Planning for Net Zero

Preparing for Climate Change

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Author's Preface

By the time this book is published, if it is published let alone read, its thesis could be history. Significant events are occurring with ever increasing frequency and these could make this book as *passé* as an ancient manuscript. It should be, however, none the worse for that.

I found myself with time on my hands when we were "locked down" by the coronavirus pandemic. Life in Coventry turned out to be an excellent opportunity to write undisturbed with ready access to the Internet serving as a substitute for traipsing round libraries to search for research material.

When I was a teenager I was beguiled by the prospect of "New Jerusalem" offered by the plans for rebuilding the country after the Second World War was over. Like so many of us I felt betrayed when those plans never came to fruition or turned out to be litter strewn brick and concrete wildernesses. "Town Planning" remained for me, however, a source of fascination even though I never entered the planning profession. I owe my continuing interest, I believe, to my father who introduced me to drawing, maps and architecture.

This is a story of how we came late, possibly too late, to the realisation that what began in this country as the Industrial Revolution has become an existential threat not only to humanity but possibly to all life on earth. We know what we have done and what we must now do to avert catastrophe. We must clean up the atmosphere and probably the oceans and much else besides or we shall perish in the flames of an overheated earth - truly "the fire next time".

I have attempted to describe the many strands of planning which are emerging to meet the challenge of global warming. Whether those plans will or indeed can be put into effect and carried out in time is a matter of speculation especially as many of the politicians and business people to whom we have entrusted our affairs are turning out to be short sighted, bigoted and incompetent whilst the changes to our planet have already commenced and are taking place with ever increasing speed.

Drawing on my experience of 18 years as a government advisor I have had the temerity to suggest some things which could be done to save this country from the worst of climate change. Even if wiser heads than mine point out that my ideas are impractical or unrealistic those ideas might contribute to the conception of better ones.

This royal throne of kings, this sceptred isle,
This earth of majesty, this seat of Mars,
This other Eden, demi-paradise,
This fortress built by Nature for her self
Against infection and the hand of war,
This happy breed of men, this little world,
This precious stone set in a silver sea
Which serves it in the office of a wall
Or as a moat defensive to a house,
Against the envy of less happier lands,
This blessed plot, this earth, this realm, this England,[1]

Introduction
This Blessed Plot

When William Shakespeare wrote those words he probably knew very little at first hand of the country of his birth. We don't know how far and wide he travelled throughout the kingdom; he may only have travelled between Stratford-on-Avon and London. He did, however, capture in words the essence of the country.

England is indeed a "blessed plot". The image of England is that which was immortalised by the great landscape painters of the early 19th Century including Turner, Constable and Cotman. There is probably more beauty and greater variety in the English landscape than anywhere of comparable size in the world, from the white cliffs of Dover to the miniature mountains of the Lake District, from the storm battered coast of Cornwall to the open sweep of East Anglia. Shakespeare's "precious stone" is bounded by the mountains of Wales and Scotland. For centuries the British Isles have enjoyed the warmth of the Gulf Stream and the Atlantic weather which have given them a temperate climate, a fertile soil and seasons as varied as its landscape.

For at least two millennia people have been attracted here, from the Belgic tribes who settled here before the Romans came to the Anglo-Saxon farmers who came after them. The country was raided and ravaged by Danes and Norsemen, many of whom like their forerunners decided to stay. The Normans came and took control and after them came Jews and Huguenots, all to enrich the culture and contribute to the variety and vibrancy of British life. The people include those of Scottish, Welsh, Irish and Cornish descent, proud of their distinct traditions but British nonetheless. And still they come, descendants of people who inhabited the British Empire overseas and refugees from war torn and less fortunate lands, all to make up the British people. The British are not a race; they are made up of people from all over the world to form a remarkably tolerant society.

[1] William Shakespeare "Richard II"

As an island Great Britain is well endowed with natural harbours and estuaries from which its people ventured forth to trade, conquer and settle the world. Our seafarers created and maintained an empire historically second to none perhaps not for the best of motives but an achievement nonetheless, only for that empire to break up and vanish as the rest of the world caught up with western civilisation.

For an historically short time Great Britain became "the Workshop of the World" which was not to last as the rest of the world caught up with and surpassed the technology which the British had bequeathed it. The physical scars left by that industrial revolution are starting to heal and the country is now part of a global economy. The social and economic legacy still, however, remains, with many of the old industrial towns in the north of the country struggling to find a place in the new order of things.

Most of us privileged to have been born and brought up in the British Isles must surely be aware of this precious inheritance. It is incumbent on all of us to cherish and look after these islands and to bequeath them to future generations undefiled and if possible purged of the scars of past neglect and exploitation so that those generations can enjoy their beauty and lead harmonious, healthy and productive lives.

That responsibility is no light one, now that we have entered the Anthropocene, a new era in which humanity is capable of controlling and even destroying the world, a world which is changing rapidly and facing multiple existential threats both immediate and in the foreseeable future, threats which are largely of our own making or that of our forefathers and could cause Gaia[2] to bring the hegemony of humanity to an end. To discharge that responsibility we must take steps in good time to meet those threats and to become resilient to changes that cannot be avoided and preserve the landscape and flora and fauna of these islands so far as possible. Government at every level and right across the political spectrum must agree that this is our paramount responsibility and respond accordingly. If this can be agreed, as it must be if disaster is to be averted, how can we proceed?

This work reviews the current situation and describes the threats we face. It then describes a way forward to a better and secure future. In doing so it does not conjure up a Utopian vision. It builds on what is possible, using the resources we can command.

It therefore seeks to answer the questions which arise from this situation.

[2] The scientist James Lovelock has put forward an hypothesis that our planet, "Gaia", although not a living organism of itself is capable of behaving like one and, given certain stimuli, changing from one state of equilibrium to another, a change which could bring human life to an end.

- Is government in the UK at all levels and across the four administrations capable of recognising existential threats in time for action to be taken to meet them?
- Does the machinery exist to plan responses to those threats and
- Can and will decisive action be taken in time?

But first of all there is a need to consider terminology - "buzzwords".

Many people are concerned about the state of our environment or rather "Environment". This is a term which has acquired great significance since the 1950s, before which it simply meant surroundings. Now it means the world in which we live, not only the appearance of town and countryside but also the biosphere with all its rich variety of flora and fauna both on land and in the sea and upon which humanity depends for its existence. Most people have now come to realise that the Environment can no longer be needlessly exploited but needs to be protected, nurtured and enhanced not only for our enjoyment but also to maintain what they now realise is our support system. This is the more important now that the planet's climate is changing and that the steps which need to be taken to mitigate the effect of and to adapt to it transcend even the need to nurture and protect the Environment. The two tasks overlap as the latter can contribute to the larger task but is not a substitute for it.

When in the late 1980s it dawned on those in office across the world that we faced problems of global proportions the buzzword was "sustainability" and as we shall see this remains the kingpin of planning policy in the UK. It will be discussed in full later[3]. Some people have moved from that concept and now make use of "resilience" instead. This is appropriate where it is possible to take steps to ensure that recovery from a bad situation can be achieved and order can be restored. Where it is clear that there is no hope of a full recovery perhaps the word to use is "salvageable"; that something can be saved from the wreck. Despite this "sustainability" will be used throughout except where resilience is more appropriate.

[3] Chapter 5

Chapter 1
The Prospect

We are now standing on the brink of an abyss gazing down into a dark and dystopian future. In the middle of a worldwide pandemic we are casting ourselves adrift from our European partners into a world without a friend in sight. As if that is not enough the signs confirm that the climate of our planet is changing, probably for the worse but neither we nor any other country is preparing properly for it.

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The matter of immediate concern is the Coronavirus pandemic. Of course it may blow over in the course of the next few months. Apart from the death toll which will not be known with any certainty for some time after it is over it is the economic and social effect of the "lockdowns" imposed to slow the spread of the disease which could last longer. Curiously those effects could be both beneficial and damaging. For example we might reduce our addiction to cars and air travel; we might carry on working from home. If so the environment could be cleaner and healthier but we cannot count on this. The chances are that if and when the pandemic is definitely over, especially if an effective vaccine is discovered and is promptly and widely distributed, we will soon return to our old ways. This is evidenced by the behaviour of people when lockdown restrictions were briefly eased during the summer. The economic damage could be much worse and longer lasting. The catering, hospitality, and entertainment industries on which our economy has come to depend for employment could take a long time to recover. The cultural life of the nation will be diminished. The future of mass tourism will depend on the amount of spare cash people will have left after the 2020 upheaval. Financial services will survive; they usually do with internal restructuring. Manufacturing, agriculture and the fishing industry are more likely to be affected by the outcome of the BREXIT negotiations.

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It's not possible to forecast the outcome of the negotiations with the EU over our long term relationship with them. The Westminster government is determined to take the negotiations to the wire, stoutly holding out for a resolution to the talks by the end of 2020. If we are left to venture out into the world on our own it's even more important that our governance and the management of our economy are as effective, resilient and responsive as possible.

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The prospect of catastrophic climate change must be the principal concern of governments across the world.

It's not that we haven't been warned. We can be forgiven for overlooking academic work published in the early 19th Century on the effect of carbon dioxide (CO_2) in the atmosphere[4] but as early as 1901 the Swedish meteorologist Nils Ekholm warned of the "greenhouse effect" on the world's climate. It is also understandable that his work would only have been studied by meteorologists at the time. However by the 1950s concern as to atmospheric pollution prompted the United Nations to establish Global Atmosphere Watch which makes use of the observatory on Mauna Loa on the Hawaiian Islands. It's possible that this work was accelerated by the International Geophysical Year in 1957 an event which also prompted the launch of the first artificial earth satellites. The "greenhouse effect" was, however, sufficiently well known for it to be described in an unofficial report commissioned by the UN Secretary-General by Barbara Ward and René Dubos and published in 1972[5].

The concentration of CO_2 in the atmosphere slipped over 400 ppm[6] in 2016 as compared with the pre-industrial level of about 270 ppm in the mid-18th Century. 400 ppm was a threshold which scientists had told us would lead to trouble. It is now (2020) about 415 ppm and rising. At the rates of increase before the onset of the coronavirus pandemic, atmospheric CO_2 will pass 427 parts per million within five years, which was the probable peak of the mid-Pliocene warming period 3.3m years ago, when temperatures were 3°C to 4°C hotter and sea levels were 20 metres higher than today[7].

Since the 1980s the idea started to take root that the planet could not be exploited by humanity indefinitely without regard for the consequences. In 1982 the Secretary-General of the United Nations asked Mrs Harlem Brundtland to chair a commission to study and report on world environmental issues. Mrs Brundtland, a Norwegian politician who had trained as a physician, had served as an environment minister and was to serve as Norway's Prime Minister on three occasions; she was to go on to head the World Health Organisation. The commission became the World Commission on Environment and Development, now more popularly known as the Brundtland Commission which reported in 1987. It was Mrs Brundtland who widened the scope of the commission to include "Development" as the environment and development were issues which were inseparable. In doing so the commission conceived the idea of "Sustainable Development" which might have inadvertently split the need to conserve the earth's resources from the need to meet the threat of climate change[8]. In the 1980s scientists had already testified to a US Congressional Committee that the pollution of the atmosphere could lead to catastrophe. The United Nations

[4] Although he didn't use the term Joseph Fourier postulated the greenhouse effect in 1824.
[5] Published as a Penguin Special under the title "Only One Earth. The Care and Maintenance of a Small Planet" 1972. It was known in the conservation community by 1970 (See "Energy" by Garrett De Bell included in The Environmental Handbook, Friends of the Earth, Pan Books, 1970)
[6] parts per million
[7] Report on Scientific paper, The Guardian 10.7.20
[8] Chapter 5

Framework Convention on Climate change of 1992, better known as the Rio Earth Summit[9] adopted the idea of "sustainable development" but only made a start with what would turn out to be the long process of persuading the nations of the world to rein back on the emissions polluting the earth's atmosphere.

The fact that the increasing level of greenhouse gases ("GHG") in the world's atmosphere could upset the climate took some time to become an issue of concern to politicians despite a growing consensus among the scientific community. It now seems to be generally accepted that the world's climate is changing and that this is largely due to human activity. The culprit which has been identified is the presence in the atmosphere of an excess of GHG like carbon dioxide and methane which trap solar radiation. The Carbon dioxide is attributed to the burning of fossil fuels like coal and oil. Focus is therefore being placed on the reduction of the burning of these fuels or even eliminating it altogether; "zero carbon". Methane (CH_4) has a more insidious effect. It is about "28 times more powerful than carbon dioxide at warming the Earth, on a 100-year timescale, and more than 80 times more powerful over 20 years. The effects aren't just hypothetical: Since the Industrial Revolution, methane concentrations in the atmosphere have more than doubled, and about 20 percent of the warming the planet has experienced can be attributed to the gas."[10] Methane has hitherto been trapped in the frozen tundra in the northern latitudes and is now escaping as that tundra thaws. Ruminants like cattle also exude methane. The scientists of the International Panel on Climate Change ("IPCC") now tell us that decisions to mitigate the effect of the changes to come or to adapt to their effects must be taken by 2029-30, well within the period covered by the many Development Plans now being drawn up by planning authorities up and down the country.

By the Kyoto Protocol of 1997 a measure of international agreement was reached to curb GHG emissions by an average of about 5.2% but the USA, the world's largest polluter did not subscribe to it and large emerging industrial economies like India and China were left out despite the fact that they were busy building new coal fired power stations at the time. Politicians and administrators have tended to concentrate of carbon dioxide as the curbing of methane is more difficult to tackle.

Unfortunately the protocol didn't become international law until more than halfway through the period 1990–2012. By that time, global emissions had risen substantially. Some countries and regions, including the European Union, were on track by 2011 to meet or exceed their Kyoto goals, but other large nations were falling woefully short. The two biggest polluters of all, the United States and China, emitted more than enough extra GHG to erase all the reductions made by other countries during the Kyoto period. Worldwide,

[9] Following the publication of Rachel Carson's book "Silent Spring" in 1962 followed in its turn by the Report "Limits to Growth" of the Club of Rome in 1972 and the UN Brundtland Report of 1987.

[10] per Alejandra Borunda, *National Geographic,* 23.1.2019

emissions soared by nearly 40% from 1990 to 2009[11]. By the early 2000s Al Gore, a former US presidential candidate, went on the stump to draw the attention of the public to "The Inconvenient Truth" of the consequences of atmospheric pollution. By the Paris Accord of 2016 virtually every nation pledged to reduce GHG emissions in order to limit the rise in global temperatures to 2°C (preferably 1.5°C) above pre-industrial levels and to achieve stabilisation of emissions by 2050. As 19 of the 20 hottest years on record have occurred since 2001[12] and we are already nudging a rise of 1° this target is already looking unrealistic. Indeed current trends indicate that there is a 20% chance of global temperatures entering the target range within the next five years and only a 50% chance of keeping within an increase of 3°C[13]. If the rise in global temperatures exceeds 2° the consequences could be catastrophic. To make matters worse President Trump of the U.S has given notice that the U.S will withdraw from the Accord effective on the day before the presidential election in November 2020.

While the wrangling continues at international meetings the changes to the earth's climate are accelerating. We are losing ice cover, both at the polar ice caps and with the glaciers. It will not be long before the Arctic will be free of ice at least during the summer months. This will be accompanied by rising sea levels. The melting of floating ice does not directly affect the sea level but the loss of land based ice does. However the loss of floating ice removes its reflective effect so that the sun's heat can penetrate the ocean, causing thermal expansion. One of the greatest reservoirs of fresh water is the Greenland Ice Cap a huge mass of land based ice which is melting. According to NASA "The peak one-day melt extent for 2020 to date was July 10, when 551,000 square kilometers (212,700 square miles), or 34 percent of the ice sheet surface, melted"[14]. The loss of this ice could have disastrous consequences. The melting could take decades but when the latent heat of the ice is fully absorbed it could disappear quite suddenly.

