and eventual re-purposing.
- Establish enforceable local benefit; apprenticeships, supply-chain commitments, and neighbourhood energy investment as conditions for consent.



Exploded Axonometric of a schematic Data Hub



DATA BELT

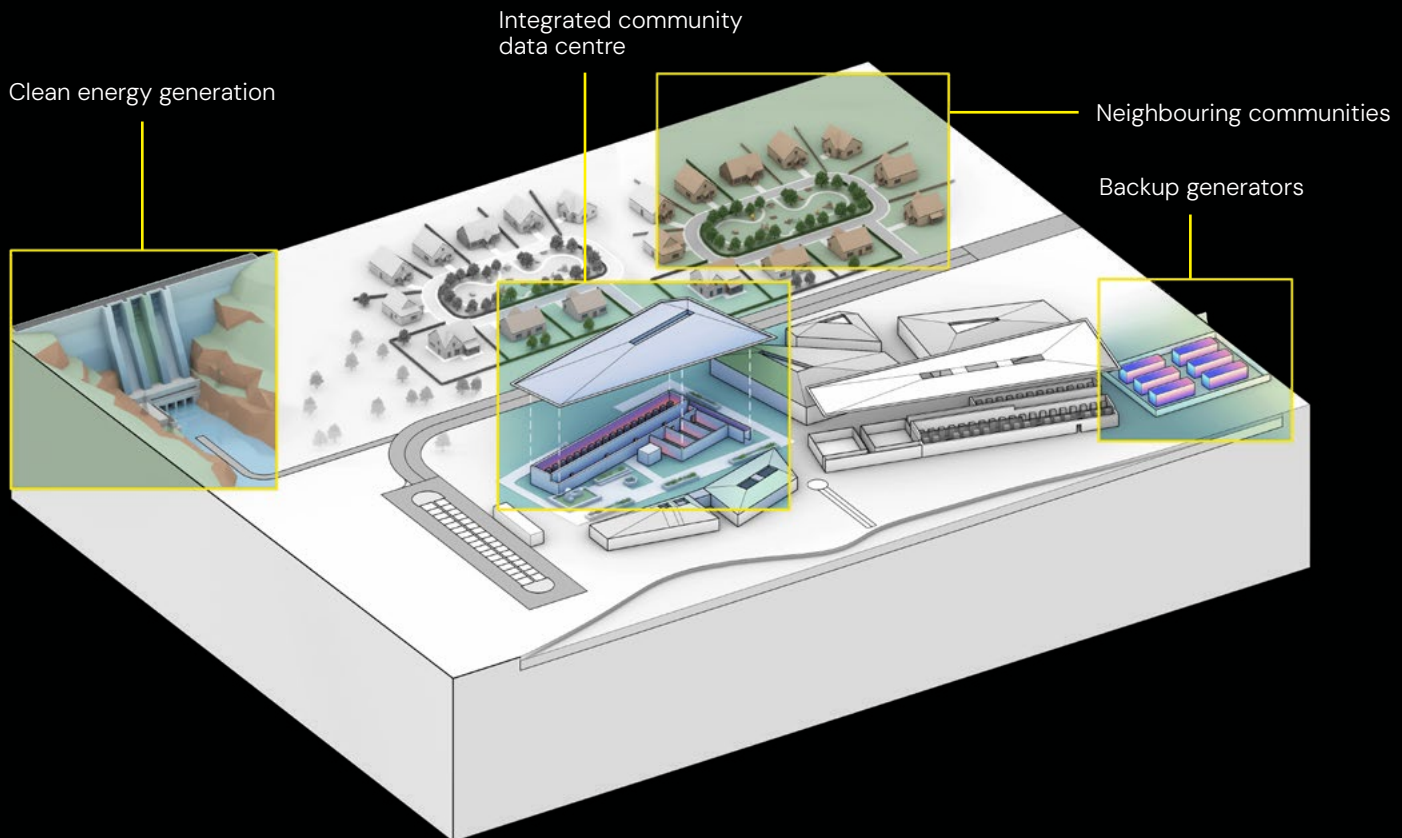
Facilities embedded sensitively into suburban areas, without causing blight.
Where they must be placed in rural areas; they're carefully integrated into the landscape.

