TOOLS FOR CLIMATE CHANGE

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■ ARCHITECTURE ■ HERITAGE ■ PLANNING ■ REGENERATION ■ SPATIAL ECONOMICS MASTERPLANNING ■ URBAN DESIGN AND HOUSING ■

Built Environment in the Climate and Environmental Change Re-adjustment Era

In November 2018 Bristol City Council was the first Local Authority in the UK to declare a climate change Emergency. This was a decisive step to bring an issue seen, so far as in the sphere of management by national governments, closer to home. As this document was written, a further 123 UK Local Authorities have followed this step, along with many other town councils and institutions, such as universities.

In 2019 the Intergovernmental Conference on climate change (ICCC) committed all but four of the national governments of the world to taking the actions necessary to limit the rise of the average temperature of the earth's atmosphere to 1.5 degrees Celsius. Now, each of these governments is preparing individual plans for how this will be done. Each will shortly present to the ICCC detailed strategy and programme of how their own particular challenges will be addressed and make the necessary commitments to achieve them by 2050, before setting in place the country by country legislation required and passing this obligation down to local authorities, institutions, businesses, and each of us. Most of the non-national governance bodies declaring a climate change emergency have set themselves a carbon neutrality target of 2030.

For some, climate and developmental change mitigation is just a technical challenge; replace domestic heating with renewable energies, substitute carbon fuelled vehicles with electric ones and the problem will be solved. Like tobacco, asbestos, and now, it seems, plastics, humans adopted practices without realising their inherent harm. Now we do, alternatives will be found.

This is true, but if a challenge as big as climate change and the sustainability of the natural environment is going to be first stabilised, and then reversed, understanding in depth how and why human activities have been interfering with the stability of the systems of a planet is really important. This is not just about the science but about how humankind took such a path in the first place. Then how it can become accountable for our global impacts. Only then can we work out the systems of monitoring and control, the new value sets and the new economic models needed to step back from the impacts human activities are so evidently causing.

We believe the built environment, (illustrated by the cities and towns the majority of people live in and the transport systems they use to move people and goods around) should be a major focus of study in this climate change adjustment quest. It is the man-made urban environment that has set the terms for our aspirational lifestyles, and so humankind's impacts on the natural world and the resources we use.

Currently in the media the expectations for action appear to lie mostly with the intergovernmental agencies and national governments. But we see a lot of action happening by concerned and conscientious individuals. This commentary explores the space in between, with particular emphasis on the probable role of local authorities.

In this paper, our team of built environment change disciplines-human geographers, regeneration experts, social economic analysts, development historians, urban designers, planners and architects-have brought our thoughts together to understand these issues better, to consider how lifestyle patterns need to change and the processes, both top down and bottom up, that can make such a change possible over the next three decades.

When, 10 or 12 millennia ago, humans lived only as hunter gatherers their need for resources was light. Without homes, there was no advantage in owning anything beyond some clothing for the winter cold, weapons for protection and hunting. Movement happened necessarily only at human pace.

As, unevenly throughout the world, this way of life gave way to the growing of food and the husbanding of animals, human settlement began. With this came specialisation of skills, and so the trade in goods from one settlement to another and then from one geography to another. Now, this so much more complex pattern of specialisation and trade reaches all around the globe.

Humankind's massive cities contain complex networks of economic, social and cultural engagement and transaction, having impacts in the use of resources, the expectation of transport and energy use, directing patterns of land use and, as we now know, the disposal of waste right around the world.

The built environment, especially of large cities, is the fullest expression of humankind's pattern of imposing on the workings of the natural world. The largest cities demonstrate the living environments we have created so far from nature's way; a diversity of living organisms, of constant recycling, zero waste; one fuelled only by solar energy, one of constant adaptation and dynamic opportunism. In the large city systems of movement go deep into the ground; buildings reach high into the sky, drawing in a growing population daily from up to a 100 miles away, connected to other cities around the globe by air. But all with no model or metrics for assessing the true global impacts of the lifestyle consumption patterns this economy brings.

We will explore why and how this high resource consumption demand was created and look at some of the trajectories the world will need to move to a simpler, more impact accountable way of living. We will explore both the top down and the bottom up ways of achieving this and the roles of central, regional and local governments, major landowners and developers, communities and individuals in getting there.

Nash Partnership

Nash Partnership was established first as an architectural consultancy, in 1988. As our range of project work grew, we came to understand that whilst the urban environment is made up mostly of buildings, we needed to draw on the understanding of many other disciplines to really understand how and why society gets the kinds of built environments it does. So, gradually we have woven built environment change historians, strategy planners, urban designers, research geographers and socio-economic analyst skills into our team amongst our core disciplines of planning, regeneration and architecture.

Our team are based in the UK where we handle a wide range of design management and regeneration change consultancy, conserving existing building stock, putting brownfield land to new uses on regenerating the public sector estate, or bringing large greenfield developments forwards.

Our advisory work for Local Authorities, public estate and large landowners has generated new concept models for new emerging planning policy frameworks and new economic strategies for challenged towns. We act on several projects of urban change being promoted jointly by public sector and private sector partners, some with their local authority landowners acting in the climate change emergency context.

A War Time Footing?

The understanding of the phenomenon of human induced climate change was first articulated as far back as the late 19th century. It grew out of the studies and writing around the "limits to growth" debate of the 1970's. This introduced the understanding that the earth has only so much capacity to accommodate the level of systemic change human activity worldwide brings, of which the challenges of greenhouse gasses and the loss of biodiversity are only two examples.

But the pressure globally to emulate and spread the lifestyles, standards of living and economic expectations of the western world was largely ignored before the evidence of biodiversity loss and global warming became strong enough and largely undisputed amongst those able to evaluate it. There has now been a marked quickening of pace in the taking up of climate change and environmental topics in the public mind and in the media.

Many commentators have said the urgency of change in humankind's impact needs to be recognised by national government moving onto a "wartime footing"; that the nature of the climate change and environment crisis now need measures taking that would otherwise only be taken when a nation's population's way of life is under the external threat of war.

Using this phrase is saying effectively that the status quo, the normal market-led economy (regulated as far as it is by various tests and balances already in place), is simply unable to deliver the changes that will be needed.

Typically after a declaration of war the following things happen:

Investment Norms Change

The financial systems of the world rely on capital finding places to invest. Arguably, this goal has been more than anything responsible for the concept of perpetual economic growth, and the economy's ambition to ensure all its participants are borrowing money for something; to buy homes, to buy cars, foreign holidays. But investment needs confidence that money will be made rather than lost. Through the uncertainties future climate change will favour some places and some emerging technologies and disfavour others under greater risk. But only once a sufficient understanding is gained of these prospects. Until then, much of the speculation in rising land values or perpetually rising house prices looks high risk.

A Command and Control Economy

Our system of governance works on the basis that measures for protection are in place for aspects of the natural world and its resources, but for the rest, market forces substantially determine where and how development change happens. There are statutory processes in place, notably the planning system, through which the risks of change are questioned and interrogated. But in the wartime scenario such checks and balances are overridden by urgency and necessity. Government is empowered by emergency powers to direct what happens where the effects of change are adverse. Where effects are not fully known a government may simply say no. Currently, the statutory planning process is slow to formulate new policy change and in this climate change adjustment era more such powers are likely.


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Requisition of Land and Buildings

This was common in wartime to rapidly create the infrastructure - of training, building of weapons and the building of transport - the wartime emergency demanded, delivered through an emergency plan. The rights of property have long been seen as a foundation of stable civil society but if accommodating new flood storage requirements or allocating land to plant trees for carbon capture is seen as more important than new houses in an unsustainable location, things might change.

Freedom of Movement

Freedom of movement to work and live has been one of the building blocks of the European Union economic model. In wartime, freedom of movement was restricted for reasons of security, to keep the enemy away from military establishments and to prioritise consumption of fuel for the war effort. Families were separated as children were compulsorily relocated to lower risk areas.

Rationing

Under the threat of war, rationing of food, clothing, and some other things was judged necessary to ensure all the population was fed well enough for the war effort and avoid some of the population missing out through scarcity pricing. In our own society, reliance on the market already fails to prevent gross inequalities in access to wholesome food and some other goods, including housing. There are considerable risks these disparities will increase.

The Food Supply

In wartime a nation's food supply is under threat, both by enemy action disrupting means of supply and the loss of a labour force to the war effort. In war, government directed farmers on what to grow and where to grow it and enforced a new supply of farm workers.

Conscription

The ultimate control; requiring the country's citizens to be part of the war effort, sometimes against their wishes but with some monetary compensation for the livelihoods they previously had. It is conceivable there could be activities needed to mitigate climate change that merit such a step, if the market cannot deliver.

Faced with this climate and environmental change emergency, will the market be able to deliver the lifestyle changes required? Can this happen within the framework of legislation governments have set in place alongside those changes, working from the bottom up, individuals and their communities initiate?

Quickening the Pace of Change Imperatives

Climate change and the loss of biodiversity are already underway. Those of us working in developmental change have seen how extreme weather events, pollution of air and water, the risk to water supply and the rise in recycling are influencing what we do daily. For a long time, it has been necessary to show that development proposals will not "cause harm to interests of acknowledged importance." In the National Planning Policy Framework, development change is required to show positive benefit and it is inevitable this logic will apply even more as climate change bites. Efforts in recent years for reducing car commuting, improving public transport capacity, making emergency plans for rising sea levels and storm events are all consequences of the early stages of climate change.

Getting our heads around an issue as large and worrying as climate and environmental change feels very difficult. A large part of this is because what we each do now that is adverse and might do beneficially is only a very small part of the problem, and the solution. If we acknowledge the UK is producing only 1% of carbon emissions globally and we are told the development growth in the far east is where the biggest challenges lie, what difference can we make?

But as the initiators of the 18th century Industrial Revolution which created these patterns of consumption based on global trade, and mass transport fuelled entirely by coal and then by oil, showing how humankind can see how to pull back from consumerism consequences is a task that falls to us on our watch.

We are not alone in valuing the beauties and riches of the world or the value of the 'commons', those things like fresh air, water, and nature we all inherit and share. So, we just have to trust others will want to address these problems too, each from where they stand, and throw light on how this can be done.

Part of the journey for each of us, wherever we come from is to understand and investigate what we can do, and what stops us from being effective. What we can do with those in our families, our communities, our institutions, our businesses, and what our Local Authority can do in partnership with their communities.

As recent television programmes and media reports have shown, it is remarkable just how quickly some positive trends have already flashed around the world; the ready acceptance of not using throwaway plastic bags for shopping or being the masters of our own packaging in the supermarket or coffee shop. Managing the waste and the greenhouse gas emissions inherent in the supply of non-seasonal food stuffs daily crossing the globe or ignoring the false imperatives of global fashion. The point is, most of us already know many of the things we shouldn't and should be doing whilst we, and a host of agencies and other organisations, are working out what else - more structural, more endemic - needs to be done.