As to rising sea levels NASA reports

> Observations from 11 satellite missions monitoring the Greenland and Antarctic ice sheets have revealed that the regions are losing ice six times faster than they were in the 1990s. If the current melting trend continues, the regions will be on track to match the "worst-case" scenario of the Intergovernmental Panel on Climate Change (IPCC) of an extra 6.7 inches (17 centimeters) of sea level rise by 2100[15].

This does not appear to take into account thermal expansion of the world's oceans. All the same the NASA report states that "IPCC projections indicate the resulting sea level rise could put 400 million people at risk of annual coastal flooding by the end of the century." Those people are probably those who live on

[11] From a report in "The Guardian" on 11.3.11 quoting the Netherlands Environmental Assessment Agency
[12] NASA website. The exception was 1998.
[13] Committee on Climate Change ("CCC") 2019 Progress Report
[14] NASA National Snow and Ice Data Center, 1.8.20
[15] CCC 2019 Progress Report

the Pacific islands and places like Bangladesh but the British Isles are not likely to escape entirely. The coast of East Anglia has been eroding for a long time and this process is likely to accelerate, putting areas like the Broads, the Fens and the Suffolk "Heritage Coast"[16] at risk. Central London could also be at risk despite the Thames Barrier. That barrier will almost certainly need to be replaced during the course of this century.

The scientists advise us that as the climate changes the winters will get warmer and wetter and the summers hotter and drier but that the latter will see occasional very heavy storms putting lives and property in peril[17].

An increase in the frequency and intensity of rain storms will put river catchments under threat, especially those of the Rivers Severn, Thames and the Yorkshire Ouse but not forgetting rivers like the Kent in Cumbria.

It seems likely that hotter and drier summers will cause droughts, especially in the East of England and East Anglia which already have low rainfall.

Globally the regions near the Equator could become so hot as to be uninhabitable giving rise to human migration and the loss of crops grown in those areas.

At one stage equal prominence seems to have been given to the need to mitigate the effect of climate change and the need to adapt in the face of it. At one time the IPCC played down adaptation on the basis that it was a distraction from the need to mitigate[18]. More recent documents produced by UK authorities appear to be treating adaptation as the way to mitigate the effect of climate change, neatly disposing of an interesting exercise in semantics!

The action we need to take depends on forecasts of what is likely to happen. Unfortunately these forecasts are modified from time to time so it is probably best to work on the worst case scenario. It seems to be generally agreed that winters will be wetter and summers drier, i.e. a great risk of flooding in the winter and water shortages in the summer. We are warned that summers may be punctuated by heavy rainstorms which can overwhelm drainage systems.

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[16] and with it the nuclear power station at Sizewell.

[17] See the UK Climate Projections 2019 (https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp-headline-findings-v2.pdf)

[18] Cullingworth et al, p 276

Chapter 2
Governance

Is government in the UK at all levels and across the four administrations capable of recognising existential threats in time for action to be taken to meet them? This question is apposite to the threat posed by climate change as decisions will need to be taken now or in the course of the next few years on which action will need to be taken beyond the traditional political horizon.

We are proud of our tradition of parliamentary democracy, even though it evolved from a profoundly undemocratic system. However it can and does let us down from time to time. It does not always put the right people in charge and those put in charge can do whatever they like for so long as they can command a majority in the House of Commons, constituting an "elective dictatorship"[19]. If that majority is small the government can be held hostage by a small determined and dedicated minority of its own supporters or allies, a minority which has its own agenda for which it has no overall electoral mandate. This happened with the Irish Nationalists[20] before WWI and, more recently, with the Eurosceptics. Moreover the political party system does not keep up with the times; it is usually at least a generation out of date.

It is fiercely argued that the electoral system is unfair and that it should be replaced by a system which produces a membership of the House of Commons which is more representative of the voting by the electorate at large. Moreover there are not enough people prepared to offer themselves for election. The "political class" is too small to include enough people likely to turn out to be competent legislators. At the local level at which decisions of local importance are taken there is a tendency for political parties to use seats on local authorities as places where promising but inexperienced politicians can learn their parliamentary skills.

Ideally government at all levels should be run by people of proven administrative experience and honesty. There have been too many examples of ministers who have been appointed to office even though they are incompetent, inexperienced, too old or unfit. They could get away with it for so long as they could shelter behind the print media[21] but now they are fully exposed to multi-channel TV with 24 hour news coverage, the web and social media. It would be all right if departments were overseen by experienced non-partisan professional administrators who have the full confidence of their political masters. From the middle of the 19th Century we were well served by the old professional Civil Service who kept politically neutral and knew when and where to obtain specialist advice and were prepared to heed it - the "Sir Humphreys" of

[19] A phrase last used by Quintin Hogg aka Lord Hailsham in a BBC lecture in the late 1960s
[20] Gladstone's 3rd administration in 1886 and Asquith's Liberal government of 1910-16
[21] It was not until the early 19th Century that accounts of parliamentary debates could be published.

yesteryear. As headstrong and ambitious politicians, usually new to office, are now increasingly prone to treat such administrators as obstructive they are at risk of being replaced by people recruited from commerce or industry, consultants or political nominees. The more this happens the more likely that departments become diluted by "special advisers" nominated politically and unfamiliar with the way their departments work[22]. Worst still there is a custom in the UK for ministers, especially those in charge of the more technical departments to be moved frequently from one department to another so that they seldom have the opportunity to master their briefs. Departments rank in order of importance and prestige so that moving a minister from one to another can be seen as "promotion"[23].

Being at the centre of affairs and advised by a network of departments and agencies one could reasonably conclude that a government is omniscient and all powerful. This is far from the case. Being fallible human beings ministers come with their own preconceptions and prejudices which colour the information they receive and frequently blind them to the situation on the ground. The Palace of Westminster is frequently described as a "bubble" which those inside it only see grossly distorted reflections of themselves and a murky view of the world outside. Information garnered by departments for one purpose can be used for another frequently without attribution. It is difficult for administrators to take a wider view as the further down the chain the more they must handle information and policy within the four corners of the most appropriate statute even though in many cases the statute or the regulations by which it is operated are not entirely appropriate or out-of-date. Professional advisers, such as lawyers[24] are firmly prevented from considering and commenting on matters of policy even though it might be obvious to them that the questions on which they are being asked to advise address the wrong issue[25]. Scientific advice is often badly presented and interpreted, exacerbated by the fact that scientists are highly specialised and for whom politics is usually unknown territory[26]. The presentation of the findings of science is an art form itself if they are to be readily understood by politicians and other decision takers.

It has often been observed that the reaction of the British government, when faced with a problem is to form a committee or, if it wants to put off

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[22] When special advisers ("SPADs") were comparatively rare the permanent civil servants knew how to neutralise them, keeping them out of sensitive areas.

[23] A notable exception was John Selwyn Gummer (now Lord Deben) who held office either as Minister of Agriculture or as Environment Secretary from 1989 to 1997. There was one recent refusal by a minister to be moved when Jeremy Hunt refused to be moved from the Department of Health.

[24] Lawyers employed in the Civil Service are (or were until recently) not treated as "Professional" but are put into a category with gardeners and car drivers! This must be an historic anomaly.

[25] There is now a tendency for professional advisers to be invited openly to back up their political clients at press conferences. This is fraught with danger for both unless they are completely *ad idem*.

[26] Frederick Lindemann, later ennobled as Viscount Cherwell, was a disastrous scientific adviser to Winston Churchill during WWII being arrogant, blinkered and prejudiced in his advice.

dealing with that problem to set up a Royal Commission, a sure way of putting the matter off almost indefinitely. A committee or Royal Commission cannot of itself solve that problem, only make recommendations. It is an exercise in passing the Buck but the Buck always stops with Parliament. Another more recent trait of government is set "targets" which, it is supposed, will solve the problem if they are achieved. This is the "tick box" mentality which inevitably substitutes form for substance. In the end Parliament has to take the ultimate responsibility, even if it confers powers on an individual or committee, as those on whom those powers have been conferred are accountable to Parliament for their actions. Parliament is sovereign and cannot duck its responsibilities. The problems now facing the country are no different from those we have faced in the past, only the scale is different.

The Climate Change Act which will be examined in detail below[27] is a departure from these time honoured ways by which Parliament deals with unexpected problems. The Climate Change Committee ("CCC") which was set up by the act is more than an *ad hoc* committee or even a Royal Commission but, even so, if the government finds its advice and recommendations too much to stomach parliamentary sovereignty[28] could ensure that they are ignored or bypassed. However Section 15 of the Act is unequivocal the Secretary of State ("SoS") must "have regard to the need for UK domestic action on climate change."

Ministers are not ignorant of the way the outside world is interpreted by the media but they would be well advised to treat the picture coming to them from those sources with caution bearing in mind the political agendas and interests on which media sources operate[29]. They would, however, be aware that public opinion can be swayed by the media and this can and frequently does affect the outcome of elections. There is no machinery for gauging public opinion properly either generally or upon specific subjects except through the media as those who respond to official consultations are usually self-selected. A notable exception is an organisation called Mass Observation which tries discreetly to discover the views of people "on the street" but how reliable their findings are must be open to question as their resources and the scope of their activities are not unlimited.

Throughout Whitehall there is a cult of secrecy. The evolution of policy from the cabinet down is discussed in private and the custom of maintaining the appearance of cabinet unanimity inhibits public discussion of important issues. Civil servants instructed to work on an item to be included in the next Budget

[27] Chapter 6

[28] It is a convention of the constitution that Parliament cannot bind its successors, so a Parliament in the future could amend or even repeal the Climate Change Act but in doing so could breach its international obligations, e.g. under the Paris Accord.

[29] The BBC is usually held out to be an honourable exception but the picture painted by the BBC can be distorted by the way their sources of information are deployed.

were and may be still are put in "purdah", physically shut off from their colleagues, complete with their own tea making equipment. Policy is usually only disclosed to Parliament when it has been agreed in Cabinet and formal legislation is required, either primary or secondary, at which time it is in the public domain, or at least some of it is. We are getting better. At one time policy proposals were tabled as "green papers" but these now seem to have been replaced by "consultations" although the process is far from perfect[30]. There is clearly a need to keep secret our defence plans and people can take advantage of the premature disclosure of financial measures but there is very little else which should be kept under wraps. There is an unfortunate tendency to classify as secret something which if disclosed would cause embarrassment to ministers. Things have got much better since the passing of the Freedom of Information Act 2000. The general principle should be that government cannot expect the support of the people unless government is candid and takes them into its confidence.

The general public should be wary of another way that a government of the day can modify or supplement the law without proper scrutiny; by delegated or secondary legislation. So many Acts of Parliament contain a clause to the effect that "the Secretary of State/Minister may by order"[31] publish regulations. This can be overdone by the use of so-called Henry VIII clauses[32] which purport to confer on a minister freedom to change the very substance of the statutes in which they appear. Major changes of policy can get past Parliament this way. Parliamentary committees are supposed to scrutinise proposed secondary legislation and report but sometimes they can be overwhelmed or baffled by sheer verbiage[33]. Some proposed secondary legislation is put out for consultation to which alert special interest groups can respond but it tends to get past the general public.

If faced with an emergency the government of the day has the power to take emergency measures[34]. These can be sweeping and amount to arbitrary rule. The government procured from Parliament dictatorial powers on the outbreak of war in 1914, the Defence of the Realm Act ("DORA") and similar powers on the outbreak of war in 1939. The taking of emergency powers is usually time limited and Parliament has to be consulted on their renewal or extension. Although an event associated with the change in the climate such as extensive flooding could warrant the taking of emergency powers to deal with it such a step would not be a substitute for timely preparations for dealing with the possibility of it occurring.

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[30] The recent "White Paper" on the government's proposals for the reform of the planning system is in fact a consultation document.

[31] The "order" can be an "Order in [Privy] Council" or by statutory instrument, an S.I.

[32] which hark back to the Statute of Proclamations of 1539

[33] There are procedures whereby secondary legislation (Orders in Council and Statutory Instruments) are approved; they can be tabled before Parliament for specific "affirmation" or they can be laid before Parliament and will come into force after a specified time if they are not disapproved.

[34] Civil Contingencies Act 2004 and the Emergency Powers Act 2020

In the summer of 2019 when the government did not command a working majority and when Boris Johnson had replaced Theresa May as Prime Minister there occurred an event of major importance. Johnson advised the Queen to prorogue Parliament, i.e. to suspend its proceedings for about a month. It was in the middle of a crucial phase in the termination of the UK's membership of the European Union, BREXIT. Proceedings were brought for a Judicial Review of Johnson's advice to the Queen. Those proceedings reached the Supreme Court. The Supreme Court moved with commendable speed and delivered its judgment on 24th September 2019. The President of the Court, Lady Hale spelled out the court's conclusions in a remarkably brief, lucid, unequivocal judgment. Having reiterated the supremacy of Parliament and reviewed the Crown's prerogative power to prorogue the court stated that

> "a decision to prorogue (or advise the monarch to prorogue) will be unlawful if the prorogation has the effect of frustrating or preventing, without reasonable justification, the ability of Parliament to carry out its constitutional functions as a legislature and as the body responsible for the supervision of the executive."

The court ruled that the prorogation was unlawful, that Parliament had not therefore been prorogued and could resume sitting without further delay, which it did the following day.

The Supreme Court is new. It was formally established in 2009 and replaced the judicial functions of the House of Lords and the Judicial Committee of the Privy Council. It cannot overturn Acts of Parliament but it can control the extra parliamentary decisions of ministers. By coming into existence a big step was taken to achieve the Separation of the Powers, long assumed to exist in this country[35] but which in practice still does not exist, e.g. ministers of the Crown sit in Parliament.

If faced with a climatic emergency the government might be tempted to take arbitrary action but it would be wise to make use of the emergency powers referred to above or fall foul of the law.

Should government take the initiative or should it, as typified by one statesman of yesteryear, "Wait and See"?[36] To wait up on events can be an excuse for doing nothing. On the other hand to set oneself a comprehensive programme of action runs the risk that something will be overlooked[37] or that

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[35] and in particular by the French philosopher Montesquieu in the 18th Century and the basis of the constitution of the United States. The "Powers" are the legislature (Parliament), the courts (now the Supreme Court) and the executive (the Queen, acting by and through her ministers, the government)

[36] Herbert Asquith, Liberal Prime Minister at the outbreak of WWI

[37] The post-WWII Labour government is a case in point. It was aware of the country's financial predicament but apparently failed to anticipate the attitude of the US government which nearly wrecked the Labour programme for social and economic reform by abruptly terminating the financial support given to the UK during WWII.

"events" will derail the process[38]. It seems preferable for government to identify problems which it alone can solve and base a programme on them but at the same time be wary of fresh problems which might arise and which must claim priority. In a democracy monitoring the outside world is sometimes left to self-appointed "think tanks" of proven expertise and integrity such as Chatham House. Problems could still arise, however, if ministers are selective in the sources they use.

Politicians in a democracy have a reputation for short sightedness. Their eyes are focussed on the next election. It's very difficult to persuade them to give time to dealing with problems which can be put off until after the next election especially if the action that needs to be taken is likely to prove unpopular with the electorate. This, of course, applies particularly to the problems posed by climate change for which plans must be made now for implementation at a time well after the next election.