What it solves

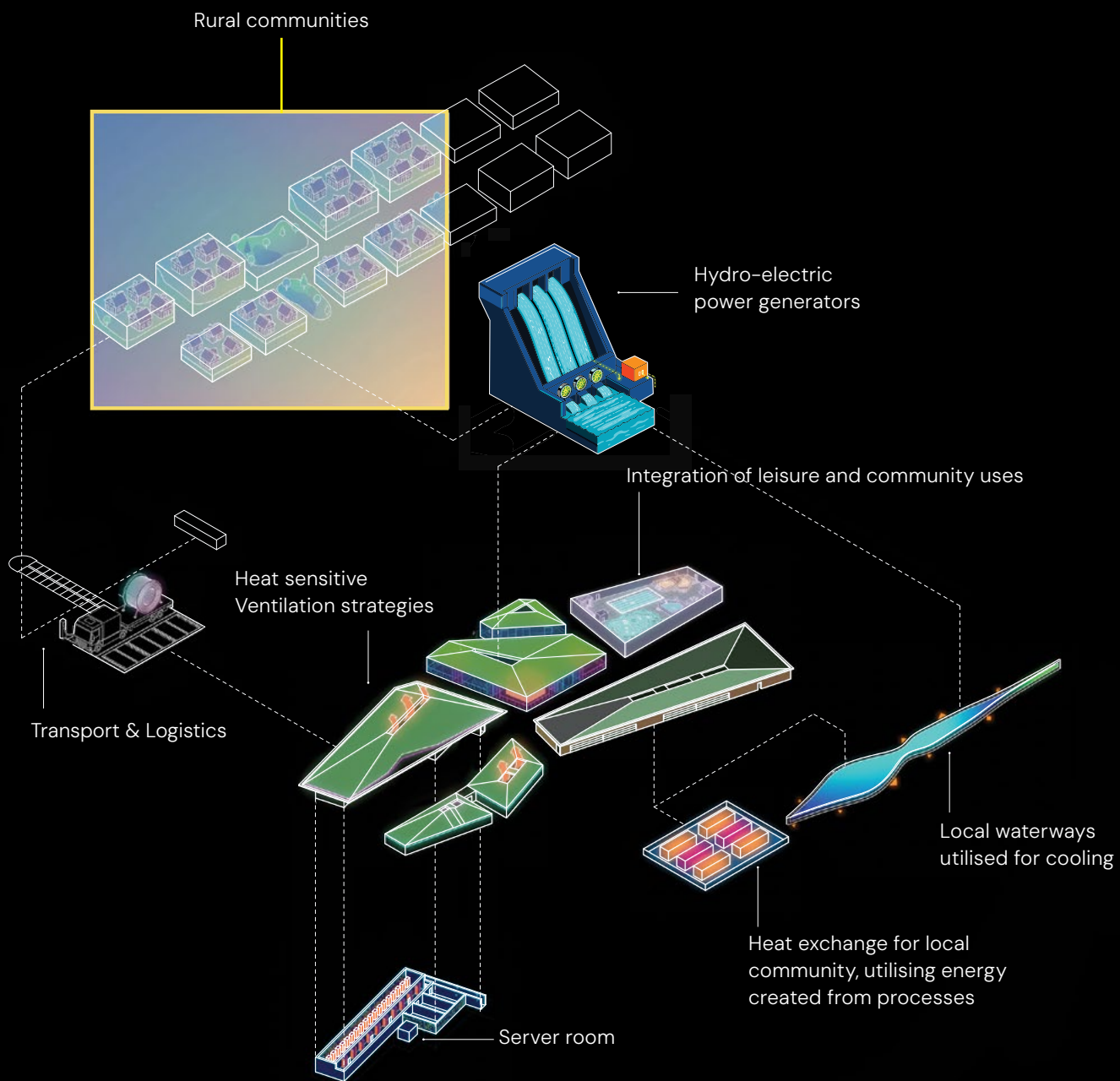
- Recognises the corridor logic already driving site selection (grid, fibre, transport) and governs it deliberately.
- Prevents ad hoc clustering that fragments land and locks out future public uses.
- Allows coordinated environmental management: water, heat, biodiversity, and air quality at corridor scale.
- Mitigates the risk of blighting landscapes.