The nature of the existing built environment greatly determines the lifestyle and consumption patterns of humankind. The houses we live in offered their first residents (possibly ourselves) the opportunities to live the suburban dream. The power of advertising and its even more devious later manifestations has encouraged us to lead lives well out of step with our natural needs. If our work or our children's school can be accessed only by car, this is what we will use. Supermarkets operate in a competitive environment that makes being in touch with local suppliers of food and drink difficult.

Once we pause to value our consumer choices by reference to a different set of metrics, then apparent imperatives rapidly change. When the choices we might make personally are subject to the force of the family, our household, our community, our school, our workplace, our town, routes to change happen and knowledge is shared.

Already we know:

- Far too much food, especially in supermarkets, gets to us by air.
- Advertising exists to make us dissatisfied with our lives and want to buy things we air travel in places much closer to home.
- People enjoyed holidays much closer to home long before they had access to air travel.
- It feels good when you've been to the recycling depot.
- Growing your own food brings unexpected pleasures.
- With some thought, goods in plastic containers don't need to be bought.
- Growing locally is good for our local economy, its impacts are more easily accounted for, and its packaging notably less.
- Caring for and enhancing the natural world around where we live is an investment in the future.
- Use of all vehicles, including electric fuelled ones, uses energy, locks up resources and bring risks to the health of all of us.
- Switching to a renewable only energy supplier is a step in ending the history of carbon fuels.
- In the natural world there is no such thing as waste, or even harm, only infinite recycling.












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Reducing Further Impact through Societal Behaviour and Mitigation

How human beings live, their patterns of consumption of resources, the waste their lifestyles produce and the energy they use are determined by many things. Their quality of life expectations, daily convenience, and the choices the economy they are part of puts before them the options the existing built environment constrains. Also, by societal norms, those checks and balances are subtly driven by how social psychology works.

We live in a liberal society that largely accepts differential wealth and consumption limited only by the fiscal regime and some social norms and laws. In future, one person's lifestyle - a private aeroplane, diesel car or a long commute - will be seen as harming to health and the prospects of others. We must expect societal norms to change and potential political norms too.

Economists talk and write about the 'global commons'. These are those many goods we have accepted as freely available to all people, regardless of their level of income; air to breathe, sunlight to feel, access to the diversity and beauty of the natural world and to the weather. Other goods lie between the global commons and the sphere of rights, depending partly an individual's political persuasion. Is access to clean drinking water, to healthcare, to a dry, secure, warm home, to schooling, within the sphere of global commons or human rights?

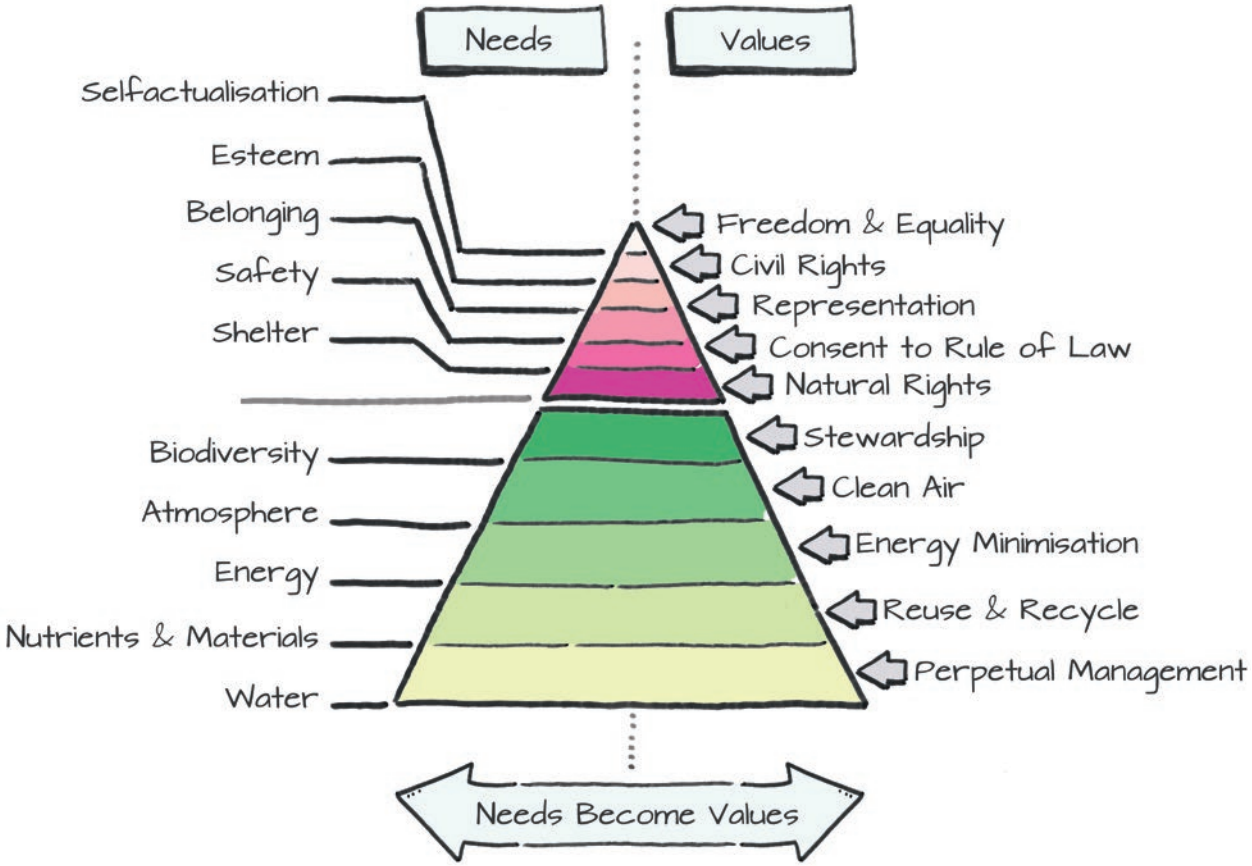
But now, throughout the world (more in some places than others), the global commons are themselves under threat and the comforts of wealth, class and status will only go so far to mitigate for their continuing degradation. We know, too, that where climate change effects strike most will cause population displacement pressures, adding additional challenges. It appears that, on top of the mantra of perpetual economic and business growth fuelling consumption patterns and draining resources, inequalities of access to assets will generate adverse consequences for all.

National governments have long used the fiscal regime (taxes) to modify a population's behaviour and thereby raise revenues. So new tax-incentivised change is likely.

Government can also intervene directly in the market, such as funding development of new projects and processes that bring forward new sustainable patterns of living. One of the most effective steps to more impact accountable ways of living is to bring the impacts cycle of consumption patterns closer to home.

Then we better understand and own the consequences of how we choose to consume. Of the food we buy or grow, the travel we do or do not need to undertake, the energy we buy, the waste collected from our home. Local Authorities have managed the rapid growth in waste recycling remarkably well. We see, working directly with their communities, LA's are likely to be prime movers in managing the future change initiatives keeping climate temperature change in check will need.

We believe 'keeping it local' is a key strategy for the climate change adaptation era. Choosing to live so as many as possible of our consumption choices can be sourced locally where their impacts can be seen and felt. Across the globe spatio-economic advantage, climate and land availability will still determine where some food and products come from. But, increasingly, the real cost of these cross-global choices will have to be factored into the price equation. 'Keep it local' is not only about the sources of goods; it is the best place to start, in taking care of biodiversity, planting more trees, evening out inequalities, improving community assets and resilience. The experience gained allows a better understanding of the issues of the rest of the world.



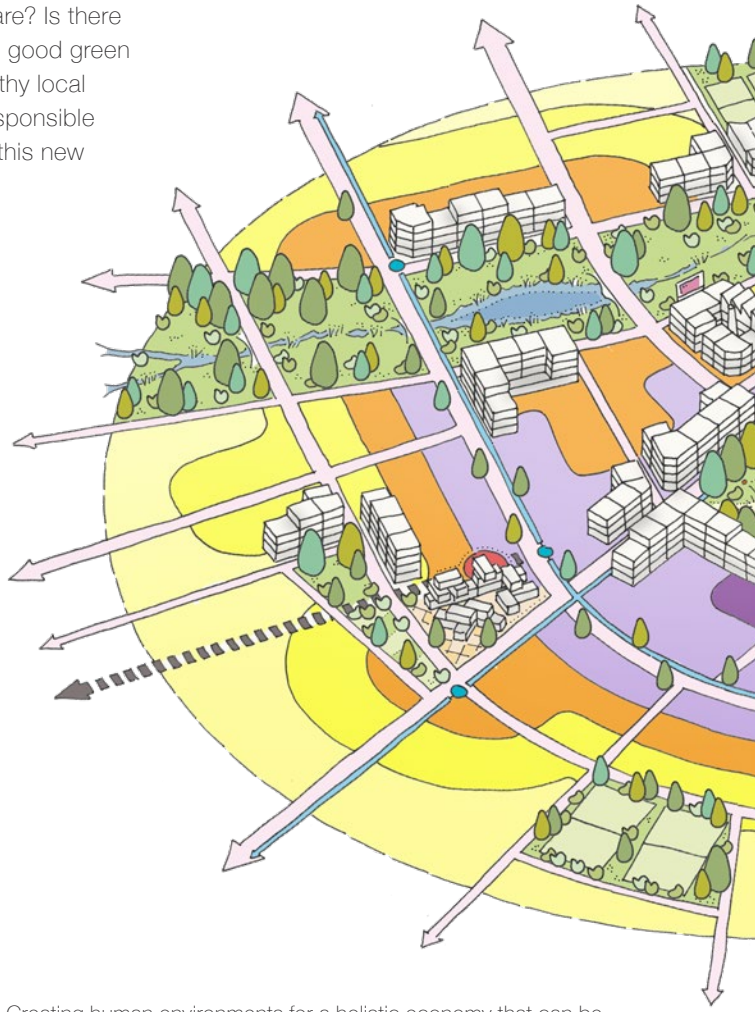
Maslow sought to explain how human societies have evolved to build hierarchies of needs - here represented by the top of this pyramid. We are having to face up to the knowledge our existence as humans demands a very different foundation in understanding the planet's needs as a balanced system and bio-diversity sphere.