It is therefore reasonable to work on the basis that in a parliamentary democracy a government which can command a working majority in Parliament should be able to identify the problems that the nation needs to tackle and take steps to deal with them. It is another matter if a government does not command such a majority, such as the Conservative government of 2017-19 or where there is a "hung Parliament" in which no party can command a majority and the parties cannot agree to work together. It is also open to question whether the machinery exists for those problems to be clearly identified early enough for those steps to be worked out and taken.

Central government is not omniscient, neither is it omnipotent. It can secure from Parliament a law or regulation but must leave it to others to enforce or carry it out. We have a system of devolved and local government and a proliferation of agencies, commissions, boards and committees. It is not quite as bad as it used to be before the 19th Century but it is still very complex. The danger is that law or regulation might be misunderstood, misapplied or even overlooked by those charged with giving effect to it. There is also a political school of thought which places reliance upon "the market" which can have serious consequences the most of obvious of which is its unpredictability.

The threat of a pandemic is, of course, an extreme example of the sort of problem that needs to be taken by central government. It is early days yet but it seems that the government was not alert to the threat posed by the coronavirus or, if it was, it did not set in motion the means to tackle it before things tended to get out of hand. The threat posed by climate change is of a different order.

[38] As Harold Macmillan is supposed to have famously observed to a reporter "Events, dear boy. Events!"

Chapter 3
The Climate Change Act

Amidst a growing clamour to do so the UK Parliament formally declared a Climate Emergency on 1st May 2019 by voting on a motion tabled by the Labour Party. It was significant but non-binding. The Scottish Parliament and the Welsh Assembly had passed similar resolutions a few days previously.

A cynic's reaction to the passing of these resolutions is understandable. It's one thing to declare an emergency; it's quite another to do something about it. In fact the UK Parliament had already passed its Climate Change Act in 2008[39] which enacted that "It is the duty of the Secretary of State[40] to ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline[41]." This percentage was originally 80% but it was raised by order to 100% on 27th June 2019. At about the same time the UK Parliament in its Planning Act 2008 amended the Planning and Compulsory Purchase Act 2004 by inserting a new Section 19(1A) which requires local planning authorities to include in their Local Plans “policies designed to secure that the development and use of land in the local planning authority’s area contribute to the mitigation of, and adaptation to, climate change”.

Thus by the Climate Change Act as amended the UK government committed this country to achieving "Net Zero" by 2050 and by amending the 2004 Act ensured that Planning would play its part in doing so. This means that we must eliminate all emissions of GHG except those which are effectively unavoidable such as the breath of human beings and wildlife. The unavoidable emissions are to be balanced by measures which take those gases out of the atmosphere either naturally, like planting more trees and using more wood in construction, or by processes like Carbon Capture and Storage. The Act provides for "carbon budgeting" which effectively sets targets for the reduction of harmful emissions. These will prove progressively more difficult to meet as the "low hanging fruit" is picked[42].

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[39] https://www.legislation.gov.uk/ukpga/2008/27/contents

[40] Although there is more than one Secretary of State (SoS) constitutionally they are treated as one, i.e. they are interchangeable, hence "The" Secretary of State. There was a SoS for Energy and Climate Change in the last Labour government (Ed Milliband) but subsequent transfers of functions mean that the minister now accountable to Parliament for the Climate Change Act is the SoS for Business, Energy & Industrial Strategy. The junior minister (Parliamentary Under SoS ("PUSS")) who is supposed to be handling climate change is Lord Callanan and although he leads for his department in the House of Lords his direct responsibilities include "insolvency", the Ordnance Survey and the Land Registry as well as dealing with "Corporate Responsibility". It is to be hoped that this does not indicate the level of priority which the current government gives to climate change.

[41] The "1990 baseline" seems to be a hangover from the Act as originally enacted as 100% means total elimination of greenhouse gas emissions as calculated by the Act.

[42] The UK achieved its early targets by the so-called "Dash for Gas" when many coal fired power stations were replaced by power stations running on North Sea gas.

The Climate Change Act set up the Committee on Climate Change ("CCC"). It is more than a group of eminent experts on the subject; it is a "body corporate" which can enter into contracts and hold property[43]. Basically, however, the CCC is an advisory body which can call for reports from a whole range of authorities and in turn report to the SoS[44]. It is enjoined to involve the public in its activities. It has spawned an Adaptation Sub-Committee ("ASC") which is required to report on progress every two years.

The Climate Change Act also calls upon the government to publish 5 year assessments of the risks posed by climate change. The first Climate Change Risk Assessment Report ("CCRA") was published in 2012 and the second was published in 2017[45]. The Act does not, however, indicate how its aim was to be achieved neither does it give anyone the power actually to do anything about it. It could be that Parliament realized that the government needed to know the nature and extent of the problem before decided what to do about it, hence the proliferation of reports which the Act generates.

The current CCRA divides its assessment into discrete areas namely

- Flooding and coastal change risks to communities, businesses and infrastructure (‘more action needed’)
- Risks to health, well-being and productivity from high temperatures (‘more action needed’)
- Risks of shortages in the public water supply, and for agriculture, energy generation and industry, with impacts on freshwater ecology (‘more action needed’)
- Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity (‘more action needed’)
- Risks to domestic and international food production and trade (‘more action needed’)
- New and emerging pests and diseases, and invasive non-native species, affecting people, plants and animals (‘research priority’)

The quotations in parenthesis sum up the recommendations of the CCC on each of these areas.

In 2015 the UK joined with 194 other countries in the Paris Accord by which the parties set out a global action plan to avoid dangerous climate change to come into force in 2020 a plan aimed at limiting the emission of GHG. It is not possible to forecast what will happen to the Accord if President Trump gets his way and the U.S withdraws from it.

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[43] It should be a commission rather than a committee.

[44] See below p 18. Strictly speaking the authorities report to the SoS via the committee.

[45] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf

In 2011 the Department for the Environment and Rural Affairs ("DEFRA") issued a white paper on the Environment "The Natural Choice"[46] by which the government committed itself to 'establishing an independent Natural Capital Committee (NCC)... The Committee's remit was to advise the government on the state of English natural capital.'[47] The NCC was established in 2012 as an independent Committee chaired by Professor Dieter Helm. The main function of the NCC is to oversee the operation of DEFRA's plans for the environment.

In 2018 DEFRA published its 25 Year Environment Plan ("25YEP")[48]. Although it was issued over the name of the SoS answerable for DEFRA (then Michael Gove) it was held out as a report to Parliament by the SoS on progress made towards adaptation to meet climate change pursuant to Sect 65 of the Climate Change Act, based on reports by "reporting authorities" submitted pursuant Sect 62 of that Act[49].

"reporting authorities" are defined by the Climate Change Act as (*inter alia*)a person or body with functions of a public nature and a person who is or is deemed to be a statutory undertaker for the purposes of any provision of Part 11 of the Town and Country Planning Act 1990[50].

Although inspired by the passing of the Climate Change Act the 25YEP probably stems from BREXIT and the fact that the UK has ceased to be a member of the European Environment Agency.

The EU paid little attention to environmental issues until the Treaty of Amsterdam of 1997 which recognized sustainable development as a legal objective under the treaties which constitute the EU and is now one of the EU's fundamental goals[51]. Although it was originally suggested that the UK would continue to abide by EU regulations post BREXIT it seems that the Westminster government has decided to re-invent the wheel instead. However in doing so it has (to mix metaphors) put the Cart before the Horse in the sense that DEFRA has produced the 25YEP first leaving the means to administer and enforce it to an Environment Bill which is still going through the Parliamentary process. The bill was held up because the Theresa May government was struggling with BREXIT and then it had to be re-published when Parliament was dissolved late in 2019. It is now caught up in the pandemic crisis. It has passed its Second Reading in the House of Commons and is now in the Committee Stage. A great deal of enthusiasm has been engendered by the 25YEP both inside and outside

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[46] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf

[47] NCC Final Report October 2020 (Ref required)

[48] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

[49] The NAP (see below) states that the reporting authorities preferred voluntary reporting rather than compliance with directions given by the SoS (a political "climate change" from the Labour government of 2008 to the Conservative government of 2018)

[50] Sect 262 of the 1990 Act which defines statutory undertakers, e.g. railway and canal operators

[51] For a discussion on sustainable development see Chapter 5

Whitehall and a lot of work is being done but all of it could come to nothing if the bill fails to pass. Nonetheless the 25YEP is a useful checklist to set against the UK government's National Planning Policy Framework, to be examined in detail later.

The UK government website summarizes the 25YEP, viz

> We want to improve the UK's air and water quality and protect our many threatened plants, trees and wildlife species.
>
> Our environment plan sets out our goals for improving the environment within a generation and leaving it in a better state than we found it. It details how we in government will work with communities and businesses to do this.

It is therefore clear that the 25YEP is not a blueprint to mitigate the effect of or adapt to climate change, although parts of it can be construed as such. It is more concerned with nurturing and protecting the environment. It is an ambitious but limited exercise. This reflects the subtle difference between the protection of the environment and mitigating and adapting to the effect of climate change.

The "goals and targets" set by the 25YEP are listed under the following:-

- Clean Air
- Clean and Plentiful Water
- Thriving Plants and Wildlife
- Reducing the Risks of Harm from Environmental Hazards
- Using Resources from Nature more Sustainably and Efficiently
- Enhancing Beauty Heritage and Engagement with the Natural Environment
- Mitigating and Adapting to Climate Change
- Minimising Waste
- Managing Exposure to Chemicals
- Enhancing Biosecurity

This list reflects the departmental responsibilities of DEFRA. It shows an interesting sense of priorities, with "Mitigating and Adapting to Climate Change" the 7th on the list, but perhaps that is a misconception and that each of these "goals and targets" are intended to have equal treatment. What is unrealistic, however, is the 25 year plan period which is, in the light of scientific advice, far too long. Even with a starting point of 2018 this period takes us to 2043. Ideally it should be 2028 or 2030 at the latest. This must, of course, be seen against the requirement of the Climate Change Act for reports every five years.

Having overseen the 25YEP the NCC issued its "Final Response" to the 25YEP Progress Report in October 2020. This makes depressing reading. The NCC

applied a "natural capital asset based framework to provide an assessment of the state of natural capital." It took the following steps:-

> **Determine the main natural capital assets**, and link these to the ten 25YEP goals;
>
> **Identify natural asset components** and existing datasets/evidence, and shortlist these on the basis of ecosystem services flows/ societal benefits they provide;
>
> **Develop an analysis of trends for each asset/its components**, focussing on progress made towards compliance with existing targets/commitments relative to a 2011, long/near term baseline where possible; and
>
> **Issue a 'RAG'** [Traffic Light] **rating based on this analysis** to provide a transparent and accessible indication of the state of natural assets, where: 'Red' indicates a decline/deterioration; 'Amber' no change, or where the evidence is inconclusive; and 'Green' indicates an improvement.

The NCC took seven natural capital assets namely Atmosphere, i.e. clean air, Freshwater, i.e. clean and plentiful water, Marine and Soils, i.e. mitigating and adapting to climate change, "Biota", i.e. thriving plants and wildlife and enhancing biosecurity, Land, i.e. enhancing beauty, heritage and engagement with the natural environment, reducing the risks of harm from environmental hazards, using resources from nature more sustainably and efficiently and minimising waste, Minerals and Resources, i.e. using resources from nature more sustainably and efficiently and minimising waste. Of these seven assets the first and the last were rated "Amber" and the rest "Red".

The NCC report expressed disappointment at the lack of progress in these areas over the eleven years since the first version of the 25YEP had been published. So far as clean air was concerned Persistent Organic Pollutants, particulate matter and GHG had reduced but ammonia, produced by agricultural activities, had increased. No "surface water bodies" were rated as "good", the main culprits being agricultural runoff and sewage discharges. Only 14% of rivers were rated as "good" and no less than 22% of water put into the supply was lost. According to this report the MHCLG reported that in 2018 8.3% of England's land area is of a developed use. Of this total, 7.16% (79,164 hectares) was converted from non-developed to developed use between 2013 and 2018. On soil 38% was compacted and 12% lost to erosion. On land "The government is not meeting, and is not on track to meet, the Biodiversity 2020 Strategy target to have '90% of priority habitats to be in a 'favourable' or 'unfavourable recovering' condition.' Of "Biota" there has been a 30% decline in pollinators, a 16% decline in "natural pest control" and a disastrous 60% decline in protected species. On minerals and resources the situation is not quite so bad but household recycling has "plateaued"[52] It is noticeable that the NCC has not specifically covered mitigating and adapting to climate change.

The Environment Bill would set up an Office for Environmental Protection ("OEP") which is clearly intended to replace, and duplicate, its EU counterpart[53].

[52] How did the NCC work out that a plastic bottle takes 500 years to decompose?!
[53] The European Environment Agency

It would be a watchdog, overseeing public bodies, including the government itself, to The Environment Bill would set up an Office for Environmental Protection ("OEP") which is clearly intended to replace, and duplicate, its EU counterpart[54]. It would be a watchdog, overseeing public bodies, including the government itself, to which it can issue formal notices of breaches of environmental law.which it can issue formal notices of breaches of environmental law. If a private individual or corporation commits a breach of environmental law enforcement presumably rests with the authorities expressly empowered to take action. Failure to take that action could be the subject of a formal notice. What happens if the authority if it remains in default is not clear, but legal remedies must be available. According to the government website "Environmental governance factsheet"[55] people will have the right to complain to the OEP. It will produce annual reports and an "Environmental Improvement Plan" every five years with the inevitable catalogue of "targets". The weakness of the OEP as proposed is that it will be an organ of government funded by taxation; it would not be fully independent. Moreover the government now wants to reserve the right to "advise" the OEP which has given rise to serious misgivings amongst independent parties.

Returning to the "goals and targets" the website summary of the actions which DEFRA proposes to take can be illustrated by those listed under "Mitigating and Adapting to Climate Change"[56], viz

> We will take all possible action to mitigate climate change, while adapting to reduce its impact. We will do this by:
>
> - continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases
> - making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century
> - implementing a sustainable and effective second National Adaptation Programme

Although this is a separate goal or target in the official summary of the 25YEP it is not dealt with as such in the plan itself. It seems that the reader of the plan is expected to refer to the "second National Adaptation[57] Programme".

The second National Adaptation Programme ("NAP")[58] was published by DEFRA in July 2018 which sets out a lot of background information on climate change and tends to overlap the CCRA. It is quite clear from the NAP that the government is anxious to improve its evidence base, i.e. to find out just what is

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[54] The European Environment Agency

[55] https://www.gov.uk/government/publications/environment-bill-2020/10-march-2020-environmental-governance-factsheet-parts-1-and-2

[56] These pre-date the NCC report

[57] "adaption"?

[58] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf

going on and what, if anything, responsible authorities and other bodies are doing about it.

The NAP is also stated to meet the requirement for assessments every five years as laid down by the Climate Change Act, so one supposes that it will be renewed every 5 years. The NAP is the second one to be published. It was published 2018 so presumably the next will appear in 2023.

The NAP spells out what it expects of reporting namely

> In order to clarify expectations and ambitions for reporting, we consider the primary objective for reporting in the third round is to support the ongoing integration of climate change risk management into the work of reporting organisations.
>
> A secondary objective for reporting is that reports contribute to government understanding of the level of preparedness of key sectors to climate change, at a sectoral and national level, and feed into the ASC's reports to Parliament.[59]

By the first of these DEFRA clearly hopes to persuade each reporting authority to include adaptation to climate change in its objectives and operations. This might not work as the constitution of an authority might preclude this. It is notable that there is no element of compulsion which might prove to be necessary as the need to adapt to climate change becomes ever more urgent. The second purpose to be served by reporting is, from a reading of the Climate Change Act, the statutory purpose.