Design and planning principles

- Zone for mixed infrastructural ecologies: not single-use technical land, but layered systems (energy storage, logistics, green infrastructure, mobility).
- Protect urban continuity: require crossings, connective streets, and public routes through or around belt conditions.
- Plan corridor end-states: long-term adaptability.
- Ensure that all data centres are designed in context with their surroundings, or embedded into the landscape.



Exploded Axonometric of a Data Belt



DATA SEAFARM

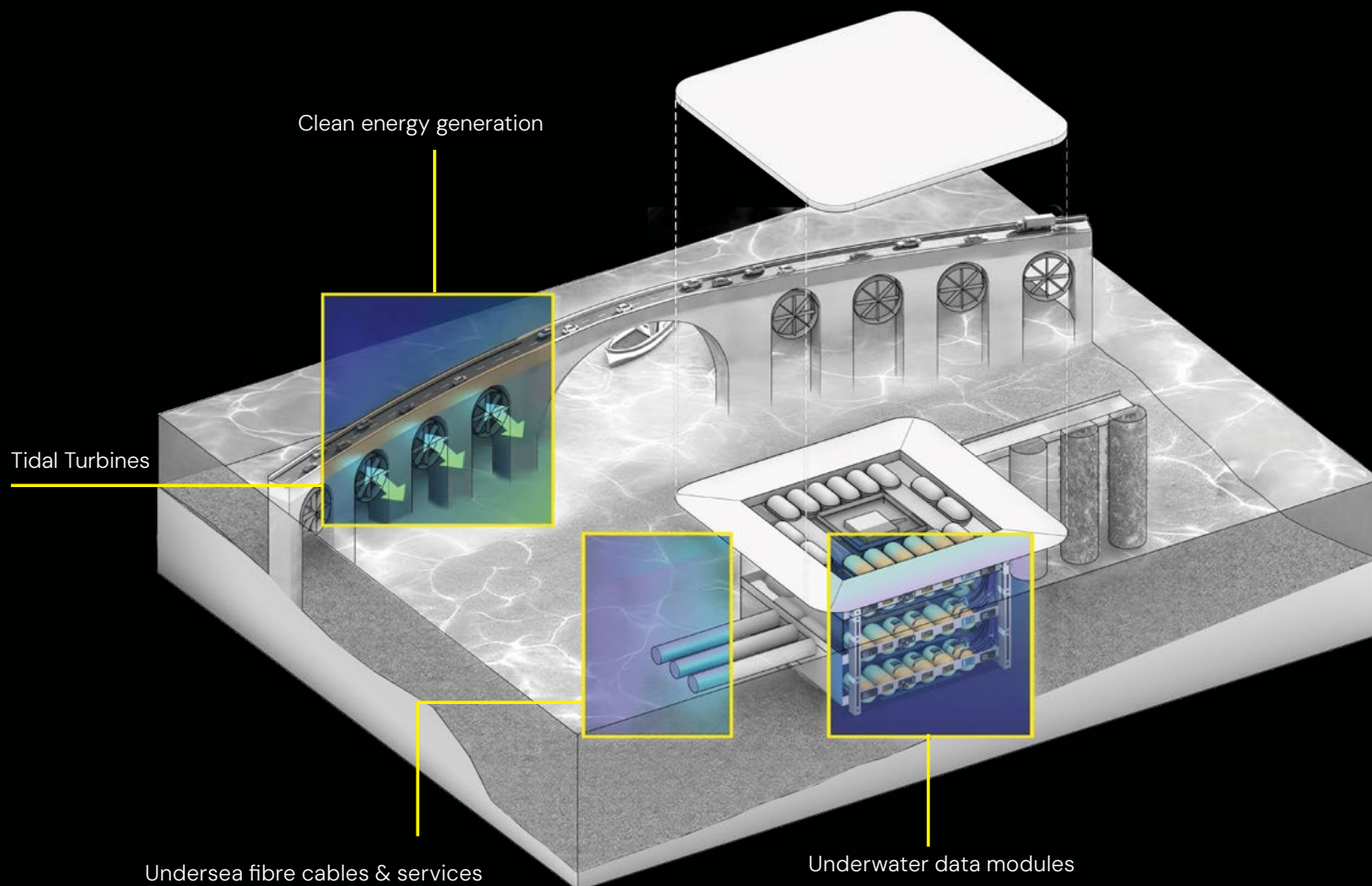
A coastal or port-adjacent data centre cluster anchored by subsea connectivity and industrial logistics.