Lifestyle Consequences and the Built Environment

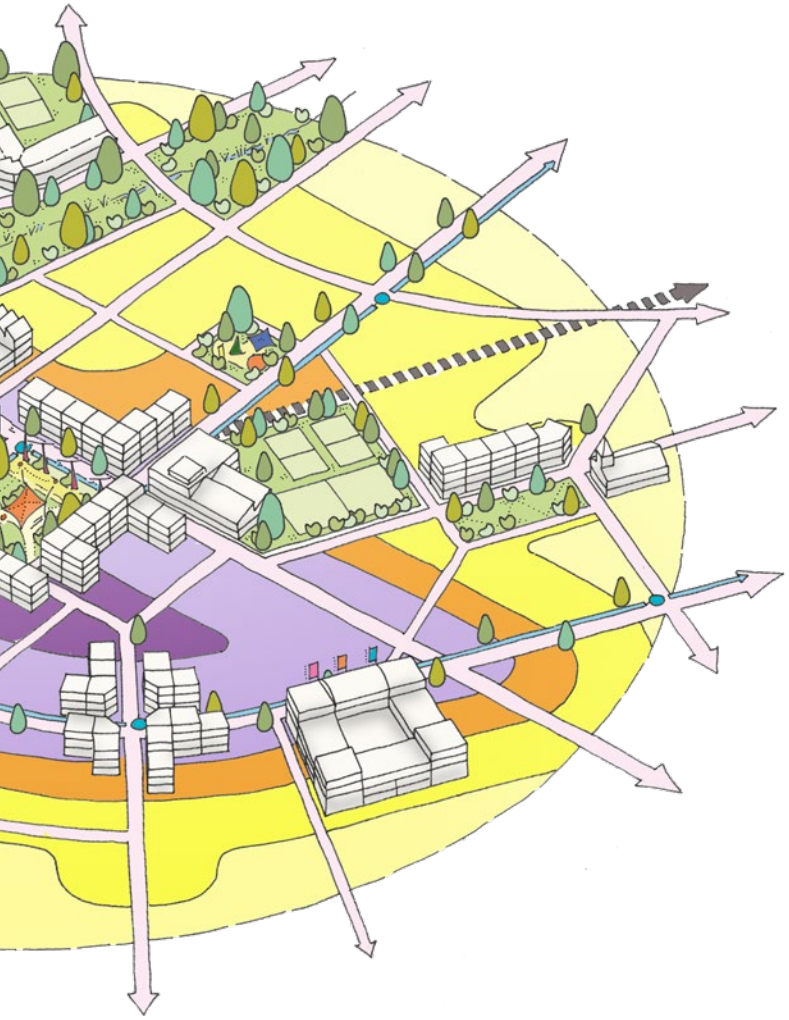
The existing built environment of cities, towns, suburbia and villages determines spatially much of the environmental impacts of the consumption lifestyles we have. It reflects a pattern of needs from the time our homes were first built, but even allowing for dynamic change these lifestyles are not always the best fit now. Is there employment close to where we live, a school, shops, a local market growing locally grown food? Much of the work of architects and planners is directed to creating new built environments, whether as large-scale greenfield housing or piece-by-piece urban replacement.

But what can overcome the inefficiency and the ill adaptation of so much of the built environment in the climate change adjustment era? Does it have the capacity to change to support more sustainable lifestyles? Working out how to do this is a new challenge for our long-built settlements.

Looked at spatio-economically, the existing built environment is often found to be under development market-led pressure for change. Now a new set of pressures is coming into play. Is the housing stock energy efficient, are there safe and walkable routes to school, local employment and elderly people's care? Is there good green space and good green corridors too for a healthy local biodiversity and the responsible movement patterns of this new green era?



Creating human environments for a holistic economy that can be accountable for its global impacts



1. Town Centre
2. Pocket Parks & Play
3. Neighbourhood Centre
4. Green & River Corridor
5. Train & Mass Transit
6. Local Bus Routes
7. Walkable & Friendly Streets
8. Clear Access & Distributor Roads
9. Accessible Shops & Services
10. Health & Wellbeing Centre
11. Community Focused Schools
12. Community Facilities & Childcare
13. Sports Pitches & Parks
14. Incubation & Enterprise Hubs
15. Retrofitted Buildings
16. Temporary & Meanwhile Uses
17. Appropriate Urban Intensification

Mixed Use Highly Accessible Areas

Balanced High Density Housing

Predominantly Residential Areas

Capitalism, Perpetual Growth and the Role of Investment

Humankind will need to learn to step back from the present form of the global economy that has allowed so much consumption; of energy, of movement, consumer goods, non-seasonal food, so much waste and pollution. It is important in this to understand how this high consumption world was created.

For western society up until the early 18th century, the pattern of trade in food and goods had a strong local dimension about it, notwithstanding the fact luxury goods, foods and even bulk materials like bricks and construction timber had been traded between nations for generations before this.

Towns were small and their economy of supply and waste largely circular.

In the 17th and 18th centuries the building up of England's Navy and

Merchant Fleet opened up trade with the wider world. This early inter-continental trade opened up new systems of banking, finance, insurance and contract law which supported the opportunity for those building these new sources of wealth to earn an income without use of their labour, skill or profession. Through investment of capital, income could be produced in another way.

This burgeoning middle class had time on their hands to acquire goods, develop taste and culture and new ways of living that went well beyond the hand-to-mouth experience which

had been the human lot for so long. So, the middle class began furnishing their homes with the applied domestic arts in painting, furniture, china and their fashions too.

The Western Industrial Revolution began in the very late 17th century with the discovery of improved ways

of making cast iron, allowing new production and machinery to be built. Such machinery exceeded the power of horses, the watermill or windmill. It was fuelled by coal, the mining of which needed the steam pumps the era first produced. This coincidence of ironworking and steam power rapidly manifested in new mass transportation systems, canals, railways and powered ships. By these means raw materials and goods could be transported from afar and so the prospect of trans-national and then global trade began.

We did not know then that this source of energy had a hidden penalty. Its energy source was the product of billions of seasons of sunlight, which

had stored up carbon as the annual growth of prehistoric plants had formed the earth's oxygen. Burning it would release that carbon into the earth's atmosphere to an extent well beyond its capacity to reabsorb it, with the consequences we are now beginning to understand.

Produced by the industrial revolution, this power to trade globally created the

competing empires that ultimately led to the world wars of the 20th century.

But it had also raised the prospect that all humankind could benefit from the goods, transport systems and lifestyles the wealthiest in society could enjoy. Meanwhile, the wealthiest used their new excess of income to finance at first national and then global entrepreneurship to reap rich rewards by servicing these needs.

As far back as 1926, Paul Mazer of Lehman Brothers famously wrote in the Harvard Business Reviews;

"We must shift America from a need to a desires culture. People must be trained to desire – to want new things even before the old has been entirely consumed. We must shape a new mentality in America. Man's desires must overshadow his needs."

Charles F Kettering, Head of Research

at General Motors for almost three decades wrote an article in the Nation's Business magazine in 1929 entitled 'Keep the Consumer Dissatisfied'. In this, he argued for the merit of consumer dissatisfaction as a force of social progress.

The second world war came at a time when the American economy could take full advantage of these opportunities to build new expectations of consumerism following the American dream, first in their own society and then around the world. In the UK, the post-war economy

rapidly demonstrated this as first cars, then detached or semi-detached houses, radios, TV's, washing machines, refrigerators and foreign holidays all became possible for the first time in a very few years…and so it has continued.

Out of America too came the new tools to influence people's desires through advertising and marketing and which continue through social media and the global companies that exploit it.

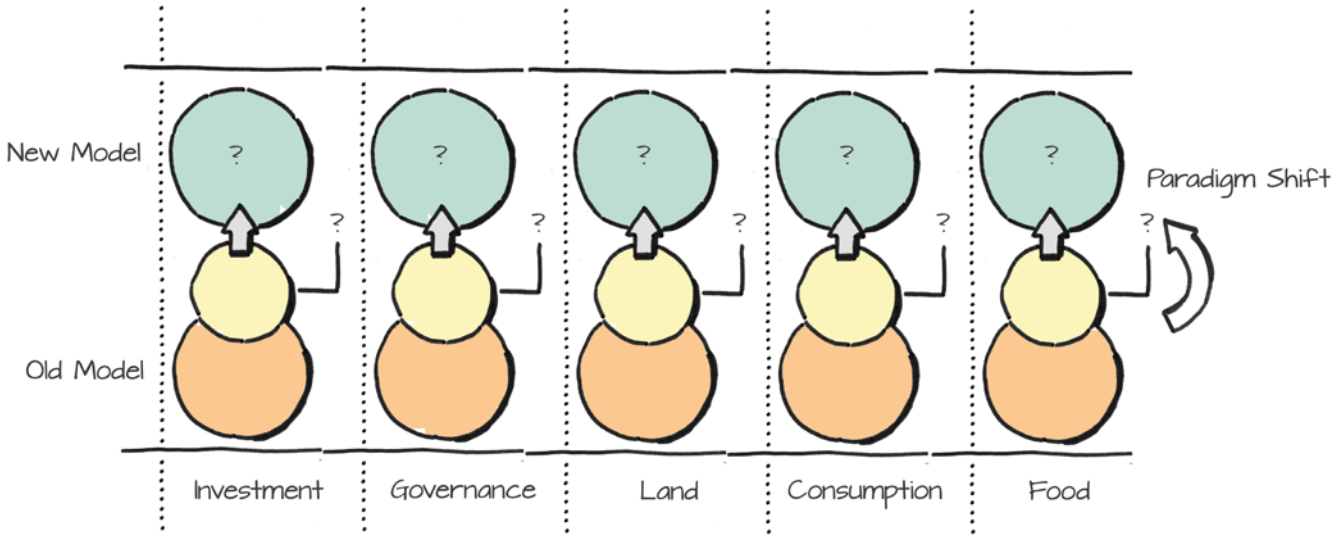
Hidden in this history lies the mantra of perpetual growth in the turnover of a business, a standard of living, the amount of global trade, the growth in air miles; that success can only be measured by having more, owning more, wanting more, using more, throwing more away.