The NAP spells out what would be expected of a report namely

> an assessment of the current and future risks to that organisation presented by climate change and a programme of measures to address the risks, including policies and practices that are already being implemented.[60]

The NAP then sets out the way the reporting authorities were selected to report, principally those organisations "that are vulnerable to the projected impacts of climate change as according to the CCRA". There is a list of the categories of organisation likely to be required to report, e.g. water companies serving "over 50,000 billed customers", followed by an outline of the sort of risks which reporting authorities are supposed to cover in their reports, mainly "cascade" risks.

Facing a severe economic recession as the result of the coronavirus pandemic it would be understandable for ministers to try measures to boost the economy which could circumvent the Climate Change Act. However to do so would contravene the provisions of Sect 15 of the Act which states that

> (1)In exercising functions under this Part involving consideration of how to meet.. the target in section 1(1) (the target for 2050), or…the carbon budget for any

[59] NAP 7.3
[60] NAP 7.4

> period, the Secretary of State must have regard to the need for UK domestic action on climate change.

If the government ignores this provision it would face court action unless, of course, it tried to water down or even repeal the Act but then it would be open to the charge that it was breaching its international obligations.

* * *

From the foregoing it looks as though the implementation of the Climate Change Act has been split between government departments[61]. When the Act reached the statute book it was clearly the responsibility of the Energy and Climate Change Department. Now it would seem that the Department for Business, Energy and Industrial Strategy ("DBEIS") is the nominal sponsoring department, the operation of the Act being assigned to Lord Callanan, a junior minister, a PUSS (Parliamentary Under Secretary of State), for whom the Act is just one of his responsibilities[62]. The actual running seems to have been taken up by DEFRA when its SoS was Michael Gove, hence the main products of the Act, the 25YEP and the NAP were produced by that department. It remains to be seen whether it will keep that role now that Michael Gove has been moved to become Chancellor of the Duchy of Lancaster. At least two other Departments of State namely the Ministry of Housing, Communities and Local Government ("MHCLG") and the Department for Transport ("DfT") oversee activities which need to be brought into the fold. In a sense the recent creation of a Cabinet Committee on Climate Change chaired by the Prime Minister is evidence that the government takes climate change seriously but Cabinet committees come and go and the Prime Minister has quite enough on his hands without concerning himself with the minutiae of the work of several departments. This will be discussed again later. In the meantime it is necessary to consider the usual ways by which ministers try to achieve their ends.

[61] Possibly reflecting confusion between protecting the environment and the wider issue of climate change.

[62] He has to oversee the Land Registry, the Ordnance Survey and other activities. He is, however, the Conservative leader in the Upper House.

Chapter 4
The best laid plans…

Once a problem has been recognised the next step is to work out how to solve it. An authority with the responsibility to deal with it may have the power to do so. If it has the responsibility but not the power it has to seek it. Central government may have to go to Parliament to obtain that power by primary legislation, i.e. promote a Parliamentary Bill[63].

With many cases it is simple. An Act of Parliament may give power to the Crown to deal with the matter or authorise individuals to act. A law may be passed simply forbidding the activity which gives rise to the problem. If the problem is continuous, e.g. air pollution, the matter can best be dealt with by regulation, placing the responsibility for ensuring that the law is enforced on a minister, local authority or agency. Sometimes, however, it is first necessary to work out how to deal with the problem and this can involve planning, the working out of a scheme of action. Those given the job of doing this must be given a clear mandate otherwise the scheme or plan will not achieve anything or produce an unintended consequence. There is also a risk of what the military call "mission creep", that the planners lose sight of their mandate or extend or distort it. Firm oversight is required.

Detailed planning is a relatively new function of government. It is most closely associated with the design, location and layout of buildings and their relationship with one another, land use planning, on which there is now a great deal of activity. As land use planning is extending rapidly into other fields of human activity it seems sensible to consider whether it can be reorganised and extended to form the basis of a system whereby a wider range of long term problems such as the prospect of climate change can be dealt with in an orderly, timely and effective manner without the undue influence of those, like elected politicians and those with commercial interests, whose horizons are too close. Any new system must, however, earn and keep the confidence of people at large as their continuing support is vital, especially in a property owning democracy like that of the UK in which private interests are regulated and supervised and public functions are carried out by local authorities and a proliferation of agencies and organisations, sometimes with overlapping terms of reference. Extending the scope of an existing system can, therefore, run into interdepartmental and similar problems.

Any plan must be backed by law if it has any chance of being implemented. UK land use planning has the backing of statute, but there is a degree if freedom as to how it is carried out and even more as to how and if it is followed. Without statutory backing any plan, however wholesome, well

[63] There is the Royal Prerogative which will not be discussed here.

intentioned and presented to the public will remain a wish list or a catalogue of pious intentions. Another weakness is unavoidable. A plan costs money to administer and H.M.Treasury controls the purse strings. It can distort or even frustrate carrying it out.

The way we build our towns and cities and make use of our land generally affects virtually every aspect of life. This was recognised from ancient times. The development of the towns and cities of ancient Greece and Rome was regulated if not actually planned, as a visit to (say) the remains of Pompeii makes clear. The need to provide defences for important towns and cities dictated their layout, as also in some cases the need to reduce the risk of fire, flooding, pestilence and plague. In ancient China the design and layout of important buildings and of their settings was determined by the dictates of *feng shui* a form of geomancy which claims to use energy forces to harmonize individuals with their surrounding environment. The great town planner Patrick Abercrombie was a great fan of *feng shui*. He claimed that town planning was essentially an art form[64]. It is doubtful, however, that he subscribed to the pseudo-science which justified Chinese practices. By stretching a point one can compare the practice or art of *feng shui* with the current preoccupation among planners with "place making" an important development which tries to shape the public realm by the behaviour of the people for whom it is being created. But how do you know the way people will behave? Some places created for the public enjoyment and use are shunned or misused even though they seem to be identical to other places which are successful[65]. Successful places should function (*inter* alia) as "open air sitting rooms"[66] as envisaged by the housing reformer and co-founder of the National Trust Octavia Hill (1838-1912). As the world climate changes it is going to be increasingly difficult to anticipate how people are going to react to it.

Christopher Wren produced a plan for the rebuilding of London after the Great Fire of 1666 which was a practical scheme for its time but was not adopted because of the need to rebuild as quickly as possible and it would have taken too long to work out the ownership of the various plots of land and reallocate them. This could be the fate of any attempt at a "green recovery" from the coronavirus pandemic. Governments will be too anxious to return to "normal" that they will dismiss any call to take advantage of the need to reconstruct to adopt measures to ensure future resilience.

The burst of activity in the late 18th and early 19th Centuries known as the Industrial Revolution saw the burgeoning of the great cities in the north and the midlands of England, notably Birmingham and Manchester and their neighbours. The cheap housing put up to house the workers attracted to the new industries soon degenerated into fetid slums. When these were, somewhat

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[64] One is reminded of cavalrymen who used to claim that the purpose of cavalry was to add tone to what would otherwise be a vulgar brawl!

[65] Jane Jacobs in her seminal work "The Death and Life of Great American Cities" (New York, Vintage Books, 1992) graphically describes this phenomenon.

[66] Octavia Hill "Space for the People" (1883)

belatedly recognised as a public health problem government stepped in by building proper drainage systems and regulating the design and layout of housing[67]. This produced the Building Byelaws. Builders then developed dull regimented housing up to the limits prescribed by those byelaws. The response to this was the idea of Town Planning.

Unless one is to devise and set up a completely new system of government, a system which is resilient and capable of meeting the challenges we face, and is responsive and is accountable to the electorate one has to build on system which is up and running and which can form the basis of such a new system. Land use planning is a system which can be adapted and extended for that purpose.

* * *

At the end of the Nineteenth Century an unlikely reformer called Ebenezer Howard[68] published his seminal work "Tomorrow: A Peaceful Path to Real Reform". This led to the recognition in many quarters that we must organise ourselves so that everyone can live in decent healthy surroundings free from the squalor and pollution of our industrial towns. From that stemmed a process of government which was originally called Town Planning but which is now just called Planning. This process will be examined to see whether it can be adapted for wider purposes and in particular whether it can contribute to:-

a) the protection and enhancement of the natural and built environment;
b) the mitigation of and the adaption to the effect of climate change, and
c) the achievement of Net Zero.

Each of these aims is distinct but overlaps the others. There are, of course other more immediate aims like ensuring that adequate housing is provided in the right places and that the development of a healthy economy is not impeded but these must now be subsidiary to the above aims. This will be discussed further in the light of the concept of Sustainable Development.

Planning has come a long way over the last hundred or so years and we are struggling to come to terms with the fact that it cannot be confined to creating tidy clean cities and efficient transport. But to adapt a claim once made by "The News of the World" planning must now embrace all human and natural life. Crippled though it may be and weighed down with verbiage Planning in the broadest sense seems to be the only tool to hand.

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[67] Queen Elizabeth I issued a decree in 1580 banning further building within 3 miles of any of the gates of the City of London. She was concerned with overcrowding and the possibility that food might not be available to support a growing population (See below p)

[68] By calling he was a Hansard reporter.

But Planning today remains essentially spatial planning; it is principally concerned with allocating land uses and it could, no doubt continue to do so. As such it cannot achieve anything of itself, despite the claims made for it by its pioneers. A plan can only will the ends; it cannot will the means. Unless that plan is implemented its aim will not be achieved. Decisions have to be made and resources have to be found and committed at the right time. In a property owning democracy those resources are mainly in private hands that have their own agenda. As we shall see this means that Planning today can only prevent the development of land or modify it to a limited extent; without the use of powers of compulsion it cannot cause development to take place.

The problems we are likely to face in the future with the prospect of climate change are such that the scope and function of Planning, although a useful tool, will need to be expanded and modified. Plans that have to be made now will need to be translated into action at an uncertain time in the future and in the meantime the aims of those plans have to be maintained, even if they may need to be modified from time to time and whatever distractions might tempt administrators now or in the future to stray from it.

In the present circumstances and for the foreseeable future it is clear that the freedom of individuals to do what they like of their own will have to be curtailed. The pursuit of economic growth as an end in itself is finished; we must live within our means. Raw unregulated capitalism and financial manipulation for profit are inimical to the survival of the planet and all that lives on it. Some people will cry "Socialism!" at such sentiments but they are not political dogma, they are a practical and, it is submitted, the only way forward. Individual enterprise and competition does produce results but they are extremely wasteful of both people and of resources[69].

This work is anchored on the UK government's National Planning Policy Framework ("NPPF") the 2019 revision[70]. The NPPF originated in 2012 with the laudable aim of reducing a huge accumulation of policy documents and official guidance to a succinct document of about 56 pages. The latest version is 76 pages; still manageable. The stress that it lays on certain policies such as those on housing, for example, is political. It has, inevitably, sprouted "Guidance" in various forms[71]. The NPPF is not an ideal tool for the purposes of this work but it is the nearest thing to a succinct statement of government policy over a wide range of fields without being overtly corrupted by mindless dogma. As shall be shown the NPPF does not cover everything that needs to be considered so that the subjects covered here do not necessarily follow the order of the NPPF.

[69] Competition is Nature's way but we don't want to suffer population collapse or extinction events.

[70] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

[71] Principally https://www.gov.uk/government/collections/planning-practice-guidance

Moreover this work is not intended to be a detailed commentary on the whole of the NPPF.

The NPPF was produced by MHCLG. In January 2018 DEFRA published the 25YEP. It is lucid and admirably succinct, although it is longer than the NPPF. The only snag is that Parliament has not enacted the powers to implement it. COP26, the UN Climate Change Conference which was due to be held in Glasgow in the late autumn of 2020 has also been postponed for twelve months because of the pandemic. Reference will be made to some of the targets set by the 25YEP[72] as they provide a useful checklist of what needs to be done whatever its ultimate fate. As will be seen a tangled web of departmental sponsorship and responsibilities is being woven through which it will be difficult to trace those responsibilities.

Although no doubt the Environment Bill in some form will eventually pass into law there is a case for merging its functions with land use Planning. The aims of the latter should be on all fours with those of the bill.

But what about the international dimension? Should not the UK seek to work with other countries to meet the challenges we face? Undoubtedly, but the first priority of the UK government must be to look after that for which it is directly responsible. Some progress has been made on international agreement but the ink was scarcely dry on the Paris Accord of 2015 on tackling climate change when President Trump arrived on the scene and seeks to trash it. The United Nations is constitutionally flawed but there is nothing else available. Nearer to home the UK is about to sever its ties with the European Union and at the time of writing it looks as though nothing will be agreed to replace them.

[72] See p18

Chapter 5
Sustainable Development
Squaring the Circle

The UK government has given land use planners an aim. It is to achieve "Sustainable Development". What does it mean and where did it come from? Can it be achieved? Does it still make sense now that we have been set the target of "Net Zero" by the Climate Change Act.

The concept of "Sustainable Development" stems from the report of the Brundtland Commission of 1987, "Our Common Future"[73]. The report states:

> 1. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:
>
> - the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
> - the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.[74]

The United Nations Conference on Environment and Development (UNCED), the "Earth Summit" of 1992 adopted a lengthy and comprehensive agenda for action called Agenda 21[75] which used the term "sustainable development" wholesale but refrained from using the Brundtland definition. However that definition has since been used as shorthand for Agenda 21. In doing so there is a tendency to overlook the need to curb the emission of GHG, especially in the context of domestic development policies, possibly because people considered that it was an aspect which called for international action or possibly because they considered the issue so remote that to tackle it could be deferred. Progress with Agenda 21 has been disappointingly slow but it looked as if real progress had been made with the Paris Accord until President Trump appeared on the scene with the intention of withdrawing the U.S.A from the agreement.

Para 7 of the NPPF states that:

> The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.

This is the Brundtland definition reduced to probably its shortest possible form. Aside from its apparent contradiction in terms it looks on the face of it that

[73] https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf
[74] Brundtland Report, Chapter 2
[75] https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf

humanity has decided to "have its cake and eat it". Development consumes resources which cannot readily be replaced or replaced in time. This contradiction has been disguised by careful legal drafting but it is still there. Moreover the looming prospect of climate change is omitted from this abbreviated version but cannot now be ignored.

The NPPF then sets out the objectives for the Planning system, viz:

:

> 8. Achieving sustainable development means[76] that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):
>
> a) **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
>
> b) **a social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
>
> c) **an environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

Apart from splitting the purpose of the Planning system into "three overarching objectives" this much more elaborate definition still contains the underlying contradiction: one cannot take "opportunities…to secure net gains across each of the different objectives" as those objectives are clearly not "interdependent" but contradictory. In particular the pursuit of the "economic objective" can be at odds with the others. These three objectives also disguise the fact that they fudge the second half of the original definition of sustainable development namely "…without compromising the ability of future generations to meet their own needs" but this may be a tacit admission that it cannot be achieved. Another aspect of the Brundtland definition of sustainability has also been overlooked or ignored. The Brundtland Report makes clear whose "needs" should be met

> Meeting essential needs requires not only a new era of economic growth for nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that growth…Sustainable global development requires that those who are more affluent adopt life-styles within the planet's ecological means

[76] This should read "To contribute to the achievement of sustainable development means…"

In other words sustainable development means that the needs of the poorer countries should be met if necessary at the expense of the affluent; a levelling down.