What it solves

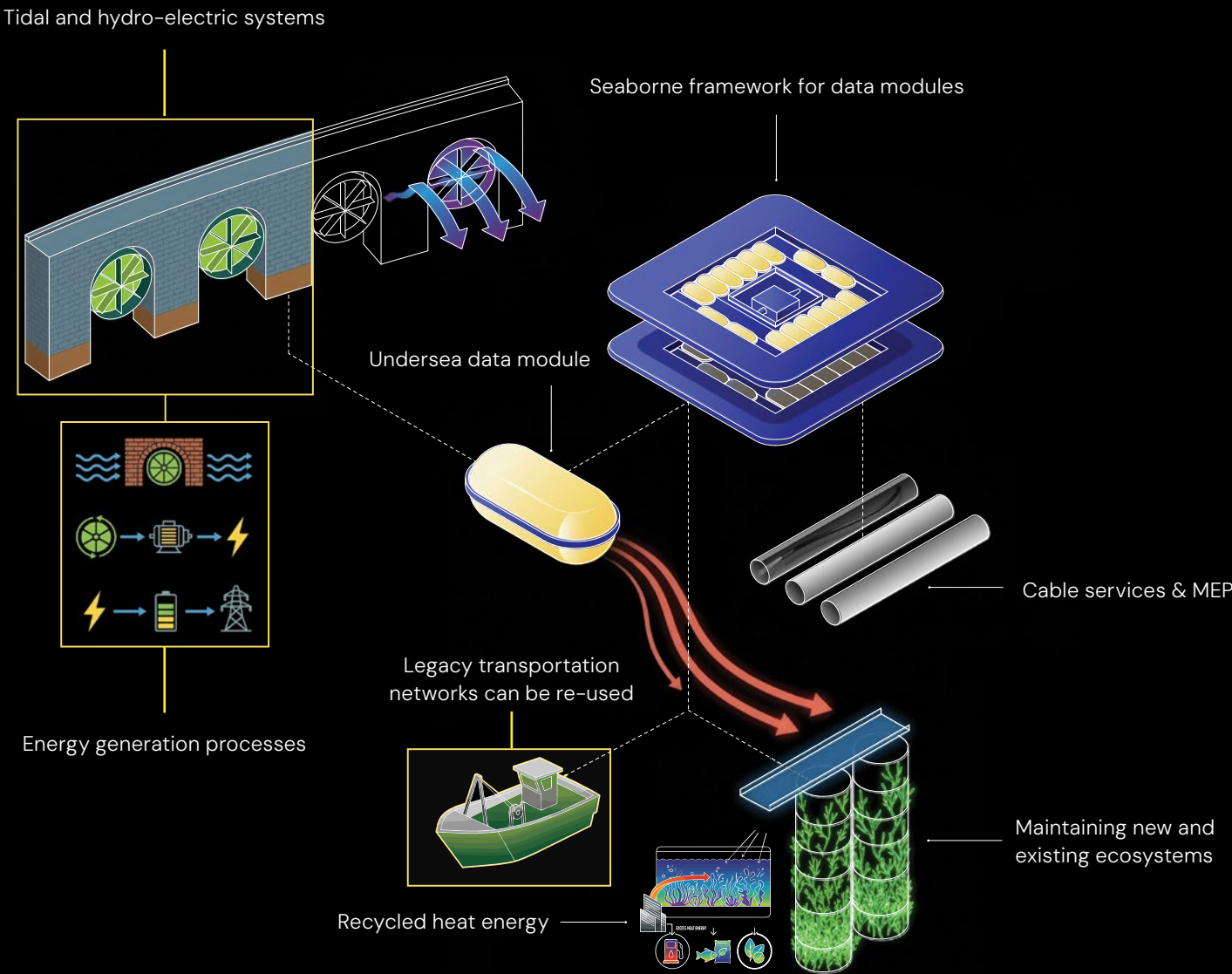
- Treats the open space edge condition / waterfront as civic territory, with integrated data centre facilities and energy production hidden into the fabric of existing infrastructure.
- Couples necessary infrastructure such as roads, flood risk mitigation measures, groynes and more with data centres, avoiding unnecessary blight elsewhere.
- Embeds existing climate resilience measures with renewables and data centres, to create hyper efficient space