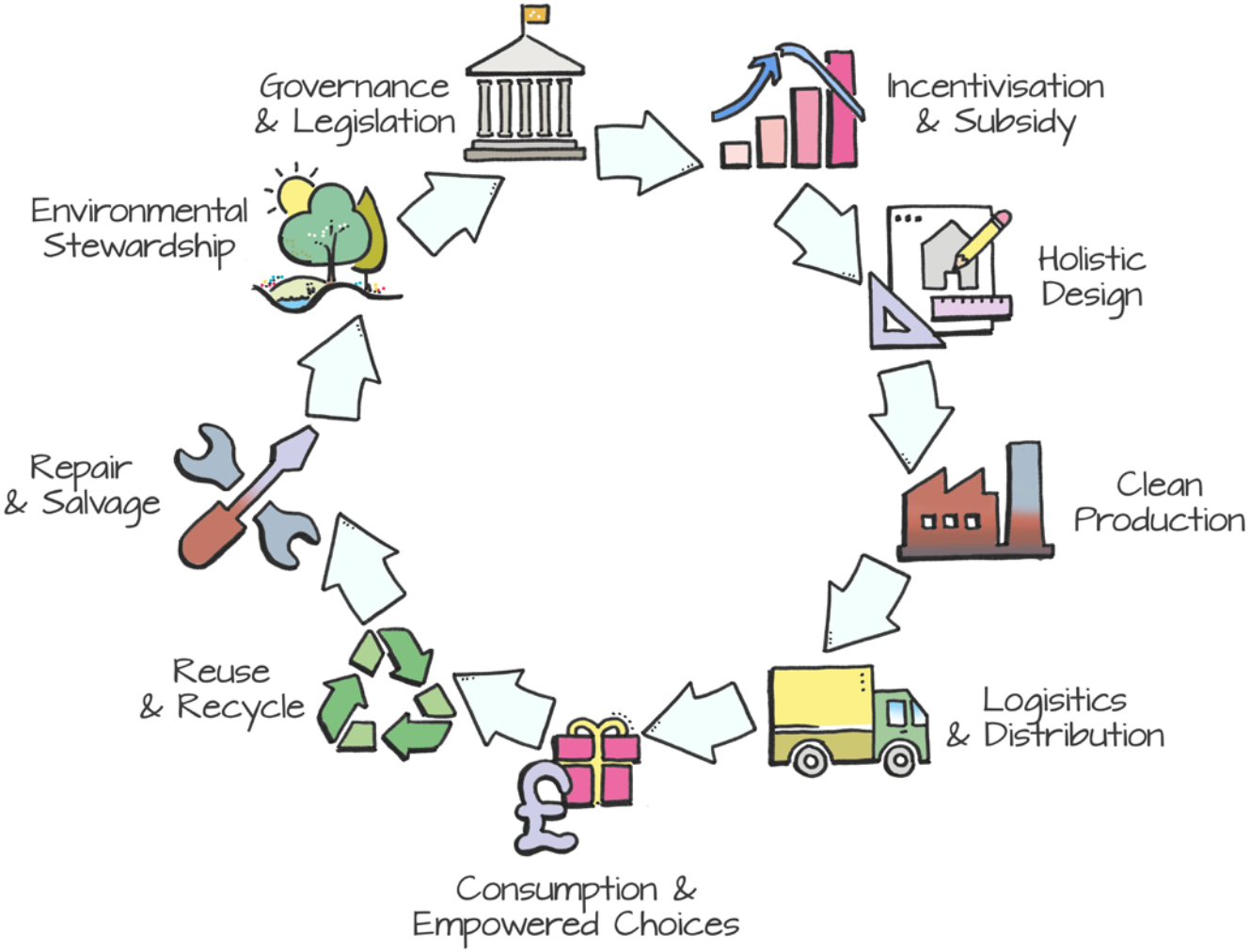
We are now having to face up to this cost of success in the planetary harm it has done; to try to understand how to either step back from its power or use the power of the market to build a new model of human interaction with the world we live in.

The highly globalised economy reached in the 21st century has certainly raised standards of health and of education for many. But it has fuelled aspirations for ownership of assets, energy use and overall levels of consumption. Ways have to be found to step away from these negatives, now so bound up in our expectations of what a normal way of life should consist of.

Deep in the heart of this challenge has to be forging a new perspective on the role of the investment of capital. When across the globe capital seeks places to hold and grow value for its owners, it is being used to both create and service demand, as part of the global machinery for manipulating value sets.

Whether the use of capital and investment can be redirected to better purposes, to rebalancing the planet, is one of our interesting challenges.





Creating human environments for a holistic economy that can be accountable for its global impacts

Changing Value Sets

Assigning Values

When we each think about our lives, if asked what goods we value most words like:

- **Shelter, security, relationships, friends, family, health/fitness, freedom of choice, mental stimulus and sufficient food** are likely to come to the fore. Somewhere in the list might be found **wealth**, or at least **confidence in a stable level of income**.
- **A pleasant more stimulating environment, access to the natural world, opportunities for rest and relaxation, social and culture life, education?**
- Asked to turn our perspective outwards we might say, **a stable and civil society, more equality, less poverty, a valued rich community life, the good of others, the richness and diversity of the natural world and its landscapes, and the future of the planet**.

Each of us might order such a list differently if asked to place these values in this way. Dividing them up into say first, second and third priority groups, these groups can be described as **"value sets"**.

It is easily apparent that as we go through life, our value set priorities change. Those of a child for **security, love, fun and food would come before outward goals**. However, children often see the unfairnesses of society with fresher eyes. Those of the older person become more reflective, based on experience of coming to understand what matters most in life.

When our team undertake urban regeneration work or urban design on a large scale, setting out the prime value sets of a project really matters. Any large built environment change scheme gets pushed and pulled by so many forces as consultees, local stakeholders and commentators engage with it. Then even sound founding principles can so easily be squeezed out if their value has not been asserted strongly enough in the design development process, or they have been wrongly prioritised and not endorsed by the key stakeholders at the start.

The world's humans have acknowledged different value sets, as economic drivers at different times. For the UK, growing global trade and building an empire mattered once, driving new social and cultural tastes and an appetite for trade and economic exploitation. Value sets can and - at times - should change. At this point in time, something that could always have been on the list comes forward more. But then this also means others have to matter less. So now:

- **Fresh air**
- **An end to carbon fuels**
- **More locally sourced food**
- **More community responsibility for local biodiversity**
- **The elimination of single use plastics**

All matter a lot!

And whilst these goals are being sought:

- Freedom of personalised transportation
- Building up renewable energy sources
- Exotic non-seasonal food
- A desire to own things

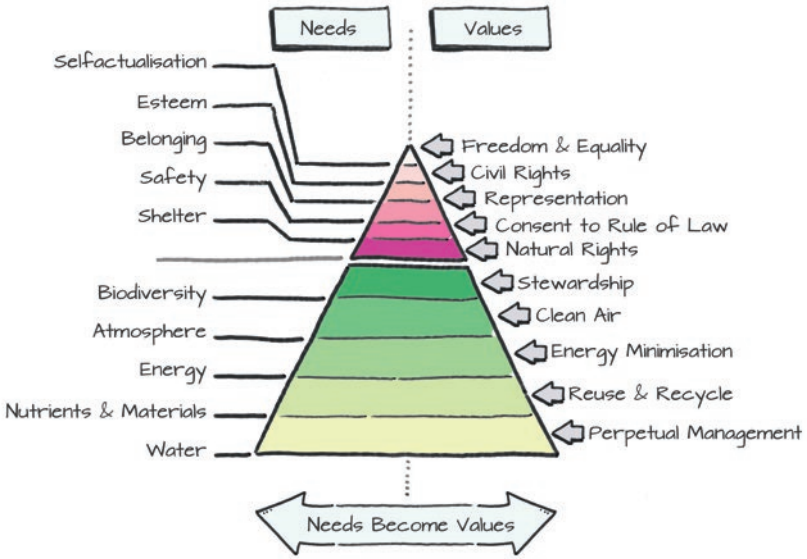
Should all matter less!

This is obvious, but we have been schooled by advertising through all our lives that satisfaction of even the smallest desire is good. It so easily manipulates us into seeking many things we do not need and actually don't even want. In fact, one set of wants is very easily replaced by another and often (especially now with so much at stake the new ones, around saving the planet and its richness) might seem much more rewarding and so be found to tick a lot of boxes down the line of our value sets at the same time.

We believe how our society reorders its values should be both a personal and a collective endeavour in which social institutions like schools, neighbourhood communities and governments (national and local) have a big part to play. Deep down, the statutory planning process is underwritten by a vision of how our society should be.

Deep down, we know that many of our apparent personal wants have come into existence to satisfy our fears; a desire for wealth, for fear of loss and insecurity. These are fears and doubts the world of advertising so readily plays on. A desire for fashion to play a big part in who we are, for fear of not being liked without this. But there might be better ways of addressing such fears that would be better for society and certainly better for the planet. If nothing else, there is a real satisfaction to be had in learning we can be master of our own choices and less the product of the market's manipulation; even a happy place where there are few wants or even needs to be satisfied.

Exploring this world through the application of societal value sets is a great tool in the quest for a rebalancing of consumption demands.



Maslow's Hierarchy of Needs - underpinned with awareness of the planet we live on

Urban Living Impact Accountability

One of the most startling reflections on the climate change challenge problem is that realising its significance took humankind so long. For all the scientific advances and health improvements of our age it has been some 270 years from the start of the western Industrial Revolution before the thought finally broke through that the earth's fragile atmosphere would have finite limits in its capacity to absorb human industrial change. That this should have been so needs examination.

How could we remain so unaware that burning so many millennia of naturally created fossil fuels in an infinitely small fraction of the time it took to lay down might be a problem?

Part of the reason is that the narrative of human progress - in overcoming disease, in the possibilities of technology and its standards of living - in Western Civilisation has been so strong. It has become the driving mantra of the capital investment led business models behind the global human economy. Unless a business is making money, it is losing money and this is not conducive to its survival long term. Similarly, if a company invites investments and does not deliver positive returns for those with excess capital to find a home for, that business vehicle won't survive either. So a whole machinery of misbelief and purpose has built up around the idea of perpetual progress and growth in the ways of the world. And it has proved strong enough to mask from view the adverse consequences of what this progress and growth have actually been causing. The market is like a clock with many cogs, some to deliver the change, in goods, and in lifestyles necessary to keep the hands going round. The others exist to persuade us all that we need these things, and disconnecting us from consequences of our actions. Another set drives growth purely to create return on the world's capital reserves.

However, it seems we are at a point in history when we just have to be really honest about the downsides of this growth-led model we have created.

This means replacing the underlying belief that globalisation can only be good with one that says making our lifestyle decisions based on a realistic understanding of our lifestyle impacts is a better one, in fact much better because it is essential for our survival and that of future generations.

Similarly, insofar as there is investment it will be investment in survival and not in return, to pull back from the global economy that is creating the harm.

Most people, if they are honest with themselves, do know what they really value in their lives are not possessions, or excess consumption lifestyles. They are capable of feeling proud and strengthened by the ability to stand away from these things in the better interests of society. When you see the speed with which individuals will change longstanding habits, in simple choices like ditching plastic bags and bottled water, they are recognising this freedom. The future can only be one of more honesty about the true impacts of the daily lives, and particularly the urban dictated lives, we lead.