Surprisingly the NPPF does not indicate precisely how sustainable development is to be achieved. The word "sustainable" is quite liberally used throughout the document but not in a way which harks back to the objectives it sets. The nearest it gets to it is in the section dealing with the exploitation of minerals. There is apparently a requirement that applicants for planning permission for larger developments must submit a "Sustainability Statement" to show that what they propose meets certain sustainability criteria but the origin of that requirement has not been traced. In any case are local planning authorities supposed to be satisfied with such statements without checking that the development, when it takes place, actually meets those criteria?

The original version of the NPPF tried to transmogrify sustainable development into sustainable *economic* development but this has been dropped. The argument often made that economic development is necessary to pay for the cost of meeting the other objectives does not hold up.

Mitigating and adapting to climate change is tucked away inside the third, environmental, objective. Achieving Net Zero should now be an overriding objective of sustainable development and this could be achieved by amending paras 7 and 8 of the NPPF. However by amending the overriding objective of sustainable development in this way an immense problem is created for those trying to abide by Planning policy. It calls to question whether the government is serious about Net Zero or not. This will be discussed later.

The new Development Plan for South Cambridgeshire, formally adopted as recently as 2018, takes quite a different approach. The plan follows the NPPF as regards the concept of Sustainable Development but contains a separate chapter dealing with climate change. This chapter describes the problem succinctly and clearly and includes the following policy:

> Policy CC/1: Mitigation and Adaptation to Climate Change
> Planning permission will only be granted for proposals that demonstrate and embed the principles of climate change mitigation and adaptation into the development. Applicants must submit a Sustainability Statement to demonstrate how these principles have been embedded into the development proposal. The level of information provided in the Sustainability Statement should be proportionate to the scale and nature of the proposed development.

and then goes on to lay down what would be expected of development proposals to mitigate and to adapt to the effects of climate change separately. It will be interesting to discover how applicants for planning permission cope with these requirements.

Writing just before the idea of sustainable development was conceived Peter Ambrose[77] described the disparate objectives of "accumulation" and "legitimization", i.e. the pursuit of profit, the "economic objective", and the "social objective", showing that the latter was in the ascendant with the passing of the 1947 planning act to be quickly replaced by the former in the 1950s. When he was writing the third environmental objective had not come to the fore.

Para 11 of the NPPF is a curious qualification to this objective. It lays down "The presumption in favour of Sustainable Development". The government sets so much store on this that the paragraph is highlighted in a box. It is divided into two, the application of the presumption in plan making and its application in decision taking. For plan making the presumption means that

> a) plans should positively seek opportunities to meet the development needs of their area, and be sufficiently flexible to adapt to rapid change;
> b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas, unless:
> i. the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area; or
> ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

This neatly overlooks the third stated objective of sustainable development. Whatever needs there may be they should not be met if by doing so is not environmentally sustainable. It looks like a disguised attempt to subvert the strict application of Sustainable Development. On the other hand essential social housing and works to mitigate or adapt to the effect of climate change are economic development and would surely be acceptable.

The application of the presumption to decision taking is a thinly disguised direction to planners not to treat Planning negatively, in a restrictive manner, i.e. if a proposal is clearly sustainable and is in accordance with the Development Plan it should be allowed to proceed. To make this clear Para 12 deals with the contrary situation, viz

> 12. The presumption in favour of sustainable development does not change the statutory status of the development plan as the starting point for decision making. Where a planning application conflicts with an up-to-date development plan (including any neighbourhood plans that form part of the development plan), permission should not usually be granted. Local planning authorities may take decisions that depart from an up-to-date development plan, but only if material considerations in a particular case indicate that the plan should not be followed.

[77] Ambrose, Peter "Whatever happened to Planning?" (London, Methuen, 1986) p 23

At this point the reader of the NPPF has to turn the pages as the status and importance of the Development Plan is not covered until Chapter 3 which makes it clear that "The planning system should be genuinely plan-led."[78]

Para 14 of the NPPF tries to deal with a situation where a development plan is "out-of-date" and has been the subject of a ruling by the Court of Appeal. There is an argument that the presumption should be contained within the context of the main thrust of Planning, i.e. Chapter 2, and should not be allowed to run riot (like a "golden thread") through detailed policies. However Para 14 is an anomaly in this respect.

It should also be noted that the three specified objectives to be pursued to achieve sustainable development omits two others which were recommended by the Sustainable Development Commission in 2004 namely:

> a) Promoting Good Governance by "actively promoting effective participative systems of governance in all levels of society - engaging people's creativity, energy and diversity", and
> b) Using Sound Science Responsibly by "ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainty (through the precautionary principle) as well as public attitudes and values."[79]

It is not difficult to pick holes in these and this is probably the reason why they were not adopted as part of national Planning policy. Nevertheless widening participation in the Planning process to include those who do not have a vested interest and "using sound science responsibly" will certainly be required when it comes to planning for climate change.

All this may have been superseded by the Climate Change Act 2008 as amended in 2019 by which the UK government is now obliged to achieve Net Zero. The amendment to para 7 of the NPPF suggested above might solve this problem but of course creates many others. There is also the recent judgment of the Court of Appeal on the issue of the proposed third runway for London Heathrow Airport which states that the Airports National Policy Statement did not take into account the UK government's international commitments on global warming or the provisions of the Climate Change Act[80]. The ramifications of this judgment could be far reaching. The government has stated that it will not contest this judgment but the sponsors of the proposal have taken the matter to the Supreme Court[81]. If it stands many proposals for large scale development, e g HS2, may be at risk. It could prevent almost any kind of development including,

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[78] NPPF Para 15
[79] Cullingworth et al, p 265
[80] Especially the Paris Accord on Climate Change signed in 2015. Para 2 of the NPPF states (inter alia) that
"Planning policies and decisions must also reflect relevant international obligations…"
[81] The Supreme Court has granted the appellants leave to appeal

perversely, development to protect the environment[82]. The problem is that an individual project can be held out like the proverbial Housemaid's Baby as being "only a little one". Invoking another metaphor one could say that faced with one project after another the planners cannot tell which one is the Last Straw which will break the back of Sustainable Development.

The aim to achieve sustainable development through the land use planning system may also be modified by the 25YEP when and if the means to implement it have been enacted. The protection and enhancement of the environment is already creeping into the land use planning system, supporting the case for it to be formally built into the system. The possibility of merging the NPPF with the 25YEP will be explored below.

The question of whether the aim of achieving sustainable development and the targets set by the 25YEP are likely to prove adequate in the face of climate change will also be examined below after looking in some detail at the current planning system and the areas which it does not cover. Some further issues will be discussed which it cannot cover but which will need to be taken into account when considering how the system can be adapted to meet the changes now becoming apparent. Finally the question of how any plan or plans to achieve sustainable development can be implemented will be considered.

[82] The government has given permission for the building of a 3.6Gw combined cycle gas plant at Drax in North Yorkshire against the advice of the Planning Inspectorate who took the view that the building of the plant could breach the UKs obligations and the Climate Change Act.

Chapter 6
The Current Planning System

It seems to be generally accepted that the Planning system as it was reconstituted by the Town and Country Planning Act 1947 has stood the test of time - just. The system has been under attack from land owning and development interests over the intervening years to whom the system is seen to be an obstruction to development by imposing unnecessary delays[83]. The public generally also seem to have mixed feelings about Planning. To many people Planning is valued as the means of preventing intrusive and unsightly development, of preventing eyesores, a guardian of "good taste" and a protector of "amenity" although some are annoyed and disappointed if some modest proposal is turned down. As more and more tasks have been heaped on the backs of planners the less effective they seem to be, exacerbated by austerity measures which have led to cuts in planning staffs. Planning applications can be weighed down with assessments, reports and consultations. Members of the public who are moved to object to a particular proposal are frequently dismayed at the way public enquiries and appeals are held. Planning is, however, the only means government has at its disposal to achieve orderly development and ultimately to organise ourselves in the face of the threats we face in the shape of climate change and much else. It will have to be greatly enlarged in scope and move centre stage in government at all levels despite the fact that the government is determined to draw its teeth[84].

The Planning system has been misunderstood partly because the public has frequently been led to expect more from it than it can deliver and partly because the purpose Planning is supposed to serve changes from time to time. This was the case almost from the outset. Although Ebenezer Howard was concerned with public health he could see that the social health or wellbeing of the people was equally important. If people are resettled in clean, pollution free well planned communities they would not only be healthier but more productive and better behaved. People were, however, beguiled by the diagrams he used to illustrate his book, diagrams which should have showed that his ideas had a much wider scope than urban design. It was, perhaps, unfortunate therefore that one of the cities in his diagram showing a network of his "social cities" was labelled "Garden City". This captured the imagination of interested parties so much so that when the book was republished it was renamed "Garden Cities of Tomorrow" and spawned the Town Planning and Garden Cities Association (now the Town and Country Planning Association) and led to the establishment of

[83] Represented by a recent remark by Boris Johnson in which he referred to "newt counting", an allusion to policies designed to protect Great Crested Newts from development, a nature conservation policy.
[84] As evidenced by the "White Paper"/consultation document published by the government in August 202 entitled "Planning for the Future" (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907647/MHCLG-Planning-Consultation.pdf)

Letchworth and Welwyn Garden Cities both in Hertfordshire as the first two "garden cities" and also garden suburbs like Hampstead Garden Suburb in what is now north west London. In fact Howard's "social cities" would have been built to much higher densities than those leafy garden cities and suburbs but they would have been relatively small and surrounded by green space.

Howard devoted much space in his book to what is now called Land Value Capture. He envisaged a development which had the benefit of the uplift in land values as the result of that development. It was on the assumption, unlikely to be achieved in practice nowadays, that the site of the development would be acquired at existing use (agricultural) value. The harnessing of Betterment, as it became known, for the benefit of the community was left to others to consider and, as shall be seen, has never been achieved.

When John Burns, then the President of the Local Government Board, introduced to Parliament in 1908 the Housing, Town Planning, etc. Bill he said:

> The object of the bill is to provide a domestic condition for the people in which their physical health, their morals, their character and their whole social condition can be improved by what we hope to secure in this bill. The bill aims in broad outline, and hopes to secure, the home healthy, the house beautiful, the town pleasant, the city dignified and the suburb salubrious.

This echoed Howard's ideas, whose book was almost certainly read by the civil servant who wrote Burns's speech, but the bill he was promoting could not possibly achieve any of those aims, only suburbs which were rather less regimented than the Victorian bye law housing which then hemmed in our towns and cities. Moreover, the bill did not deal with the need to plan industrial development or the movement of people and goods both of which Howard tried to tackle. After all the short title of the bill starts with the word "Housing".

The bill which Burns so eloquently promoted passed into law in 1909 and Town Planning became a function of government. But statutory Town Planning became a very limited exercise in the ordering of the use of land. It was limited to land in the course of development or about to be developed thus excluding fully developed areas and the open countryside and was, in any case, optional. It was the planning of the layout of suburbs. Even this was eventually to be reduced to formal and largely unenforceable Town Planning "Schemes" produced by local government officials which took years to prepare and which could be out of date by the time they were formally approved. Measures taken to control unauthorised development whilst a scheme was being prepared and approved were ineffective and were usually circumvented. The wider planning profession soon became the province of architects and graduates in urban design. The social and economic aspects of planning took second place or were overlooked altogether. However most, if not all private building development in the 1920s and 1930s was dictated by the housing market. Patrick Geddes was for a long time a voice crying in the wilderness, being the sole social scientist in this new professional community into which, inevitably lawyers also found a

niche. Official support was later given to the preparation of non-statutory plans which were a source of admiration and ideas. One only has to think of the plans produced by men like Patrick Abercrombie, the author of "The Greater London Plan" of 1944 and one of the founders of CPRE, then the Council for the Preservation of Rural England[85]. It was not until 1947 that the ideas promoted by those plans became the source of inspiration for effective county development plans. Regrettably the planning of the transport infrastructure which Abercrombie dealt with in his plan for London was left to railway and highway engineers who have a deserved reputation for vandalism.

The responsibility for overseeing the official planning process has been bandied about between various Whitehall departments. For many years it was the responsibility of the Ministry of Health which oversaw local government the principal function of which was public health but upon which responsibility for Town Planning had been imposed, the link between the two being housing. The urgent need to plan the reconstruction of the country following the Second World War prompted the creation of the only ministry dedicated to Planning, the Ministry of Town & Country Planning[86]. A great deal of useful work was carried out during the war including the preparation of the Uthwatt and Scott Reports, the first of which addressed the thorny issue of "betterment", the harnessing for public purposes of the increase in land values arising from development. The Scott Report on Land Utilisation in Rural Areas was, as its title indicates, a report on the planning of the wider countryside and was heavily influenced by CPRE. Planning, or what is now left of it[87], is now the responsibility of MHCLG which tends to take a myopic view of land use planning. Attempts to make Planning effective and enforceable have been promoted by one side of British politics and opposed by the other. The history of post WWII Planning is littered with schemes which have foundered this way.

Planning is now distributed between various bodies. The promotion and oversight of major projects is now the responsibility of central government and we now have a National Infrastructure Commission to advise ministers. Apart from this planning the rest of the country used to be shared between the county and local authorities but we now have combined authorities which come under elected mayors. At the other end of the scale we also have groups of local people busy drawing up Neighbourhood Plans which cannot do much more than add a

[85] It is now the Campaign to Protect Rural England.

[86] The extension of Planning to all land including the wider countryside was effected by an Act in 1932. The idea of a central planning authority was mooted by the Barlow Commission which reported at the outbreak of WWII but the commission was more concerned with dispersing industry from the South East in the face of the threat of enemy bombing. Winston Churchill was known to dislike the very idea of planning and was, according to Mr R.A.Butler (in a TV interview) instrumental in promoting Butler's Education Bill rather than one dealing with town and country planning. The first planning minister was Sir John (later Lord) Reith, who had been the first head of the BBC and not exactly a good choice for the planning job.

[87] See below, p 41

gloss to the Local Plans produced by their district councils[88]. The legal responsibility for producing "the Development Plan" for a particular district still, however, rests with the district council and its equivalents but some are joining forces with others to increase their effectiveness (and, of course, to save money)[89]. Following the abolition of regional plans in 2010 district councils are under a "duty to co-operate". This structure not only needs to be tidied up but the structure of Planning urgently needs to be re-examined.

Para 20 of the NPPF lays down the strategic policies which should be covered in plans, viz

> Strategic policies should set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for:
>
> a) housing (including affordable housing), employment, retail, leisure and other commercial development;
>
> b) infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat);
>
> c) community facilities (such as health, education and cultural infrastructure); and
>
> d) conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation.

This begs the question as to how a local planning authority is to know how much provision needs to be made for these facilities, i.e. what is "sufficient" in this context, given that the responsibility for providing them rests with other authorities?

The provision of Infrastructure for water treatment and supply, for example, rests with the Department of the Environment, the regional water authorities and the water supply companies which, between them, probably do not know how much land needs to be provided for at the time the plan is being prepared. Infrastructure may be required to serve places outside the area to be covered by the plan. One could say that this is the very stuff of Planning and that the planners would need to consult the various bodies concerned and that sometimes guesses have be made or compromises arrived at. Probably this should work in the majority of cases but there is a case for a return for some form of regional oversight. Regional planning was scrapped by the Coalition government in 2010. Some widening of the scope of plans is returning with the creation of Combined Authorities run by elected mayors but those authorities may not be large enough or be geographically unsuitable. In the case of infrastructure for water treatment and supply the catchment of a major river might be more suitable.