Design and planning principles

- Ensure that all design proposals are hidden / embedded into the critical infrastructure, or acts in symbiosis with it.
- Energy production through hydro-electric and tidal must be integrated.
- Cooling / water filtration must take place to maximise the benefit of utilising waterfront space.
- Integration of leisure / well-being uses.



Exploded Axonometric of a Data SeaFarm



DATA INFILL

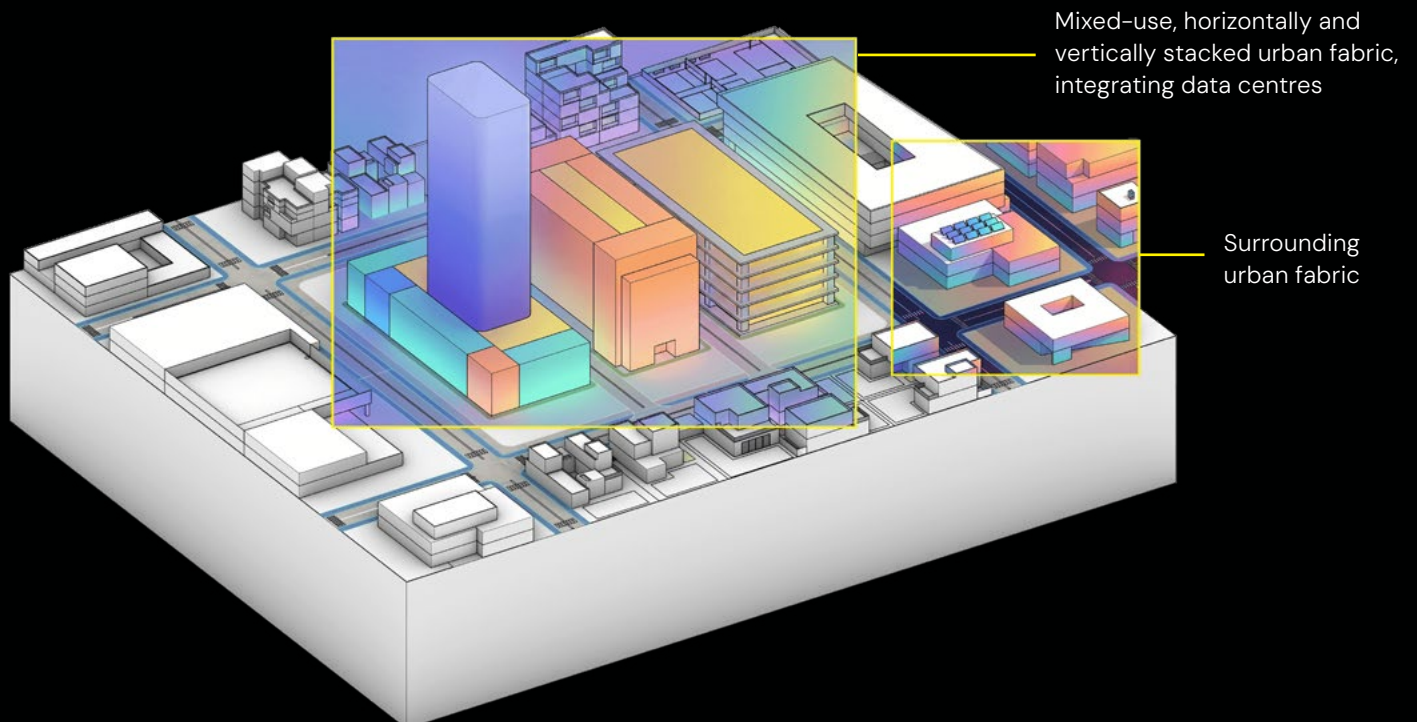
Centralised data centres situated in urban districts with mixed-use additions.