In Britain now there are no true 'subsistence dwellers' anymore, people whose consumption patterns are 'closed' in their sourcing of energy, food and the recycling of their waste. For most of us it is our urban lives that have to be the subject of examination. Generally, lives substantially severed from the processes of the natural world and highly dependent on energy, movement, subsistence and consumer goods. Things brought in from afar, affecting natural environments even further removed from those we might consider we have some sort of connection with.

Frome's share shop

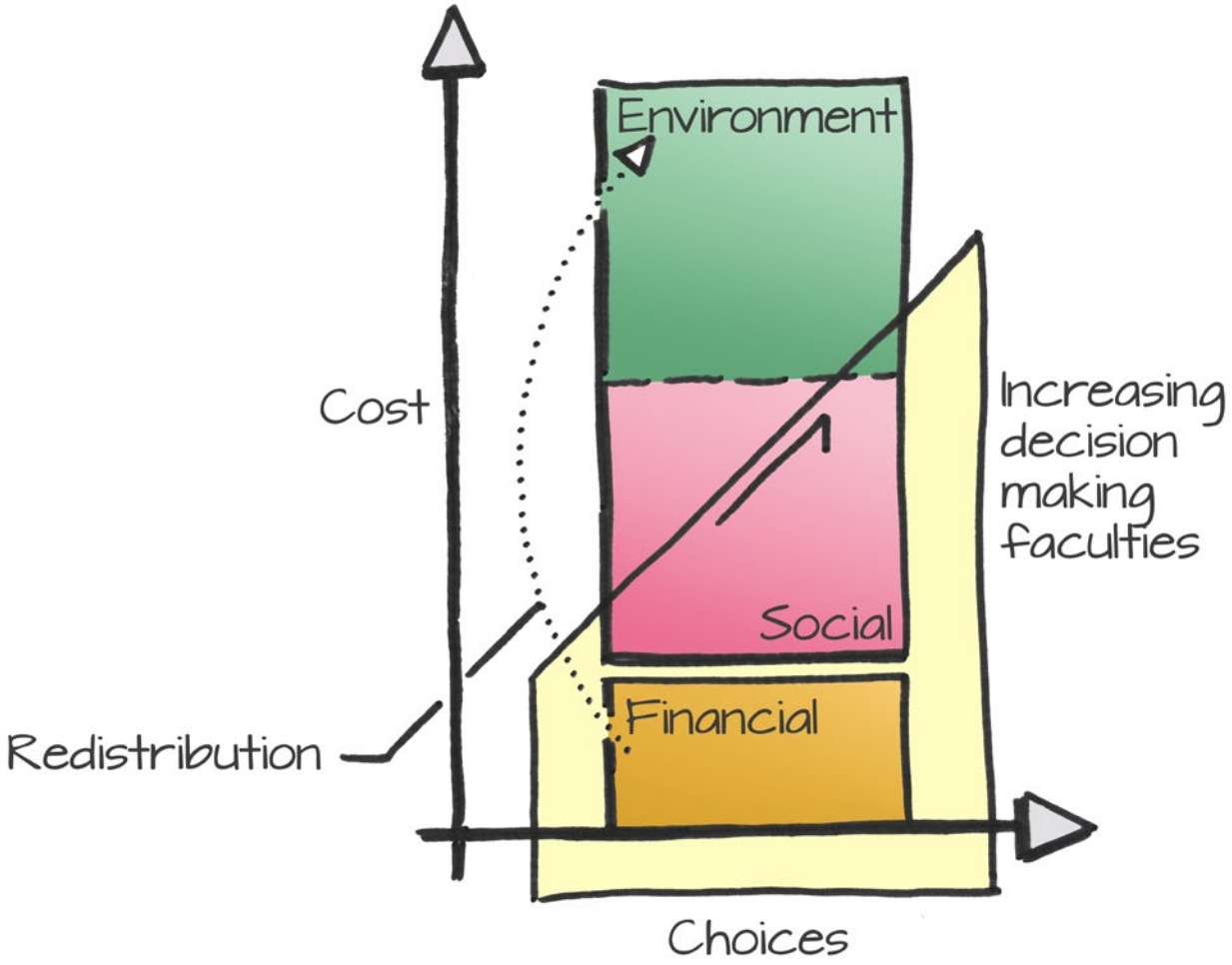
Most of us living in towns or cities know our urban lives are secured by a very large number of consumption decisions at home, a daily pattern of movement to work, a multitude of choices about food, clothing, financial services, entertainment, in-built expectations and travel for leisure. But in truth we know little about the environmental impacts or the human impacts of these choices apart from persistent comments in the media berating international companies about their labour rates or unreasonable waste. Over the last two decades, data systems have been built to better inform us about the implications of our choices. Right now for instance the use of plastics in clothing fabric is under particular scrutiny.

We either have to become more knowledgeable about these choices or choose to own less, and recycle more. To expect only goods whose pattern of resourcing we can trace back to source; for each of us a wholly rational choice with pros and cons. First we have to consciously take back responsibility for this particular aspect of our lives. To say that such impacts matter to us and that we are going to decouple ourselves from the machinery that is setting out to dictate our consumption, every minute of our waking hours.

For those of us living in towns or cities our place of residence should be able to help us make these choices. Once it did, as many such places were so defined by the goods they made and the markets through which goods were traded; the market by which many so called 'market towns' were defined, and could be again. It is good to see this reshaping happen again as so many urban dwellers can now check out their sustainable choices, buying food from local makers in their region or sourcing recycled or new bespoke clothing made locally. There is only a small step from this to see a regionally-based company bringing together energy sourced from a range of locally available renewables, the practical good sense of using a local car club or a 'Library of Things' from which users can borrow rather than buy things they do not need to own all of the time. To question the need to own, heat and maintain a much larger house in part because they have not sought to live this way before.

Only another small step beyond this to help town or city dwellers to feel and actually be responsible for the biodiversity of the urban hinterland, the quality of their air and ask whether their hinterland farming practices aid a growing biodiversity. Perhaps to discover for the first time the institutions and charitable operations of their region, bringing together interest and concern from other many others about particular aspects of biodiversity and doing something about it.

We all know it feels good to care about what we value and do something about it.



The climate and bio-diversity change crisis is showing how socio-economic costs and environmental costs are rapidly being added to our understanding of the costs of global lifestyle change; in consumption, mobility and standards of living. Change from the accepted status quo is desirable, but how we understand values is needing to change fast too, and requires new metrics.

Where the Knowledge is

Climate change and the environmental challenge are seriously big subjects. Even if any of us set out to understand, all in them there is to be understood most of us would feel unable to bring much influence to bear. So, understanding how change happens and takes the form it does in any part of the built environment is complicated enough. Add in the new complexity of climate biodiversity concern and a whole set of new players comes into the equation.

Environmental Scientists

These research and analyse data on the workings of the planet's systems, the dynamics of physical change, sea levels, weather patterns, and communicate this knowledge and advice to government and global organisations and to the agricultural economy.

The Economists

They research and analyse how changing circumstances can be expected to play out in the global and local economies and what levels of influence and control are available to manipulate 'top down' these things.

Some of these work principally as advisers to international and national governments, advising on new layers of policy or policy to change or nudge long established behaviour patterns in accordance with governmental ambitions. They design and test the 'levers' government can use to meet societal objectives.

The Politicians

People who have to decide which issues will get them elected and which are news stories no one wants to hear or be challenged by. Most of us want good and knowledgeable people to step forward and show leadership in areas as challenging as this.

Either way, knowing what to do would be a start and is why this document has been written. At both national and local level, politicians should be showing engagement and leadership in these issues, helping their population understand and work with what in their consumption patterns will need to change. Working with their civil service to identify the laws, the change mechanics, the apportionment of resources that can help take the population where they need to go.

Civil Servants

To initiate the research, the negotiations, initiate and manage the programmes needed to bring to these challenges the administrative efficiency of wartime.

The Lawyers

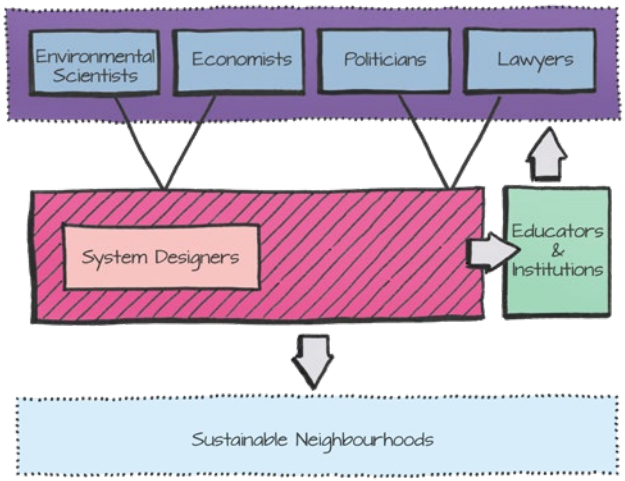
In this the lawyers are really important because those agreed targets from the ICC Conference will be turned by them into specific national policy commitments by national governments in legal documents. National legislation will need to be developed which will affect much of daily life, working through into cleaner air, improved biodiversity, high manufacturing technical standards, the phasing out of fossil fuels, one day possibly restricting air travel by quota, the excessive global transportation of perishable foodstuffs, setting recycling standards and ambitions in agriculture. In the setting of levies, trading standards and taxes to reflect the true environmental cost of things we do that are now causing global harm.

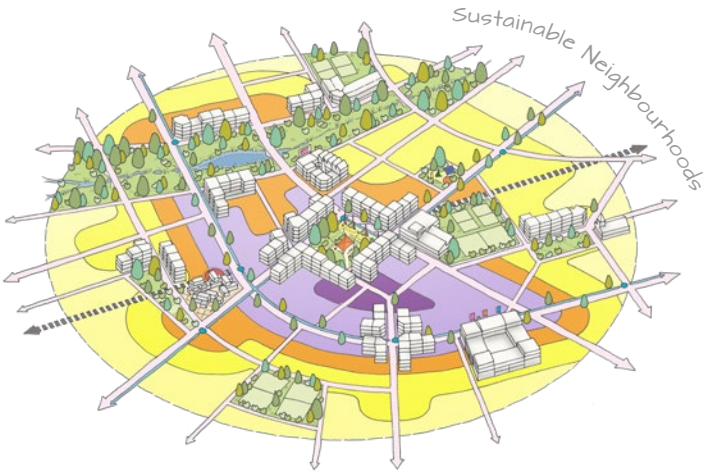
The Product Designers and Marketeers

Although much of what constitutes the built environment is already regulated for at national and international level, much of the change that will be created will be done by the designers and suppliers of goods and services: the housebuilders, developers, farmers, merchants, investors, vehicle designers and makers, renewable energy enterprises. Government will set the terms of reference controls and incentives. Defining the terms of the future built environment, how and where people will live and what global impact accountable lifestyles they can live in future will depend on their efforts.