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[88] Neighbourhood Plans cannot restrict the scope of the plan being developed by the district council.

[89] The management of waste is the responsibility of county councils.

Planning to cope with the effects of climate change can include on the one hand measures to mitigate the effect of changes and on the other measures to adapt our environment to those changes. Some would argue that mitigation measures can clash with attempts at adaptation. If this is valid it is unfortunate that the mitigation of the effects of climate change is the responsibility of MHCLG and adaptation is overseen by the DEFRA[90]. It is clear from the raft of policies and reports now being generated that reducing emissions is the main, if not the sole mitigating measure which the UK government is relying upon, with a passing nod to the possibility of achieving carbon capture and storage[91].

* * *

In the UK most development requires the permission of the local planning authority, development being defined as building, engineering, mining or other works in or under land or the change of use of land. In some circumstances even demolition is regarded as development. Some development does not require permission and some other kinds of development are deemed to have permission and this leeway is being widened by the current government. The right to develop land was taken over by the State in 1947 for which some compensation was provided. In 1991 there crept in the idea of a "presumption in favour of development" but that presumption, if it existed as such, was qualified[92]. The development has to be in accordance with the policies set out in the local "Development Plan", i.e. the system was and is supposed to be plan driven unless material considerations indicate otherwise[93]. Unfortunately local planning authorities are reluctant to refuse planning permission if it is likely that the applicant will appeal. As obtaining permission is valuable to the land owner he/she will usually consider it worthwhile to appeal and the planning authority usually cannot afford the cost of contesting it[94]. Most applications for permission are therefore successful - eventually - but the permission granted may be granted on terms which are unacceptable or otherwise onerous.

Planners get involved with the protection and conservation of our "heritage". If a building[95] is considered by the Secretary of State[96] to be of

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[90] "Planning for Flood Risk" Hugh Ellis, *Town and Country Planning*, Vol 89, No 6/7 June/July 2020

[91] Carbon capture and storage is to be tried at the biomass burning power station at Drax in North Yorkshire where it is proposed that the carbon dioxide be pumped into the bed of the North Sea.

[92] P 32

[93] Cullingworth & Nadin, p 434

[94] The Town & Country Planning Act 1947 provided that 100% of the increase in value of a piece of land attributable to the grant of planning permission would be payable to the State as assessed by the Central Land Board but this Development Charge was finally abolished in 1959 as essentially unworkable as distorting the market in land.

[95] Not just buildings. Some of the old red telephone boxes have been Listed. Listing can now extend to contemporary or near contemporary buildings (like the house in Liverpool where one of the Beatles grew up)

[96] Currently the SoS for Digital, Culture, Media and Sport

special architectural or historic interest it will be included in a list of such buildings[97]. Of course the Secretary of State needs to have his attention drawn to the existence of structures considered worthy of Listing. This is usually the function of an agency called Historic England but private individuals frequently lobby to have a structure Listed. Apart from Listing a structure or a significant feature of a structure can be treated as being of Local Importance. In addition to Listing local areas can be designated as Conservation Areas intended to maintain the character of a particular locality. The designation of Areas of Outstanding Natural Beauty, of Sites of Special Scientific Interest and of National Parks is dealt with below. Planners play an important part in ensuring that these forms of protection are enforced.

Mention should also be made of so-called "planning gain" or, more realistically, "planning obligations"[98]. Planning permission is frequently granted on condition that the developer contributes[99] to the cost of the provision of access roads and services and local amenities such as schools. There is now also the Community Infrastructure Levy ("CIL") which is supposed to cover a wider range of facilities[100]. Developers of housing estates are usually required to provide a number of "affordable" homes, homes to be sold on terms which the less well-off should be able to afford. Some developers will offer other facilities, such as swimming pools. There is a whiff of corruption in such offers. "Planning gain", when applied to an estate of houses to be sold on the open market can result in the buyers of those houses effectively contributing to facilities which hitherto would have been paid for out of local taxation[101]. Loading house prices in this way must tend to make houses offered on the open market less affordable thus exacerbating that problem.

The negotiation of Sect 106 agreements tends to take up an inordinate amount of planners' time not just when a planning application is submitted but beforehand. Lobbying can begin at an early stage and professional lobbyists have now come on to the scene. Timing is critical, as illustrated by the recent row over a direct contact between a developer and a government minister. It seems that the developer wanted a scheme approved before it attracted a substantial amount in CIL. In that case the minister supported the scheme but then realised that he was potentially in a compromising position and withdrew his support. The developer was probably ill advised to raise the matter with the minister directly; a strategy of indirect approach is advisable, going through the local planning authority which these days could be too cash strapped to resist.

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[97] The designation regime is set out in the Planning (Listed Buildings and Conservation Areas) Act 1990

[98] https://www.gov.uk/guidance/planning-obligations There's a subtle difference between the two, but never mind, they are based roughly on the same principles

[99] Known as Sect 106 payments

[100] Developers can also be required to sponsor "public art" and/or provide public open space make a financial contribution towards its provision in lieu.

[101] The developments are supposed to be "viable" commercially. Some developers seek to reduce their commitments to "planning gain" by claiming that their developments will not be "viable" commercially if held to them.

So much depends on the plan. Planning is declared to be "plan driven". Plans are now lengthy catalogues of policies couched in legal terminology and embedded in explanatory material and are therefore open to interpretation. A plan can also be challenged as not being up-to-date, especially if a replacement is in an advanced state of preparation. The preparation of these plans is an almost continuous process; the ink scarcely drying on one before work commences on its replacement. Much of the time taken to prepare a plan and to secure its final approval is taken up by exhaustive public consultations for which the public is given time to respond and a process called an Examination in Public chaired by a member of the Planning Inspectorate to which interested parties are invited, a process which can take several weeks. As so much can be at stake on certain aspects of a new plan that interested parties can brief "Planning QCs", specialist lawyers who can take their time with their arguments. Private objectors can give "evidence" or make representations[102]. The provisions of an emerging plan can in certain circumstances be taken into account when considering applications for planning permission.

A vast body of Planning Law (some would spell it "lore") has grown up around the planning process. Planning enquiries and appeals are bogged down by the abstruse arguments of the "Planning QCs" trying to twist planning policies to suit their clients' cases. Well-meaning and drawn out consultations are launched to clothe planning decisions with a fig leaf of support from the wider public. And behind it all is central government which can at any time change the direction in which the process appears to be going. In the end planning policy is political.

In August 2020 the government published what it described as a White Paper “Planning for the Future”[103] on its proposals to reform the Planning system. It is a consultation document. If these proposals are adopted the system will be radically altered in a way which would make it a quite unsuitable vehicle for mitigating the effect of or adapting to the effects of climate change. The proposals have been almost universally criticised and may not see the light of day.

[102] The rules of evidence which apply to courts of law are not followed. Most private objectors prefer to make representations rather than submit evidence as by doing so they expose themselves to cross examination.

[103] https://www.gov.uk/government/consultations/planning-for-the-future/planning-for-the-future

Chapter 7
Can Planning cope?

Ever since the extravagant claims which were made for the 1909 Act Planning has promised more than it could possibly achieve. It is understandable that promoters of town planning, especially those trained as architects wanted their work to be visualised. Both politicians and the wider public have been beguiled by their drawings and maps. It is frequently said that "a picture is worth a thousand words" but there is a danger that a picture will convey the wrong message, possibly deliberately. Even in the early days the public was warned that the glossy plans that they were being invited to admire and support[104] did not imply that anything like them would actually materialise. The plans which were given so much publicity during the Second World War implied a promise of a better world after the war was over; "New Jerusalem" is powerful propaganda but it can rebound on those who promised it when their efforts turn out to fall far short. On the other hand there was at times an underlying assumption that government or government agencies would carry those plans into effect. The wave of Planning activity which occurred in the mid-1940s was backed up by the designation of Comprehensive Development Areas and the setting up of New Town Corporations. The tide of public enterprise receded, however, before that promise was fulfilled, to be replaced by the regulation of private development.

There is a fine line to be drawn between planning and regulation. Planning implies plans of action by the authorities for whom they are prepared, action preferably with a definite and stated aim in mind. On the other hand regulations are imposed by authorities to control the actions of others, preferably also with a stated aim. Development Plans on which planning control is now based are a cross between planning and regulation, with the emphasis on the latter. There is still, however, a tendency for the planning process to be promoted as if it can achieve its goals of itself. The NPPF, although presented as a legal framework for the Planning process, is still fundamentally a political document. The NPPF is punctuated with the words "achieve" and "achieving" and "ensuring". But careful reading of the NPPF reveals that those words are qualified. For example para 7 of the NPPF states that "The purpose of the planning system is <u>to contribute</u> to the achievement of sustainable development" never mind the fact that the section of the NPPF dealing with sustainable development boldly states "Achieving Sustainable Development". Chapter 7 of the NPPF is headed "Ensuring the Vitality of Town Centres". Para 124 states that "The creation of high quality buildings and places is fundamental to what the planning and development process should achieve." It's easy to miss the addition of the words "and development", especially as the section in which those words appear is headed "Achieving well-designed places". To cite other examples runs the risk of being accused of nit picking but these examples show

[104] Notably Patrick Abercrombie's "Greater London Plan" of 1944 which spawned much publicity material, both official and unofficial

the tenor of the document. The planning professionals to whom the NPPF is principally addressed should not be misled by this whilst politicians can draw some comfort from it.

It cannot be over emphasised that Planning is only part of the development process. To achieve its stated aim a plan has to be followed usually by interests who did not prepare it and who are motivated in a way which can differ markedly from that which prompted the preparation of the plan in the first place. If a plan is too prescriptive there is a risk that it will never be carried out; if it is too loosely drawn there is a risk that its aim will not be achieved or, worse still, diverted to achieve a very different purpose.

The carrying out of Planning policy is therefore largely left to the market. This will be examined in the light of the Climate Emergency which we are enjoined to face. Although the market has to comply with the letter of a plan it will not necessarily conform to its spirit. The art of modern planning must be to so contrive a plan which gives little or no scope for the private developer to deviate from it. However, private developers can frustrate a plan by not developing at all or by developing in a sequence not envisaged by the planners. Under the present system they cannot be compelled to build[105]. Without the means for betterment to be harnessed for the good of the community as a whole landowners will continue to hold us to ransom.

As mentioned previously for a plan to be effective and gain the support of those to be affected by it the plan must have a stated aim. People must be convinced and continue to be convinced of the need for it. Without public support a plan will soon lose its way and degenerate into irksome regulations all too easily seen as obstructing development. The Second World War gave impetus to the preparation of plans because of the clear need to reconstruct the country damaged and neglected by war. But this impetus was lost. In the 1970s the need to protect and enhance the environment came to the fore, to be replaced in its turn by the perceived need for more housing. Housing rose to the top of the Planning agenda in the 1990s by the publication by the Office for National Censuses and Surveys[106] of their "Household Projections" which demonstrated the provision of homes was not keeping pace with the growth in the number of households, partly a demographic phenomenon and partly behavioural. Housing remains the first priority for the UK government, at least on paper. Planning to adapt the country to climate change and to mitigate its effects has yet fully to emerge but urgently needs to do so.

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[105] We also have a grotesque procedure whereby as part of the preparations for a new development plan the planning authority issues a "Call for Sites" inviting land owners to suggest sites for development. This is not sensible and can hardly be called planning except the selection by the planners of the sites offered. On the other hand zoning a site which its owner has not offered is not likely to be developed.

[106] now the Office for National Statistics

It is going to be difficult for the planners to present a draft Development Plan the principle aim of which is to achieve Net Zero.

* * *

But what of the public? If the Planning process is fundamentally political members of the public not only include people whose lives and amenities will be affected by it; they are voters as well. Planning cannot, however, be a democratic process in the conventional sense. It was originally conceived as a matter of concern only to land owners. One could not take part in a public enquiry into (say) a draft of a pre-WWII Town Planning Scheme unless one was an owner of land in the area covered by the scheme and then only in respect of proposals that could directly affect that land. The Skeffington Report of 1969[107] opened a little way to public participation in the planning process. Although applicants for permission for larger projects are now expected to invite comments and objections on their proposals from the public and pre-application engagement and "front loading" (whatever that means) is now encouraged[108], it remains to be seen how much weight is attached to comments and objections which this raises[109]. There are also the Statutory Consultees who have to be consulted on extensive proposals but, again, none of those bodies can veto a proposal, even the Environment Agency which might point out that the proposal involves development on a flood plain[110].

Consulting the public on the draft of a new Development Plan can produce hundreds of objections and suggestions many of which fail to take into account the aims of the proposed plan. Local Planning Authorities are now trying to filter out irrelevant and/or vexatious objections by posing specific questions which members of the public are invited to answer, a well-meaning but dangerous idea as some important points may be overlooked. In the end, however, the new plan will be examined by an inspector and formally approved if it is rated as "sound". The NPPF para 35 lays down that "Plans are 'sound' if they are:

> a) **Positively prepared** – providing a strategy which, as a minimum, seeks to meet the area's objectively assessed needs; and is informed by agreements with other authorities, so that unmet need from neighbouring areas is accommodated where it is practical to do so and is consistent with achieving sustainable development;
>
> b) **Justified** – an appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence;

[107] Report of the Committee in Public Participation in Planning, HMSO 1969

[108] NPPF Paras 39-46

[109] Some people invited to comment on a proposal before it is submitted for planning permission will reserve judgment on the basis that the proposal could be significantly changed when it is submitted, so it might not save much time. Also an applicant might be tempted to misrepresent comments on their original proposal as supporting an amended scheme.

[110] If the agency points out that there is a high risk of flooding of the application site the Local Planning Authority must have regard to it (NPPF paras 155 and 156).

c) **Effective** – deliverable over the plan period, and based on effective joint working on cross-boundary strategic matters that have been dealt with rather than deferred, as evidenced by the statement of common ground; and

d) **Consistent with national policy** – enabling the delivery of sustainable development in accordance with the policies in this Framework.

It does not require lengthy comment on these criteria to show that there is ample scope for taking widely different views on whether or not a plan is "sound". The last is obviously the one which carries the most weight and recent argument on this last point turns on whether or not the plans provides for sufficient new housing. Para 35 will probably have to be amended, possibly by the insertion of the words "contributing to achieving the target for the reduction of UK emissions in accordance with Section 1 of the Climate Change Act 2008 (as amended and" before "enabling".

The handling of objections to specific planning applications is far from straightforward. Presumably the larger the proposed development the wider the consultation but it is clear that developers try to restrict the area in which the public is to be invited to take an interest, if only on the grounds of cost. A proposal for a new or improved road is a case in point. Clearly the people living near the proposed works should be consulted on the possible disruption that those works and the completed road will cause but a wider consultation should by rights be carried out to embrace the users or likely users of the road and those concerned as to the effect on the landscape.

What are valid grounds for objection to a proposal? There is a narrow view which would restrict objections to those raised by neighbouring land owners whose businesses or lives would be adversely affected[111]. The obvious objection is that the proposed development does not conform to the existing and/or emerging Development Plan. There are those objections raised on the appearance of the proposed works; criticism of (say) the architecture by those who consider the proposed structure is likely to be an eyesore[112]. This could be extended to include the effect on the setting of the proposed works. Then, inevitably, there will be the NIMBYs[113] who will object on the grounds of loss of "amenity", whatever that elusive word actually means. Finally last, but not least, there will be those who will object on the grounds that the proposed development is not sustainable or does not contribute to achieving Net Zero, a ground for objection the scope of which is now likely to increase rapidly. Most of those objections will be rejected on the basis that the points raised are not "material considerations".