What it solves

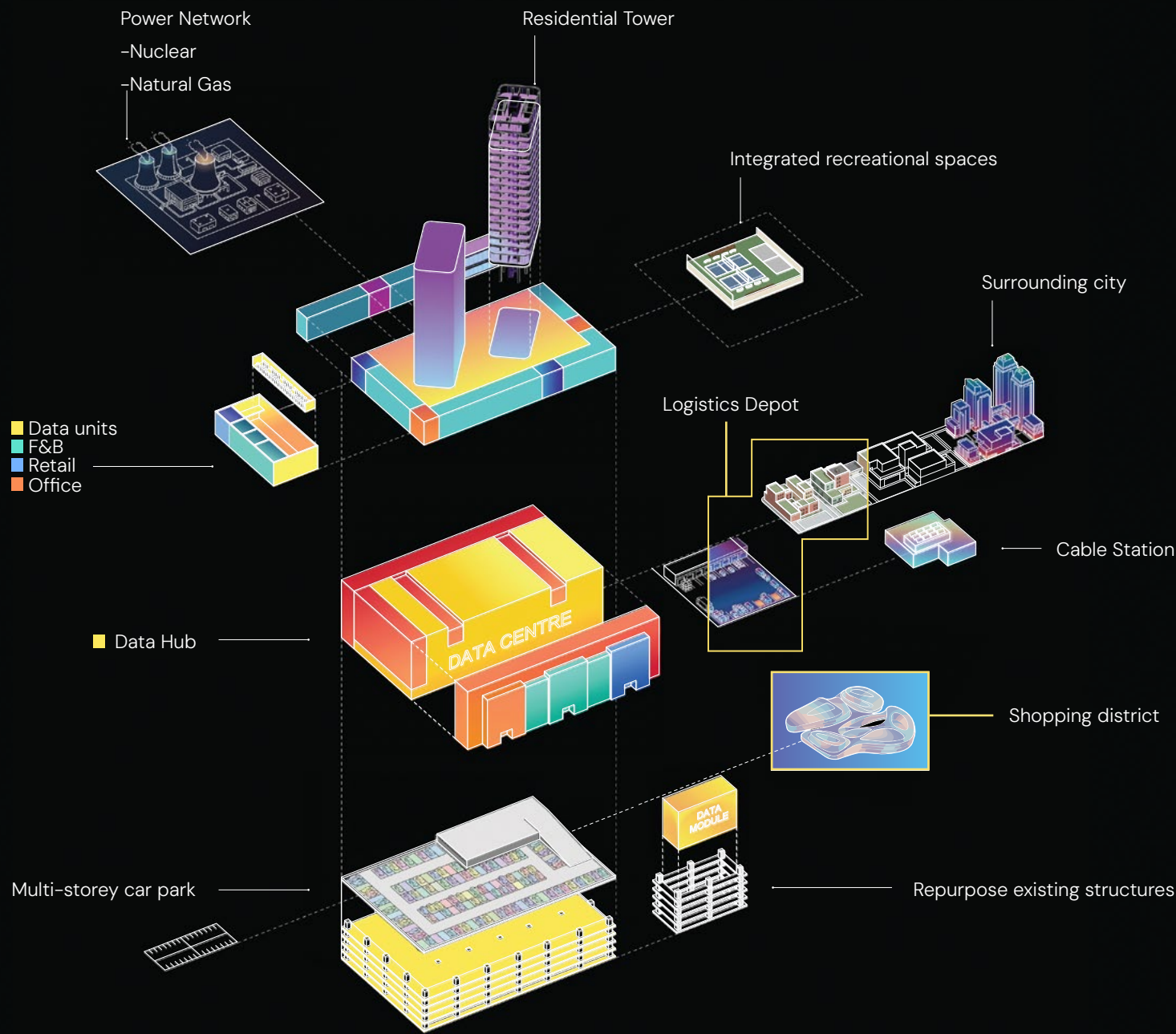
- Enables co-existence of a long-term piece of critical infrastructure in cities.
- Utilises derelict or previously under-used spaces in cities, limiting the need to undermine green spaces elsewhere.
- Tying the data centre to the local workforce can also be coupled with up-skilling residents, local events, community engagement and more.