The Systems Designers

The built environment is a web of systems, roads, railways, underground, footpaths: places to live, places to work, broadband networks, food and water supply, sanitation, healthcare, public realm street cleaning, public open space, refuse and recycling, education, civil life and governance. All organisations require such systems to run at all. Making the lifestyle impact adjustments climate change and the environmental emergency demands needs new systems; systems of impact accountability. **Those of us who work as consultants in the built environment professions are the designers of these systems**. Now the hows are: how to live without carbon fuel use, how to reduce personal car commuting, how to nurture the natural world and value our urban hinterlands. It is our job to be shaping and bringing this new knowledge into the built environment marketplace.





Agents of Change

How a society works needs to change. How does this happen? Top down? Bottom up? By law, by consensus, by fear or through emotion?

Firstly, there has to be understanding. In fact, most of this understanding is around the way our growth-led economy has come to be the way it is and how a more impact accountable one can be substituted for it.

The task is largely one of common sense after the Damascene moment of first seeing investment returns in survival rather than in other forms of capital. In valuing equality of access to the commons over personal wealth and the hunger for it a sense of insecurity brings. In terms of the how, we can already see how climate change inspired reorientation is working - in the rapid growth of renewables already evident in the energy market and the agricultural landscape. The brownfield versus greenfield challenge of our towns and cities. The rapid growth in public transport in recent years. The major funding going into flood risk mitigation. This should demonstrate to us that such change is possible.

But the economic growth model?

Already, do we not see there are some critical choices the mantra of perpetual growth is laying down in front of us? That prudence really should be telling us what we should be pulling back from.

A third runway at Heathrow: is this really about essential economic activity or only fuelling unreasonable expectations of global trade and travel for leisure?

Marketing space flight as a lifestyle choice? Even if this is feasible without carbon energy, can the world afford this?

The evidence in any supermarket of the daily air miles of perishable food? How has this become so essential to our perception of good eating?

It is one thing to be aware of the key participants in handling the knowledge and the consequences of climate change and environmental emergency. But who can be most effective in making this change happen? We are all in our various ways constrained by our starting point, our present responsibilities. So, it's important to get these constraints out there:

Local Constraints on Government

For those aspiring to be in government, getting elected and staying in a position of control is the first driver. Only when your constituency evidence they want leadership and a clarity of understanding in addressing the climate change emergency hill voting for the individuals who appear best placed for this makes sense. But this is difficult stuff and often seeking votes for change of another kind, or keeping just the status quo, seems more likely to get you elected. So facing up to the climate change challenge has to be a grass roots thing as well.

Product Designer/ Marketeers

For this group, creating new products for new market needs may present substantial opportunities but investment costs have to be financed along with prototype research. And when to pull back from the investments already made in maintaining the status quo of the perpetual growth model?

The Systems Designers

This group are trading their knowledge and so are well-placed to lay down the pathway showing how this new knowledge will play out. They are educated to help their clients understand how their worlds will change, acting as a broker between the built environment marketplace and the work of the environmental scientists, the economists and the policy makers and lawyers. **We are such systems designers**.

The Planners

On the face of it, the statutory planning system could be one of the prime vehicles for working out the pathway to human lifestyles that are global impact accountable. But traditionally, the planning system has only intervened at the point of developmental change. It has not generally had a role in looking to initiate change in the areas of the built environment that represent the status quo, i.e. the built world already made. Is it constitutionally and temperamentally best placed to take on this added responsibility too? Its processes and new policy formulation are long winded, taking many years because policy affects so many land-based invested interests.

There is already a de-facto conspiracy between the way the statutory planning system works in seeking only a rolling 5-year land supply for new housing and the development land allocation models that suit investors, working closely with housebuilders. The statutory planning process is effectively top down but built heavily around the procedural role of wide community consultation. But in this new world, the statutory planning process currently offers the best model for how the new imperatives of a climate change mitigation and biodiversity enhancement could be worked through at community level. We see the experience gained in the Neighbourhood Planning process as part of building this pathway.

The Educators

Getting to grips with the environmental crisis will require a new set of perceptions and understanding of how the world works; one in which the mantra of perpetual economic growth of much of the 20th Century can no longer be out in front. This will require new generations to be educated to see this difference, to look back on the consumption models of the 20th century as no longer sustainable; and to have their value sets firmly placed elsewhere. Much good work is already done at the primary, junior and secondary education levels around societal values principles. But the perception is that once out of senior school, students have to enter the world as it is and leave much of that education behind. Yet, our society really needs the perceptions of the young to inform the practices of the future.

At higher level academia has its challenges too, partly because the streams of understanding academia addresses have become so specialised. So the cross links that can connect such specialist knowledge with the generalist understanding of how human beings actually interact is hard to find.

The Institutions

Society's institutions have a big role to play here. This heading embraces schools and universities but also cultural and social institutions, religious institutions and charities. Institutions are places that recognise and hold particular societal values and are there to carry them through from one generation to another. This means reinterpreting, questioning and re-evaluating them for each generation. So recognising when the world has moved on and what we value needs looking at and safeguarding in a different way. This is why something like the 2019 declaration by the National Trust to move all their investment funds from fossil fuel production can be so significant. Even much smaller charities have very considerable authority and expertise in placing a spotlight of knowledge and human concern on particular aspects of value.

Local Authorities

Local Authorities provide local governance at a sub-regional level of county or district. They exist to manage a range of higher level government responsibilities passed down to them from national government and also to manage a wide range of duties important to their constituents for which, despite being politically-led organisations, much of what they do is tangibly non-political. In handling healthcare, social care, education and in the efficient discharge of daily responsibilities such as refuse and recycling.

Local Authorities are able to hold the concept of the community acting as connectors for a wide range of specialist interest groups helping them shape their efforts around common purposes to enable them to administer and manage the discharge of central government funds and grant aid. It is inevitable that, in this new world of climate change and environmental change adjustment, Local Authorities will have a particularly large role to play.


BUCKET &
SPADE

Top Down? Bottom Up?

International, national and regional (county/district) government is only one part of the change delivery process. Each has power, responsibility and authority to exercise in creating laws, or being granted powers to do so. So far we have seen the acceptance of responsibility for addressing climate change as something first being fought out between established and so called 'developed' countries and 'developing' countries in what is known as the 'tragedy of the commons'. With individual countries the INDC'S (Intended Nationally Determined Contributions) have to pass through the test of government electability. Until enough individuals in each of these nations in families, organisations, businesses, communities, towns, cities and regions take these challenges seriously enough for politicians at all levels to see, votes in them that change will be slower to happen than it needs to be.

So, right now, sharing, understanding, engaging, building empowerment and support for local climate and environmental change initiatives really matters. It matters to stiffen the spine and build the confidence of those needed to step forward to take on the top down roles' challenges. But it has been heartening to see how quickly so many concerned people have accepted personal responsibility in things like reducing use of plastic in packaging, through lifestyle change choices and in how they source and use carbon and other sorts of energy.

What Next?

To refuse to buy any energy using carbon fuels? And then to reduce the dominance of imported perishable food in our supermarkets? Setting a quota of food sourced locally? The establishing of organisations taking on local responsibility for rebuilding of biodiversity? Understanding and encouragement of new models of urban living based on less consumption, more sharing, more closed impact accountability loops? In planning the urban world to optimise the quality and practicality of walking, cycling and public transport over car use?

An understanding that relaxation need not be a long-haul foreign holiday

Acknowledgement that we are all responsible for our own decisions and start seeing ourselves less as consumers and more as resource need moderators.

Communities seeing value in a society in which the understanding of the 'global commons' has widened beyond water, air, sunshine, access to nature, to home, education, food and a greater equality. A community able to understand the inherent fractures at the heart of our present capital investment growth-led financial system.

All around the UK, we see individual communities engaging in building the networks that can make this better world possible. Much of it is at the level of town and city, so ensuring our built environments and the systems of local governments that support them can be what 'keeping it local' means.

Nash Partnership's Contribution to Mitigating the Crisis

Our work as built environment change regeneration planning and design consultants, now in its 31st year of practice, has equipped our team well to engage constructively with these new challenges. We have developed as a practice to systematically understand how change in the built environment works: its processes, constraints, drivers and challenges.

Our research skillset and spatio-economic and development change experience allows our team to engage with the data and build the capacity to tackle such new challenges. Much of our work requires in-depth public consultation about urban change on a significant scale, affecting towns, neighbourhoods, streets, households and individual lives.

We understand how new strategic planning policy is formulated and put into place together with the role of national and regional governance. We know how the development change industry is structured and its inherent strengths and weaknesses in handling change dynamics.

All of our projects require built environment issues to be researched, analysed, explained, presented and consulted upon. So we have learnt to be good communicators.

There are skills this new challenge needs to absorb, understand, articulate and develop new strategy and engage with diverse audiences about it.

Our multi-disciplinary team are able to engage with the wide range of specialisms like engineers, ecologists, arboriculturalists, highway engineers etc to focus and draw out their knowledge and bring understanding and advice to bear on the extensive design and management major built environment change requires.

In the UK, our work in the suburban hinterland for South Gloucestershire Council has chartered a pathway for the regeneration of 75 years of post-World war 2 suburbia based around findings of socio-economic data research.

In several UK towns and cities our work in public estate regeneration has helped communities engage effectively in the development of their run down, underperforming social housing stock, using this land to offer new more diverse and sustainable lifestyles and urban densities.

In the industrial valleys of South Wales, our research for Blaenau Gwent Council has found and collected together the seeds of new cultural, economic and social life in highly fragmented and long diminished urban communities long after their post-industrial scars have been made good.

In Frome (Somerset), our regeneration project for the town centre on land owned by Mendip District Council and Frome Town Council has purposefully addressed how two Councils that have declared climate change emergencies can use their asset base well as a vehicle of response.

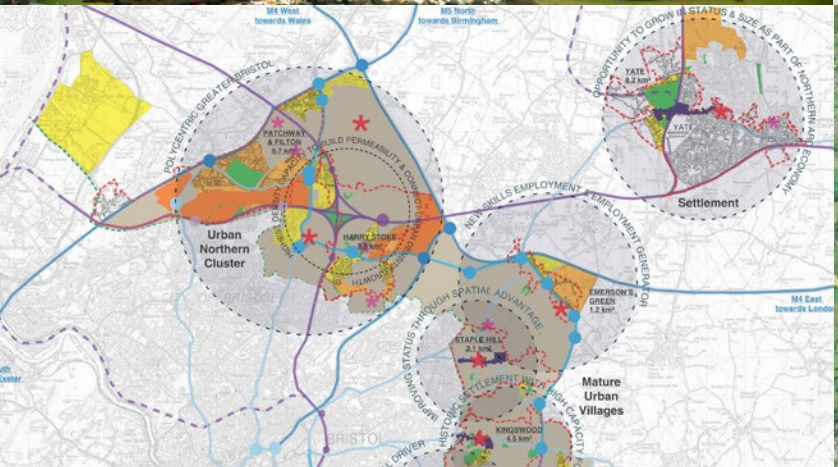
In southern Africa, our Planning Director Mike Fox grew familiar with the international development goals in helping rural areas build the foundations for a new statutory planning system here, for the first time.