[111] In should be noted in this context that no one has a right to a nice view from his/her property; only a right to light and air (but see p).

[112] Some authorities whose built environment includes a Conservation Area or which includes historic buildings require that proposals are submitted to panels of architects and experts on conservation.

[113] Not in My Back Yard; an acronym imported from the U.S?.

Nevertheless planners want to be loved and generally take a great deal of trouble to carry the public with them. In the end the planners must have the last say subject, of course, the rulings of the courts. The principal exception to this is the relatively new procedure for major infrastructure projects, e.g. a nuclear power station or, in the case of Heathrow an extension to an airport, where the final say rests with ministers, a procedure which accords with the principles of parliamentary democracy but to which many would object.

* * *

Can Planning cope? It seems clear that the Planning system cannot achieve Net Zero on its own. It can only guide development in the right direction. The initiative rests with others. If no one wants to develop, or only develop in particular ways Planning can do nothing. Guidance is in any case all too easily seen as obstruction or as a brake on progress. People generally, and politicians and commercial developers in particular must be convinced and remain convinced of the need for Planning and of the necessity of achieving Net Zero.

It is, of course, not the function of Planners to proselytize, although they must play a vital supporting role. It is for climate scientists, ecologists and a whole host of other specialists backed up by informed public opinion who must relentlessly put over their message to counter the natural tendency to take the short term view "Why should I care about posterity?"[114] Until recently very few did. It used to be a matter of pride to speak of "taming nature" and of "triumphs of engineering". It is ironic that just as humanity acquires the power to do this a growing number of people have come to realise that there is a limit to economic growth and to the exploitation of natural resources and that that limit is in sight.

A possible way will now be examined in which land use Planning can be adapted really to contribute to achieving Net Zero within the time we are advised we have left. It will be on the assumption that there will be no more serious distractions and that politicians and other movers and shakers will keep to the script. In doing it must be on a further assumption that the rest of the world will pursue the same path. We can only hope that those assumptions will not prove to be unfounded.

[114] When this was put by the comedian Groucho Marx he added “What has posterity done for me?”

Chapter 8
Standing Room Only

This examination must begin with people. Aside from natural disasters it is now human beings who have it in their hands to shape or destroy their future. It is not just the "top" people but everyone must be involved. Everybody makes decisions, planned or unplanned that in total shape our natural and built environment. We have moved into the Anthropocene, a new era in the history of the planet. It is the behaviour of people which needs to be guided along a path which leads not to self-destruction but to a healthy, happy and prosperous future in which they live within the means which the planet can afford to spare.

In 2019 there were 66.4 million people living in the UK of whom 84% lived in England[115]. Although there are signs that the increase in that number might be levelling off we are clearly on track to hosting 70 million. People are living longer and we not only welcomed (with some reservations) the "Windrush Generation"[116] and their successors and the Ugandan Asians, refugees from Idi Amin's regime, but also many non UK citizens of the EU some 3.6 million of them who have decided to stay with us[117]. The British have an honourable reputation of giving asylum to refugees but the sheer number seeking shelter and the difficulty of distinguishing between genuine refugees and economic migrants is gradually forcing us to impose controls on further immigration. The present government is minded to adopt a points basis for immigration akin to that used by Australia. This will have to be flexible, depending on the state of the labour market, e.g. the urgent need for casual labour on farms hitherto provided by itinerant workers from Eastern Europe.

People have to live and work somewhere and the pattern of human settlement reflects this. Despite the rather misleading statistics intended to show the small percentage (10.6%) of land in England which is "covered in concrete", i e classified as "urban" (occupied by buildings or hard surfaces, private gardens and urban open space[118]), it is clearly necessary to stop further unnecessary take up of land for the built environment in order to leave room for

[115] Office of National Statistics, Overview of UK Population 2019 https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/august2019

[116] The arrival of the first of these was an unintended consequence of the passing of the British Nationality Act 1948 which created citizenship of the "United Kingdom and Colonies" allowing free movement between them (Until 1948 we were “subjects” of the Crown). They were welcome because we enjoyed full employment and many jobs needed to be filled, especially in the NHS and on the railways.

[117] This was a factor which contributed to the decision to leave the EU. People who objected to immigration from the rest of the EU overlooked the fact that large numbers of UK nationals are living in the rest of the EU.

[118] Experimental statistics drawn up by the government state that only 1% is taken up by residential housing with a further 4% by gardens but this doesn't take into account urban roads and streets and the whole urban scene (DHLG Land Use in England 2017)

agriculture and horticulture, for the recovery and preservation of natural flora and fauna and also in order to achieve Net Zero and environmental sustainability. It is also vital for their health and wellbeing that people have ready access to open land for recreation and enjoyment. There is little or no scope to reclaim land from the sea and such as there might be would surely be swamped by rising sea levels.

Greater London could pose immense problems in the future. London, probably founded by the Romans as Londinium, has been growing steadily ever since except possibly for a relatively brief period after the Romans left. Queen Elizabeth I, advised that the density of the population of the city posed a health hazard, tried to check its growth but to no avail[119]. London dominated England at the time and has dominated the whole of Great Britain ever since, despite the mushroom growth of the cities of the Midlands and the north during the Industrial Revolution and the establishment of the Metropolitan Green Belt[120]. The current population (2020) of Greater London is estimated at 9,304,016, approximately 14% (1 in 7) of the total population[121]. The creation of the New Towns and the subsequent Overspill programme was an attempt to decant some of the population of the Metropolis but it seems that as fast as people are induced to leave more people come in, especially people from overseas[122]. The Coalition government of 2010-15 conceived the idea of a "Northern Powerhouse" as a counterweight to London. HS2, the proposed high speed rail link between London, Birmingham, Manchester and Leeds is intended to support this idea but history suggests that all it will do is feed London.

The population of the UK is not only numerous but most people enjoy a standard of living which is not only high but which takes up a lot of room, mainly through movement[123]. This has to be set against the fact that England, i.e. Great Britain less Scotland and Wales, is one of the most densely populated countries in Europe[124].

Not all of the UK should be developed. Development of parts of the country which are cherished for their "natural"[125] beauty should be ruled out for building development completely[126]. This must include the National Parks and Areas of Outstanding Natural Beauty. Areas designated as wildlife sites and Sites of Special Scientific Interest must, of course, be protected. Land designed as green belt is protected from development[127]. The appearance of the rest of the country must be enhanced as opportunities arise. There is clearly a need to

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[119] See p 106
[120] See p 106
[121] The population of "Inner" London has declined.
[122] Only about 45% of the population of London is classified as white British (Gov website)
[123] 4% of England is taken up by transport and utilities (Ibid)
[124] 424 persons per Km^2, comparable with The Netherlands.
[125] In truth there is very little of the UK which is "natural"; our landscape is largely man made.
[126] They cannot escape the changes which will be required to achieve Net Zero like extensive afforestation and a reduction in livestock farming.
[127] See p 106

make better use of land. One solution, advocated in some quarters, is "densification".

* * *

Although recent planning policies have achieved a measure of economy in the use of land for building we have inherited large areas of relatively low density urban and suburban development. This was in part a reaction to the high density slum development of 19th Century industrial towns and partly due to the cheapness of development land as the result of many years of agricultural recession[128]. There was also the popularity of the garden city idea, which still has its supporters but which can be profligate in the use of land[129]. Most people in this country aspire to "a bit of garden" even though many suburban gardens are neglected and front gardens paved over for parking the family car.

In the eighteenth and early nineteenth centuries high density residential development was achieved without sacrificing accessible open space. In the cities residential development was typified by terraced housing and shared open space by the provision of squares and communal gardens except, of course, for the housing of servants and industrial workers. The period between the two world wars of the twentieth century was, however, characterised by the "cottage estate" consisting in the main of two storey semi-detached or terrace houses. Dwelling houses were provided with generous back gardens and in many cases front gardens as well, resulting in low density development and, to some eyes, urban sprawl. However in the last thirty years or so the move has been towards higher density development but without commensurate provision of adequate and readily accessible open space. Housing densities should be increased but the provision of open space for recreation and amenity must increase with it. It should be regarded as essential to the health and wellbeing of the residents at least as much as the saving in the provision of healthcare.

The establishment of greenbelts around many of our cities and urban conurbations has contributed to denser development inside them and in those villages and small towns also caught in them, with mixed results[130].

Paras 122 and 123 of the NPPF addresses the question of appropriate densities although they seem be confined to the provision of housing and "the most efficient use of land". To achieve this it envisages the use of "minimum density standards for city and town centres…unless it can be shown that there are strong reasons why this would be inappropriate."[131] Echoing Abercrombie's 1944 proposals for Greater London the NPPF suggests that use could be made of

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[128] From the 1870s until WWII, with a brief respite in WWI.

[129] Ebenezer Howard's original ideas, as illustrated in his book included surprisingly high density development, but of relatively small "social cities" surrounded by open space. These ideas were soon to transmogrify into the garden city concept.

[130] See below, Chapter 18

[131] NPPF Para 123 a)

a range of densities "rather than one broad density range"[132] Not so satisfactory is the advice that in connection with applications for housing "authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)"[133]

In case local planning authorities might be tempted to allow the development of back gardens the NPPF advises that when considering the most efficient use of land, they should take into account "the desirability of maintaining an area's prevailing character and setting (including residential gardens) [and] the importance of securing well-designed, attractive and healthy places."[134]

It is for discussion whether it is desirable to house people in multi-storey structures or whether housing should be low rise. The experiment in the provision of tower blocks in the 1960s would indicate that low rise is preferable[135]. In any case high rise development does not necessarily increase the density of the population unless, of course, people can be persuaded to live like many people do in China and Hong Kong.

Now that the planet is warming it is advisable to avoid making the situation worse. Large urban conurbations create "heat islands" and this can only be ameliorated by including green space and trees in the urban scene which will serve to reduce the density of development and urban ambient temperatures.

Recent housing developments are notorious for providing inadequate accommodation; small rooms and lack of storage space[136]. A higher density of dwellings must not result in the reduction of internal living and storage space. The Parker Morris standards for space in homes[137] or something akin to them must be promulgated and enforced.

Building to higher densities therefore calls for the provision of adequate public open space.

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[132] Ibid Para 123 b)
[133] Ibid Para 123 c). Some recent conversions of commercial premises to residential accommodation have included "studio" apartments without windows!
[134] Ibid Para 122 d) & e)
[135] and the Grenfell Tower fire in 2017 will cause food for thought.
[136] This may be due to the British custom of marketing houses by the number of rooms which they provide, so that a house advertised as having four bedrooms commands a better price than one which only offers three, even though each of the four bedrooms leaves little room to "swing a cat".
[137] Based on the recommendations of the Parker Morris Committee of 1961 and officially promulgated by the Ministry of Housing in 1963 but since abandoned.

The NPPF makes clear that accessible open space must preserved or provided[138]. The policy is open to interpretation and is not always followed. Planning Policy Statement 8, Policy OS2 does, however, prescribe the amount of open space which should be provided in new developments. This open space, to serve various purposes, must be readily accessible on foot by the people who live nearby. This will entail, of course, the expense of looking after that open space, expense which local authorities are usually anxious to avoid and seek to reduce but which they must be compelled to incur. If open space is to be provided in a new development and made over to the local authority the developer should endow that facility to meet or at least contribute to the cost of looking after it.

The provisions of the NPPF in regard to the provision of open space are not strong enough. The amount of open space required is to be "based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision."[139] This does not say by whom those assessments are to be prepared. Moreover the NPPF goes on to state that "plans", presumably the Development Plan, should "seek to accommodate" the need so assessed'[140] without stating how it is to be done.

The loss of playing fields and other facilities is not to be allowed unless "an assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements"[141] or there is an alternative provision available or the development which takes the facilities is replaced by alternative sports or other facilities and this outweighs the loss of the existing facilities. Again this begs the question as to how and by whom these assessments are to be carried out. At the very least these assessments should be independent[142], i. e. carried out by someone not connected in any way with the party in whose interests it would be to modify or even to build over the open space in question.

The NPPF is rather more positive on rights of way. It states that "Planning policies and decisions should protect and enhance public rights of way and access…"[143]

The NPPF does contain a useful provision for the designation of Local Green Space and it[144] has been welcomed as such by the Open Spaces Society but nothing will be designated unless local people take the initiative and it is

[138] Chapter 8
[139] NPPF Para 96
[140] Ibid
[141] NPPF Para 97
[142] The language of the NPPF would probably prefer the phrase "carried out objectively".
[143] Ibid, para 98
[144] Ibid, paras 99-101

hedged about so that it cannot be exploited to reserve large tracts of land, presumably because those can be reserved by other designations.

There is nothing in these provisions which lays down that new and extensive developments should include well designed urban open space.

Higher densities in central urban areas might be achievable by encouraging the provision of roof gardens but of course a building has to be designed and built for a roof garden[145].

[145] The idea of "green roofs" is, to coin a phrase, taking root but they would not be used as an amenity in the same way as a roof garden.

Chapter 9
Housing

Despite growing awareness of climate change the principal concern of the UK government at the time of writing (2020) is housing.

It is widely acknowledged that in this country we have a housing problem. There are over 66 million of us living on these islands and we all need somewhere to live. Most of us have a home that they can call their own but there is a growing number of people who are finding it difficult to find one. Only a few of them are actually homeless, sleeping in shop doorways or in temporary accommodation. Most of them are living in sub-standard rented accommodation or sharing with others. The cost of buying a home is rising steadily out of the reach of the younger generation. The building of new homes is falling behind the demand for them.

Housing is not, however, simply a matter of providing shelter; living accommodation is not, as the architect Le Corbusier[146] put it "a machine to live in". It is, or at least should be, a home, a secure, temperate and weatherproof refuge for oneself and one's family, providing privacy to enjoy a social and sexual relationship, somewhere to raise one's children in safety and a place for the family to make a statement with decorations, ornaments and other belongings. It should have access to natural light and fresh air and preferably with a private garden or backyard[147]. It should not be needlessly exposed to flooding and the elements generally. Such a home should be within easy reach of employment, schools and medical centres as well as amenities such as shopping, public transport and places of entertainment and recreation, preferably without having recourse to a car. To provide it requires space and services such as water, electricity, gas and drainage. Housing needs to meet these requirements, not just as individual units but part of a place which can develop into a healthy and vibrant community. "Town Planning" has always aimed to do much of this but has usually fallen short of its aspirations. But even if planning is an obstacle rather than a pathway to the provision of an adequate supply of new homes, as many politicians claim, we are increasingly finding new problems lying in the way one of which is the need to ensure that all new building contributes to the achievement of Net Zero and that it will be resilient to climate change.