Design and planning principles

1. **Lift:** Integrated under developments so that direct heat exchange from the data centre can take place and utilised above.
2. **Wrap:** Facilities can be skinned with other uses, including retail, F&B, offices and more.
3. **Fill:** Previously under-utilised or derelict structures can be re-purposed to contain data centres.



Exploded Axonometric of a Data Infill



Recommendations

1. **Reclassify** data centres as **civic infrastructure**

Treat them in planning, design review and policy as city-shaping assets with public obligations; not neutral utilities.

2. Make public value a **condition** of consent

Require enforceable contributions: local skills pipelines, apprenticeships, community benefit agreements and neighbourhood infrastructure investment proportional to impact.

3. Integrate energy strategies with **urban design** from the outset

Coordinate grid reinforcement, storage, and demand management with settlement phasing.

Where viable, require heat recovery strategies and district energy integration at settlement or corridor scale.

4. **Design** against isolation

Replace single-use impermeable compounds with mixed-use developments, and at a minimum, layered edge conditions. Ensure the existence of public routes, shorter blocks, active frontages (where possible) and adjacencies that prevent dead streets / dead zones. Limit security set-backs, to only where it's essential. Utilise design and smart site planning to create spaces that last, and create defensible spaces and neighbourhoods.

5. Ensure **accountability**, by tracking, recording and reviewing impacts transparently

Treat data centres as one would treat any national infrastructure component; tracking its performance, both in terms of energy-use and outputs, but also it's wider neighbourhood / local and regional level impacts (on traffic, social infrastructure, and more). These should be recorded, reviewed and improved upon, all with utmost transparency, creating a constant feedback loop of performance to improvement.

6. Demand **adaptability**, not **permanence-by-default**

Require structural and servicing strategies that allow future retrofit and adaptive re-use. Also allow for future construction techniques and urban typologies to be able to develop and define the plot in new and interesting ways, which aren't available to us today. Future-proofing is key, to learn from past mistakes.

7. Build varied and diverse **typologies** that align with different contexts

Use SeaFarms, Data Hubs, Data Belts and Infill, as planning concepts to set the parameters for future data centre developments; both organising growth, but also aligning investment strategies and opportunities, as well as making this new (but critical) element of infrastructure more accountable, transparent, and part of the urban ecosystem.

8. Consider data centres as an **opportunity**; not a constraint

If cities are to remain places for people — not merely platforms for machines — the architecture of AI must be designed, debated, improved and tied to the city's wider infrastructure assessment and review protocols. Privatisation may (and should) remain, but having partnerships and sharing data with regards to energy usage, output and more with local government is an important step. We must start to look at data centres, not as a necessary blight on our landscapes, but as a new organism that has entered our habitat, and with it, generates investment, brings opportunities, creates energy (as well as using it), and forms the backbone of a new digital era in human history. We must see it as an opportunity for growth; not a constraint to be pushed to the periphery.