The particular challenges of the climate change and environmental crisis era are new. However, we can all see these diverse built environment skills will be needed to forge the links between the top down legally lead demands and the bottom up consciousness and energies, with the good will of local communities and individuals.

In connecting the two, the role of Local Authorities is going to be absolutely crucial.


FUTURE


DOGHOUSE
Coffee


M4 West towards Wales
M5 North towards Birmingham
M4 East towards London
Urban Northern Cluster
Settlement
Mature Urban Villages
PATCHWAY & FILTON
HARTCLIFFE
YATE
EMERSON'S GREEN
STAPLE HILL
KINGSWOOD
BRISTOL

BRISTOL'S NEW NORTHERN NEIGHBOURHOODS

The closure of the Bristol's aero industries commercial airport in Filton, to the north of the city brought some 500 hectares of land forward for development, leading to designation in the Local Plan. Around a third of this was acquired by international commodities company, YTL, based in Malaysia. YTL have a long history of building and managing housing on a large scale around aspirational goals.

But what should they be building at Filton? And who would they be building it for?

Our research geographers were commissioned to build this data, important to the project's strategic masterplan. Using a range of standard socio-economic data sets we showed how this long running development could respond to a wide range of emerging socio-economic mega trends; in changing demographics, living and working lifestyles, journey to work patterns and gaps in north Bristol's current housing stock availability. We interviewed several of the region's major employers to understand workplace trends. We assessed 'choice to live' parameters through all the critical northern neighbourhoods and identified 10 lifestyle typologies the development could offer to be seen as a popular new district to live and work in over its 30-year build period.

BRADFORD ON AVON TOWN CENTRE

Along with several surrounding West Wiltshire industrial towns Bradford's employment base was decimated by the loss of 700 jobs when its rubber processing industries closed at the end of the 20th Century. Once closed the site languished as a prominent blight on Bradford's prospects of reinventing itself. Redevelopment faced many technical and viability challenges making it unattractive to the conventional development industry. But surrounded by the diversity of a 700-year development history, close to Bath and with good railway connections we could envisage how the site could again contribute to the town's economy. It could offer a new and attractive way of living to households who would value the convenience and social context it could offer. We prepared a study of the town's emerging new employment base. We promoted and secured planning permission for the then landowners and acted as delivery stage planners and designers in bringing this complex mixed-use proposition forward for lead developer, Linden.

Our work won the Royal Town Planning Institute Annual Award for Best UK Project for Local Regeneration and Renewal.

This experience showed us how new models of low car living and working can be popular in even small-town centres. Here a car ownership ratio of less than 1 car per dwelling was used and built a new resident population that accepted this as an aspect of their lifestyle choices alongside the many virtues living at the very heart of such who a socially and culturally rich historic town would bring. This was a most challenging site and extensive public consultation was needed to bring such a successful conclusion.

ESTATE REGENERATION

Throughout the UK the pressure to build new housing is forming attitudes to the future reuse of large swathes of post WW2 housing stock. This is now managed by RSL's (Registered Social Landlords) or still by Local Councils. Much of this stock is problematic and not worthy of refurbishment to today's higher sustainability demands. Often, its mix is wrong, a poor fit for actual housing needs. It is also in today's terms of low density, but is located close enough to town and city centres to justify new provision at the higher densities that support the new public transport systems and low car lifestyles our society will need. But such remodelling and replacement of existing housing stock is challenging now with so much of the stock already sold off under Right to Buy Legislation.

Much one to one consultation with households is needed within these project programmes to achieve the kind of regeneration consensus essential to good outcomes. We have led such programmes involving Local Authority estate regeneration around Cheltenham's GCHQ employment hub, in Taunton and in Weston Super Mare in Somerset. Each such exercise commissioned was part funded by central government programmes that challenge Local Authorities to test their options for brownfield land to contribute to housing demand.

FROME IN SOMERSET AND THE CLIMATE CHANGE EMERGENCY

In 2018 Mendip District Council acquired the 5 hectare post industrial site in Frome known as Saxonvale. It directly adjoins the medieval town centre and has for 20 years been the subject of several proposals and planning applications for partial or comprehensive reuse, none of which have been able to progress. In the same year Mendip District Council were one of dozens of Local Authorities to declare a climate change emergency. Frome Town Council were one of these too and their sizeable land interest on the eastern fringes of the Saxonvale site was then sold to Mendip to optimise the overall development.

We were commissioned by the Council's selected development partner, The Acorn Property Group, to propose how the site should be redeveloped to best contribute to mitigating climate change and best serve Frome.

Frome is an unusually independently minded place and through its residents and its politically independent Council has put in hand many initiatives to build consensus and local responsibility for the global impacts of its resident's lifestyles.

Through extensive consultations with residents and key stakeholders we established a set of principles to guide and test the development. Its has been designed to recognise low car commuting living and working lifestyles now so evident in regenerated city centres. The aim is to use these new living/working patterns to draw in residents and workers to the scheme who, whether they now live locally or come from elsewhere recognise these values, they see the virtues of this convenience and the added environmental impact accountability market town urban living brings.

It recognises that for so many family households, managing childcare is the biggest lifestyle choice they have to make by building opportunities to work closer to or from home the practical flexibility and adaptability such families need can be found.

Unusually for a small town the development will be 85% apartments to allow the high densities such convenience demands. This will place new expectations on the quality of public realm, its spaces, its biodiversity, and how they can be used. There will be a new riverside public park and communal garden spaces throughout the scheme.

All involved recognise the built environment society has and builds determines the lifestyles and consumption patterns its residents can follow. By deciding first what we value most change can be built around those values, rather than those imposed on us by the commercial drivers of our 'consumer society'.

BLAENAU, GWENT; THE FIVE TOWNS

High in the Heads of the Valley's, north of Newport, lie five town centres of Abertillery, Blaina, Brynmawr, Ebbw Vale, and Tredegar. The settlements established and grew around the coalmining and steel making their geology facilitated. As these industries declined and contracted their populations diminished, their economies contracted leaving a legacy of industrial blight and an uncertain future.

Now, some 40 years on, the blight has gone and the evidence of new investment, in roads, in education in community of facilities is everywhere. But there remains no indigenous economic driver for these scattered communities mostly huddled around particular colliery shafts, to rebuild themselves anew. Improved transport has allowed some residents to commute to the cities of Cardiff and Newport. New skills and low operating costs do attract some new businesses here. But it is clear some more fundamental of the evaluation of the overall assets and opportunities are needed.

Our study for Local Authority, Blaenau Gwent was commissioned to provide this. It looks less at the physical change intervention opportunities of most such studies. Instead it explores the areas fundamental strengths; its landscapes, its locational geography, its people and communities. All through the area we highlighted the insipient or newly emerging green shoots of strong socio-economic and cultural change.

We identified the individuals, community groups and institutions, who are championing the areas strengths now and we interpreted their significance. We showed how in other areas of the country economic decline has gradually led to revaluation of essential asserts and the discovery of new strengths.

Whilst some of these strengths come from those within the pre-existing community (in South Wales, the choir/ brass band traditions are such) part of the revaluing is in welcoming incomers to become part of the community who might be drawn by quite different reasons, such as qualities of the landscape and the access to leisure activities.

REGENERATING SUBURBIA

As plans develop to give Bristol city region devolved status the constituent parts of the newly named West of England Authority region needed to clarify their socio-economic narratives. In fact, on an urban area map around a third of what looks like Bristol's urban area, to north and to east actually lies in the governance of South Gloucestershire City Council. This is a largely rural district extending northwards between the Severn Estuary and the South Cotswold escarpment up close to the southern fringes of Gloucester.

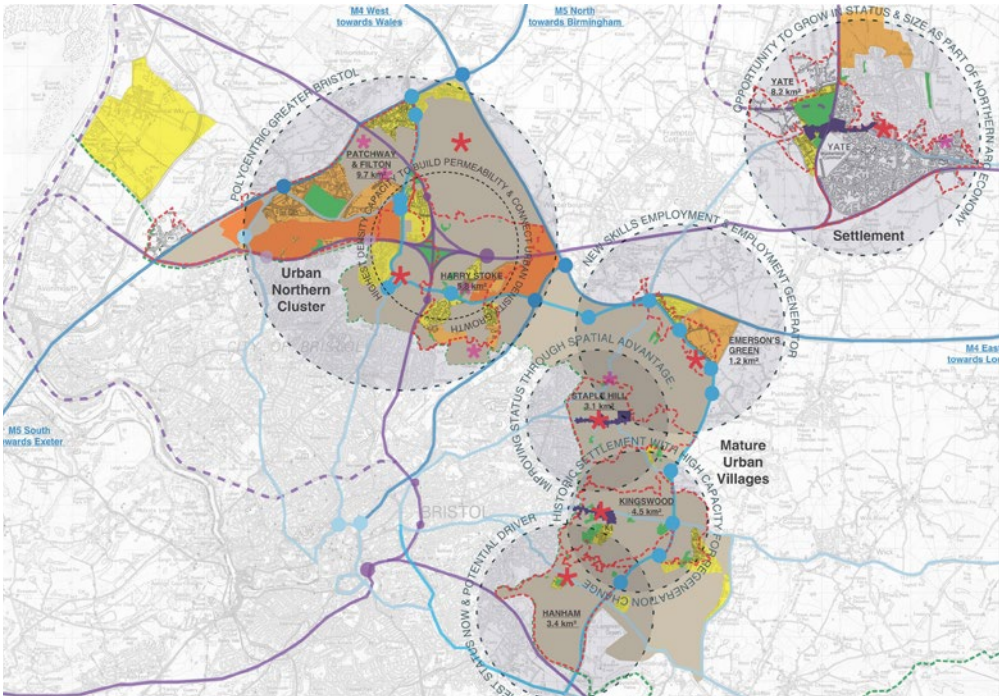
Urban South Gloucestershire comprises some 75 square kilometres of almost entirely post World War 2 suburban streets enveloping a number of small older village settlements. It developed around the strengths of Bristol's aerospace economy and extensive post World War 2 resettlement from city slums or bombed damaged housing.

Our socio-economic study, commissioned for South Gloucestershire Council brought essential data sets together, of anticipated demographic change, travel to work patterns, household size, housing stock ownership etc. It explained the forces that had created such a poorly structured urban area and the opportunities and risks such a large zone of overly fragmented land ownership faces in the future.