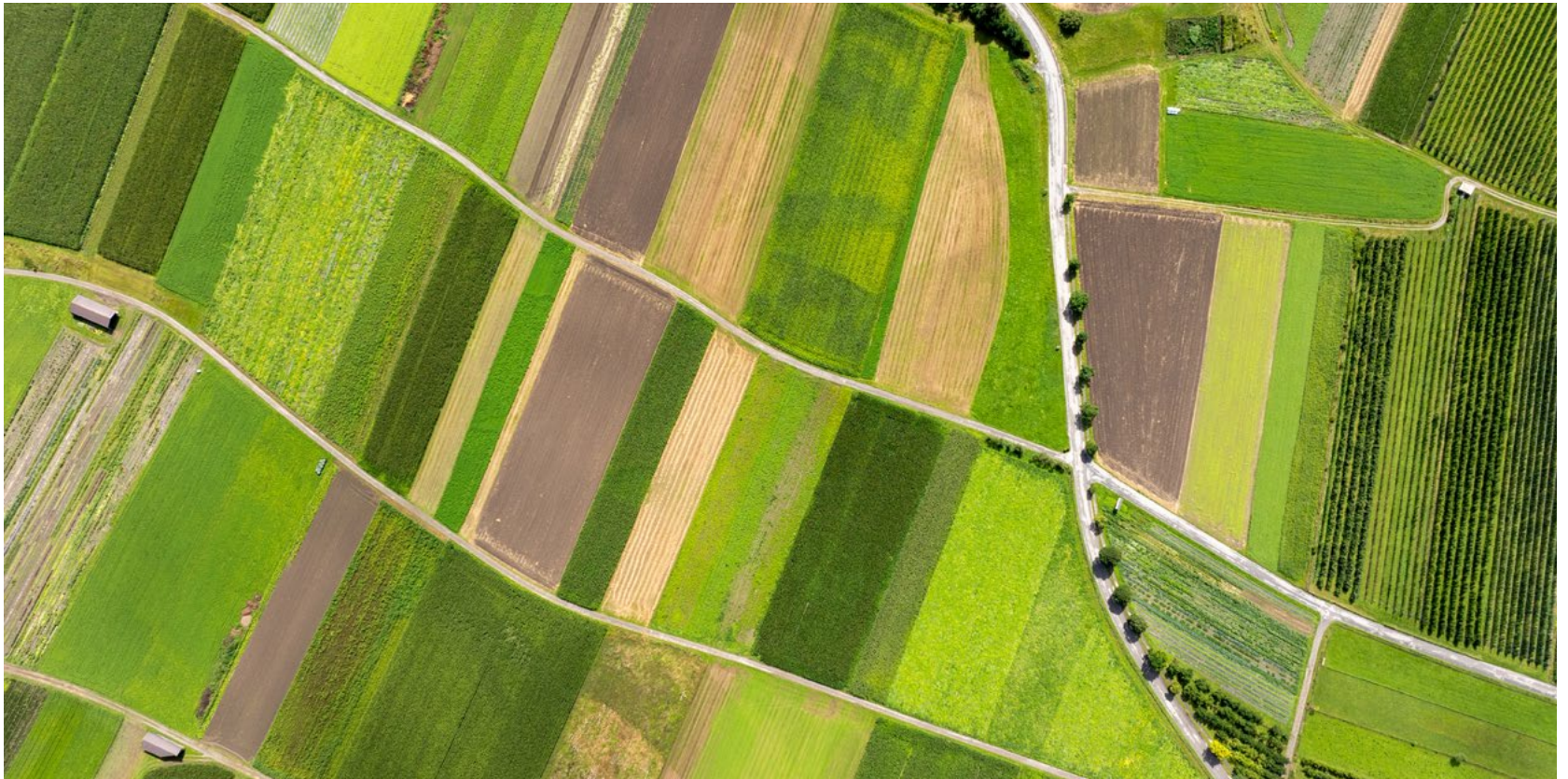
Conclusion

Data centres are undoubtedly an era-defining force in the subject of urban and landscape planning; but appear to be surprisingly – and worryingly – absent from current design discourse. Relegated to the silo of infrastructure design, they've been, for the most part ignored by architects and urbanists alike. If they are allowed to proliferate as isolated technical compounds, cities will inherit locked land, stressed grids, heightened environmental loads, and a growing mismatch between private interest and public cost.

The New Towns programme is one of the few instruments capable of engaging with AI infrastructure at its vast scale and rapid roll-out. Left to market forces, and little government oversight or regulation, they will create the same blight on our open space as the retail and logistics parks of the late-20th Century. We've been here before and cannot claim we did not see it coming. Facilities demanding tens of hectares, hundreds of megawatts, and decades of operational certainty cannot be responsibly accommodated

through reactive local plans or site-by-site deal-making and piecemeal consents alone. There must be a national, regional and local level strategy, which would itself provide greater certainty to data centre developers, thereby creating better market certainty as a whole. An instrument such as the New Towns Taskforce has the agency and long term commitment to allow land, power, cooling, connectivity, housing, and employment to be planned together – and with a comprehensive review and plan of action for data centre construction, this digital infrastructure could strengthen settlement-making rather than undermining it.

The question is no longer whether digital infrastructure will shape urban form, but whether it will do so by design or by default – our choice as designers should be to create intentional and future-proofed infrastructure that is here to stay, not to once more allow today's market forces blight our valuable landscapes and city peripheries tomorrow. The time for action is now.



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CROSS WORKS