In Bristol's urban centre, as in so many other UK cities, large swathes of once industrial land have allowed a rapid rediscovery of the virtues of urban centre/edge of centre living and working. These once so attractive edge of city suburbs are going to be challenged by this in future.

Our study identified the capacity of urban South Gloucestershire to contribute brownfield land redevelopment opportunities over the local plan period to 2036. It also demonstrated how a long-term regeneration narrative for suburbs could be stimulated over decades using public sector housing stock and ownerships as a key driver to building the densities that could support the public transport such areas will need.

This urban living narrative now frames the conceptual basis of the new Local Plan at 2036.



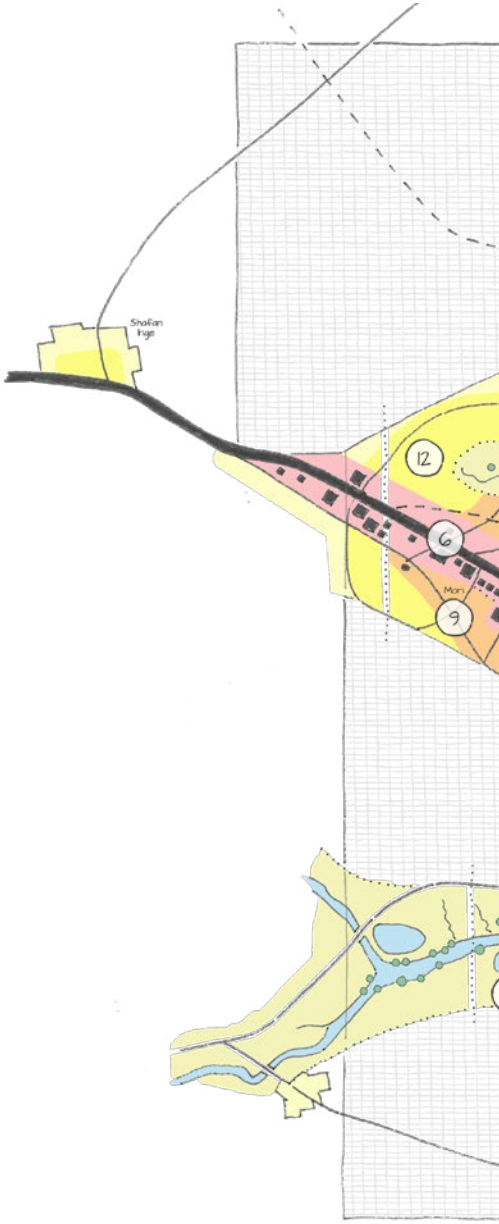
JIGAWA, NIGERIA: PLANNING A NEW ENERGY CITY

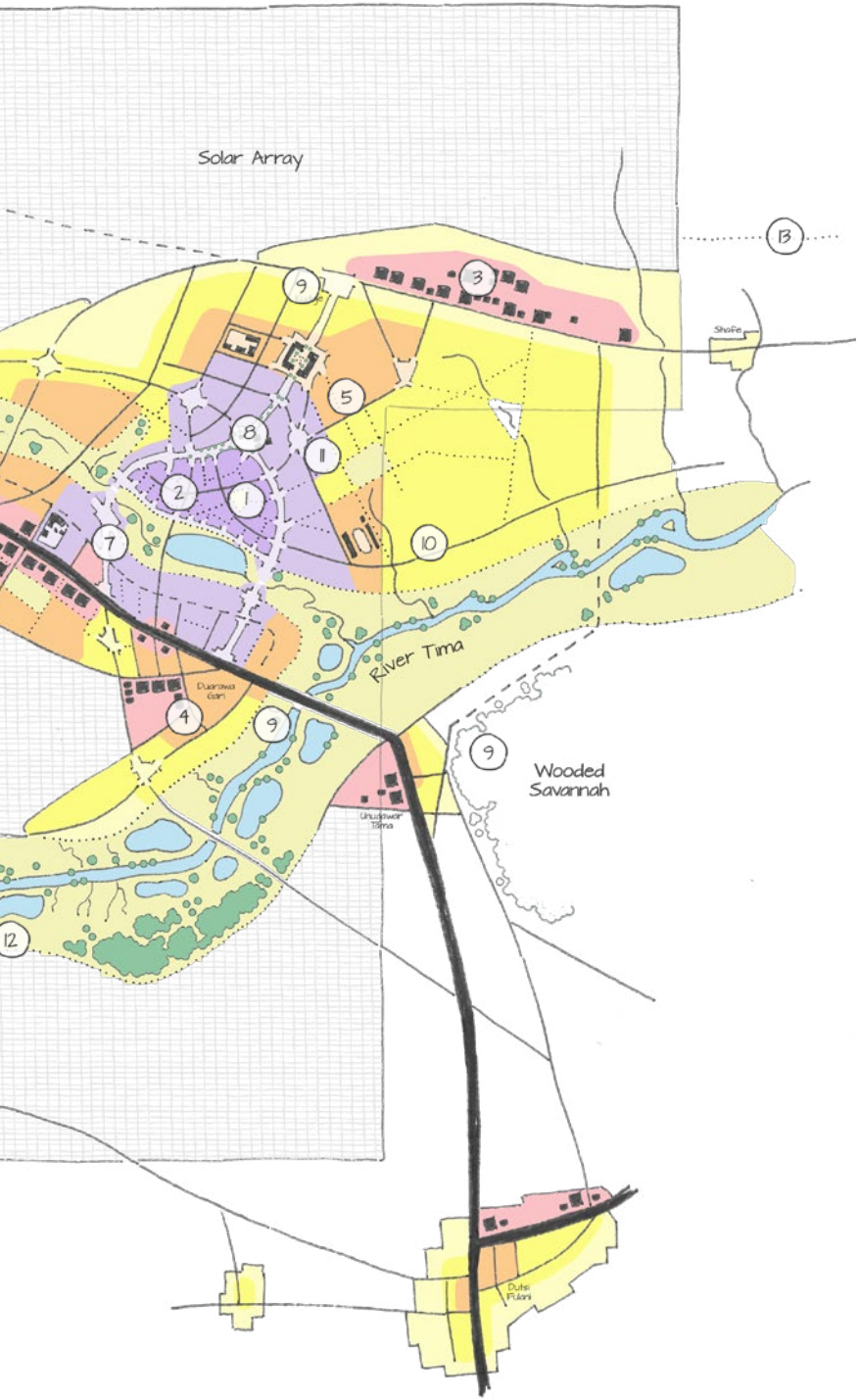
Nigeria faces the challenge of fast-rising energy consumption, combined with growing carbon emissions. Nigeria's current power supply mix is composed of 86% gas-fired plants and 14% hydropower. Nigeria seeks to increase the renewable component from 14% to 23% by 2025 and 36% by 2030. This includes increasing solar power as a proportion of the overall energy supply mix to 20% by 2030.

Situated in one of the highest solar irradiation zones in Nigeria, Jigawa is to be the site of a new world class 'energy city'. Funded by the African Development Bank, this will include a solar park delivering a total of 1GW of on-grid electricity, and the creation of a cluster of renewable energy developers, equipment manufacturers and research institutions to support capacity development and innovation in the renewables sector. Situated in one of the poorest and least developed parts of Nigeria, this will provide significant opportunities for human development, seeing significant investment in employment opportunities, education provision and other physical and social infrastructure.

Nash Partnership is working with Key Architecture and GOPA international Energy Consultants (GOPA Intec) to prepare a masterplan for the energy city. This will cover a 2,000 ha site, including a solar park, industrial areas, new social infrastructure and housing required to serve the new urban population.

The masterplan will respond to the challenges that face the modern African city – merging 21st urban design principles, with daily reality of 'informal' i.e. unplanned development, which reflects the needs of most ordinary Nigerians. Still in gestation, it will be based on smart growth principles, focused on increasing the density of development around public transport nodes, mixing uses and urban resilience and adaptation. This will promote active and sustainable travel by non-car modes, integrate urban agriculture and promote contextually sensitive, environmentally responsive design.





1 City Core
2 Market
3 Agri Processing
4 Energy Hub
5 Muncipal Offices
6 Manufacturing Corridor
7 Advanced Training Centre
8 Processionary Avenue
9 Integrated Hamlets
10 Sports Grounds
11 Palace & Place of Worship
12 Array Network
13 Grid Connection

Parks
High Density / Mixed Use
Medium Density Residential
Informal Residential
Largescale Employment

PEMBA, MOZAMBIQUE: A NEW CITY PLAN FOR PEMBA 2050

Pemba is the northernmost city in Mozambique. A city of around 200,000 people, it is known as a tourist hot spot, due to the natural beauty of its coastline, location on the third largest natural bay in the world and proximity to many beautiful islands sitting off the Mozambiquan coast. More recently, it has also recently become associated with offshore gas, with the recent exploration of reserves in the Rovuma Basin.

The city was hit by Cyclone Kenneth in 2019, the strongest tropical cyclone to make landfall in Mozambique since modern records began. Climate change is making the frequency and severity of cyclones in the Indian Ocean more extreme and therefore this poses a very real threat to the future growth of the city, which is currently a rapid 8%, fuelled by an insurgency in the north.

In light of these pressures, Nash Partnership is working with Bristol Link with Beira (BLB), a Bristol-based charity, to work up detailed proposals for the preparation of a city plan, which will govern the management of the city for the next 5-10 years, with an overall time horizon of up to 2050. The Mayor's aspiration is to prepare a far-sighted plan that will reflect the principles enshrined in the UN Sustainable Development Goals. It will use the short-term opportunity presented by the offshore gas reserves, to provide for the development of the city, increased resilience and a transition to more sustainable energy generation over the longer-term.

The City Plan will provide both strategic, cross-cutting socio-economic policies and initiatives that will govern how public and private sector funds are invested, as well as a spatial framework to manage built development. This will be complimented by an investment strategy, to secure investment from national and international sources, and an extensive programme of local capacity building, to ensure the plan is deliverable over the longer-term.

Nash Partnership is a built environment, regeneration, planning and design consultancy, first established in 1988 in the West of England. Our professional services and advice skillset now embrace the discipline of research geography, regeneration strategy, heritage asset consultancy, planning, urban design and architecture. Through learning to combine these perspectives in our own team we are well equipped to work well with multi-headed corporate and public sector clients and project teams. Working together, our team aims to bring a comprehensive understanding to how our built environments have become the way they are and how effective strategy can be built to improve them in the future. We know the built environments humans have created throughout the world reflect our patterns of economic activity and determine our impacts on the planet.

We are working to recover the necessary balance.

nash
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