The housing problem stems from various sources. The most important of these is the fact that reliance is usually placed on the market to provide it. The principal aim of the market is to make a profit for those who invest in it, having first met its obligations to those who finance it. Developers will not build until

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[146] 1887-1965, born Charles Edouard Jennneret-Gris, leader and inspirer of modern communal living, remembered for housing developments such as the Unité d'Habitation in Marseille.
[147] The government issued a Decent Homes Standard in 2006. It relates to rented accommodation.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7812/138355.pdf

they can see that it will make an adequate financial return from doing so. To provide dwellings in a way which not only meet the basic requirements for them to be decent homes but will also be resilient to climate change over their expected life costs money which will be reflected in the prices buyers will have to pay. Land has to be available but not all land is suitable for housing development. Moreover most land which could be developed for housing has to fit into existing cities, towns and villages. Doing so can disrupt the lives of the people already living there, engendering opposition and manifestations of NIMBYism[148]. In any case housing fitted in to existing built up areas is never entirely satisfactory, neither is "densification". Although many pre-WWII housing developments were built to a low density they do not readily lend themselves to infilling with additional housing[149]. Locating housing near places of employment is not easy. In the 1920s the London County Council built a large council estate at Becontree in Essex to house people displaced from the slums of East London but omitted to check that there was employment readily available nearby. It was rescued by the Ford Motor Company which built its car plant at Dagenham. The converse is also true, as witness the mining villages left without employment when the coal mines closed. The provision and maintenance of local amenities such as parks and recreation grounds can be denied or neglected because the authorities responsible for them try to save money.

In the British Isles most homes were unheated until about the 1960s, reliance being placed on open fires set in grates in each room[150]. Older dwellings are notoriously draughty and cold, being costly to heat in the winter and probably difficult to keep cool in the summer. Until the 1960s, except in those old houses without any means to do so, hot water was usually produced using a "boiler" in the kitchen fuelled with coke, the hot water rising by convection to a storage tank on the first floor[151]. Householders gradually switched to using an electric immersion heater or to an oil or gas fired boiler which also served a central heating system[152]. Gas or electricity was and is used for cooking, electricity for refrigerators. 15% of GHG emissions are attributable to housing[153],

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[148] NIMBY = "Not in My Back Yard", an acronym which probably originated in the U.S. An unpublished study of the village of Fowlmere in Cambridgeshire which was doubled in size with new housing showed that it took about 20 years, say a generation, for the people in the new houses to fit into the social life of the village.

[149] Although it is tempting to suggest that new houses could be built in the large back gardens of existing homes the NPPF has outlawed this (NPPF paras 70 & 122)

[150] We probably got away with it because our winters are tempered by the Atlantic weather, unlike central Europe. An open fire was usually only lit in the downstairs living room, electric or gas fires being used elsewhere if desired. Open fires caused draughts as much of the hot air would go up the chimney, drawing air in through windows and from under doors.

[151] A different configuration was necessary for flats and bungalows

[152] This was at a time when small bore central heating became available driven by an electric pump. There was also a period in the 1960s when night store heaters were fashionable using off-peak cheap electricity. These were only effective if the dwelling was adequately insulated and draught proofed.

[153] https://www.gov.uk/government/publications/uk-greenhouse-gas-emissions-explanatory-notes. This percentage probably excludes the carbon dioxide produced when making the building materials, bricks and cement in particular, when the houses were built.

a percentage which can vary widely year on year, depending on seasonal variation. Over half of the housing stock in England was built before 1964 with just over 20% being over 100 years old[154] before houses were properly insulated. Something can and should be done to improve the insulation of these older properties, like fitting uPVC double glazed windows, new doors and insulating the roof space but to prevent heat loss through the outside walls can be expensive[155]. This has implications for trying to achieve Net Zero. Towns and cities are noted for creating "heat islands".

Probably the majority of people in England and Wales are owner/occupiers or aspire to be so. According to the former Department of Communities and Local Government (DCLG)

> In 2008 there were an estimated 14.6 million owner occupiers in England (68.3 per cent of the total – down from 69.6 per cent in 2007), 3.8 million social renters (17.7 per cent – unchanged) and 3.0 million private renters (13.9 per cent – up from 12.7 per cent in 2007)[156].

The percentage of owner/occupiers has probably declined since 2008.

Most people aspire to have "a home of their own". Owner/occupation is encouraged by the government despite its drawbacks. An owner/occupier, i.e. one who owns the freehold of his/her property or owns a long lease has to bear directly the cost of looking after it. Although the legal work - conveyancing - has been simplified moving house is expensive and time consuming, involving lawyers, surveyors, *et al*, making the owner to think twice about re-locating. Long distance commuting to a more distant job is thus preferred to moving house, adding to the traffic and contributing to global warming. On the other hand the recent trend towards working from home as the result of the pandemic might reduce the amount of movement. There does seem to be a case for simplifying land tenure if this can be done without the loss of the advantages of home "ownership".

Many people, however, cannot afford to buy their own home as the cost of renting is so high that they cannot save to find the deposit for an outright purchase. From 1919 until 1979 local authorities could and did build council estates for letting to less well-off people at subsidised rents. This was effectively brought to an end by Margaret Thatcher's Conservative government of 1979 which also sold off much of the existing stock of council houses to their tenants

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[154] https://www.designingbuildings.co.uk/wiki/English_housing_stock_age

[155] Houses built before (say) 1944 usually had 9" solid walls, sometimes coated with pebbledash. To reduce heat loss through them involves either internal or external insulation, the latter being quite expensive.

[156] https://webarchive.nationalarchives.gov.uk/20120920022930/http://www.communities.gov.uk/documents/statistics/pdf/1133551.pdf

at discounted prices, the "Right to Buy" scheme[157]. Some council houses are still being built but most social housing is now provided by housing associations. For those who are not eligible for social housing there are some homes available at "affordable" prices built as a condition of granting planning permission for a larger estate. This can be done by devices like shared ownership schemes. The reduction in the prices is met by developers who presumably seek to recover the discounts by pricing the houses sold at full market rates.

In the 1990s the Office for Population Censuses and Surveys (now part of the Office for National Statistics) published its "Housing Projections" which showed that the building of new homes was falling far behind the growth of households in the UK. This brought the housing shortage to the top of the political agenda. Historically households have been shrinking. Before (say) the outbreak of the First World War most middle and upper class homes had at least one domestic servant living in. It was also common for households of all classes to include three generations but now grandparents tend to look after themselves until the time comes for them to enter a care home. If they had a spare room working families would "take in" a lodger, usually a young person starting in his first job away from home. Now the average household comprises an average of 2.4 persons[158]. The fluidity of family life can also lead to children moving from one house to another so room has to be found for them in both. All this, together with lack of affordability, has given rise to the current situation.

Drives to boost the provision of living accommodation have historically ended in tears. In the 1960s the answer to the housing shortage seemed to be the building of tower blocks, fashionable among architects at the time because of the influence of Le Corbusier. Although popular at first with families who had lived in slums tower block accommodation had many social and other practical limitations. Tower blocks became generally unpopular following the partial collapse in 1968 of Ronan Point, a tower block in Canning Town in London which was attributable to poor and inadequately supervised workmanship[159]. Tower blocks have been coming down in many parts of the country. Although such buildings can no doubt meet strict environmental standards there must be some doubt as to whether they are the best solution with global warming. There seems to be little doubt that low rise housing is the most popular. The Homes and Communities Agency (now Homes England) can readily demonstrate that such housing does not take up more space than high rise developments unless, of course, one is prepared to tolerate the sort of housing common in places like Hong Kong.

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[157] The money raised by those sales was remitted to the Treasury so that local authorities could not use it to build new council accommodation.

[158] https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/adhocs/005813averagehouseholdsizebyageofhouseholdreferencepersonengland2015

[159] The Grenfell Tower fire in 2017 cannot have improved the chances of a return to this kind of accommodation.

The present government has allowed the conversion of commercial premises into living accommodation. This is not always satisfactory as the accommodation provided can fail to meet even the most basic requirements of a decent home[160].

The NPPF[161] tries to ensure that development plans allocate sufficient land for housing and that each housing development contains a proportion of "affordable" homes. Sites have to be found for housing and the NPPF tries to ensure that the building of new homes is carried out at the expected rate. The NPPF also tries to ensure that large scale developments include facilities which will make them as near as possible viable communities[162].

The rate at which housing development takes place cannot be dictated by the local planning authority. Given that developers and builders are in business to make a profit from their activities[163] anecdotal evidence indicates that the pace at which builders in particular build out their developments is dictated by the local market in new homes. In this connection paras 75 and 76 of the NPPF are relevant, viz

> 75. To maintain the supply of housing, local planning authorities should monitor progress in building out sites which have permission. Where the Housing Delivery Test indicates that delivery has fallen below 95% of the local planning authority's housing requirement over the previous three years, the authority should prepare an action plan in line with national planning guidance, to assess the causes of under-delivery and identify actions to increase delivery in future years.
>
> 76. To help ensure that proposals for housing development are implemented in a timely manner, local planning authorities should consider imposing a planning condition providing that development must begin within a timescale shorter than the relevant default period, where this would expedite the development without threatening its deliverability or viability. For major development involving the provision of housing, local planning authorities should also assess why any earlier grant of planning permission for a similar development on the same site did not start.

All this would cause planners to stray into the commercial aspects of building development for which they may not be suitably qualified. Once, for example, they get into an argument with a builder or developer as to whether or not a proposed development is commercially viable (and the date by which the development is to begin is germane to this) they can soon get lost. A general

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[160] One conversion provided living accommodation without any windows.

[161] NPPF Chap 5

[162] The Independent Review of Build Out by Sir Oliver Letwin (2018) addresses some of these problems.

[163] If they could make a satisfactory profit without building anything at all they would surely do so. It seems that small building firms prefer to carry out small works such as building extensions to existing properties rather than building complete homes.

economic downturn can, of course, affect the rate of delivery of new housing as also significant changes in the cost of borrowing.

Local Planning authorities have to demonstrate that their plans provide for 5 years' supply of housing sites. Para 73 of the NPPF stipulates that they "should identify and update annually a supply of specific deliverable sites sufficient to provide a minimum of five years' worth of housing against their housing requirement set out in adopted strategic policies." This percentage is adjustable in specified circumstances. A moment's consideration of this policy should show that the application of this policy cannot go on indefinitely, e.g. if all available land within an authorities boundaries is committed[164].

To arrive at the number of new homes to be provided for in a new plan local authorities carry out Housing Needs Assessments based on returns from local people. Very few people have a need to live in a particular locality, although many would like to, e.g. because they belong to families who have lived in a place for generations, the exceptions could include those who are responsible for livestock or caretakers[165]. This seems to be recognised in the NPPF which refers to "objectively assessed needs" for housing[166]. Housing Needs Assessments can produce perverse results so that they have to be adjusted.

Although it is desirable for housing to be within easy reach of employment sites the so-called dormitory suburbs are slightly different in the sense that they were established as a means for those living in them to escape the noise, fumes and smoke of industrial areas but condemned them to commuting, something which needs to be avoided in the future, especially as modern industry can be reasonable neighbours. The need to locate housing near employment sites and *vice versa* is not sufficiently brought out in the NPPF despite paying lip service to the need to encourage cycling and walking[167].

The fact that land can be private property and in the hands of people who regard it simply as an investment can frustrate the sensible planning of the use of land in this country. It certainly distorts the Planning system. Anyone who wants a piece of land for his or her exclusive use or a public authority who wants it for public purposes has to pay off everyone else who has a legal interest in that land or accept the restrictions which those other interests impose[168]. Unavoidably most pieces of land are subject to the rights of neighbours and others nearby, such as rights of way and the right to use pipes and wires which

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[164] In the combined authority of Cambridgeshire and Peterborough land allocated for housing is to be spread out because Cambridge, for example, is running out of housing sites due to its green belt.

[165] or lighthouse keepers!

[166] NPPF para 11 b)

[167] The need for access to "employment opportunities" is mentioned in para 72 b) of the NPPF

[168] Just before WWI when the government wanted to acquire Orford Ness, a gravel spit of land off the coast of Suffolk and to use it as an airfield the acquisition was held up for months in order to investigate third party rights, and this was during a war (Heazell, Paddy "Most Secret. The Hidden Story of Orford Ness" (Stroud, History Press, 2010)

cross it. Although the planning system can and does place restrictions on the types of use to which a piece of land can be put the owner is not obliged to use it in a particular way or to use it all, despite attempts to compel the owner to do so in recent years[169]. It follows that development takes place, if it takes place at all, reflects the interests of land owners and the whims of the market, whatever and whenever the planners and the public want it unless, of course, resort is had to compulsory purchase. The Planning system is better at preventing development than promoting it.

Because land is regarded as a safe investment an inordinate amount of wealth in the UK is invested in land. It follows that it should normally be good security for loans. The joint effect of these is that land values in the UK usually remain high. This feeds into the cost of homes either by the amount which has to be found to buy land outright together with the cost of raising that amount by mortgage or the rent for any kind of tenancy.

Dwellings should be kept in a good state of repair. If a home is occupied by an owner/occupier this is their responsibility and clearly in the interests of the owner/occupier to do so. If a dwelling is let on a periodic tenancy the situation is more complicated. Usually the longer the term of the tenancy the more responsibility for repair and maintenance moves from the landlord to the tenant. There is perpetual conflict between landlords and tenants over the liability for repairs and maintenance despite numerous attempts to prevent it by legislation.

Much play is made of the existence of empty or abandoned homes. Statistics published by MHCLG put the number of empty homes in England in October 2018 at 634,453 of which 216,186 were classed as long-term empty properties (empty for longer than six months)[170]. If brought back into use these homes would solve the housing problem but, of course, it is not as easy as that. Some empty homes are awaiting refurbishment or are in such a bad condition that they should be condemned and demolished. Many of them could be in areas for which there is no demand for homes, e.g. because local employment has ceased to exist.

Building construction generates a large amount of carbon[171]. It is therefore clearly sensible to make use of existing buildings rather than build new ones providing, of course, they are suitable for re-use economically and sustainably and are in the right places.

Mention here must be made to the New Towns the programme for the building of the first of which was launched in 1946 the most successful of which were those based on existing towns, e.g. Hemel Hempstead and Stevenage in Hertfordshire. These new towns were a feature of Abercrombie's "Greater

[169] e.g. the Community Land Act 1975
[170] From the House of Commons Library website.
https://commonslibrary.parliament.uk/research-briefings/sn03012/
[171] Especially the manufacture of bricks and cement

London Plan" of 1944 although the sites he suggested were not used. These new towns were given over to development corporations who were empowered to acquire the land. The programme culminated with the start being made on what is now the new city of Milton Keynes.

As already discussed above all builders and developers of private housing are in business to make a profit. If the net return likely to be made from a building development is not satisfactory it will not go ahead. Taxing or even the outright confiscation of the increase in the value of land resulting from its development - betterment - would make development even less attractive to investors. It has been proposed or tried on several occasions since the early years of the 20th Century[172]. Much play is also made from time to time of the idea of "land value capture" by the community but this can only be fully achieved if the community somehow manages to acquire development land at existing use value[173].

A contentious issue has been that of "second" or holiday homes. People with surplus cash have been buying up houses in areas favoured for holidays, like Wales and the West Country, refurbishing them and using them or letting them out for holidays and weekends. This creates social problems in those areas, pushing up prices of homes out of reach of local people and leaving some communities with a sizeable number of houses which lie idle for much of the year or occupied by strangers. Planning regulation could contribute to solving these problems.

However, leaving aside these problems which can, in theory, be solved, provided the cost of doing so can be met. What cannot be readily solved arise from the size of the population of the UK and the demands people make on the land, issues which have been discussed above. However trying to provide the right number of homes in the right places is, to quote Abraham Lincoln in another context, like "shoveling fleas across a barnyard”!

* * *

We now face the problem of providing homes in a changing climate. Assuming that a dwelling can last a century or more those built today must be designed, located and built to cope with the expected change to the climate. Somehow the resources must also be mustered to adapt the existing housing stock to cope with it as well.

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[172] One of the earliest attempts proposed but not implemented was Increment Value Duty, a form of capital gains tax on land, proposed by Lloyd George in 1910. The District Valuer is the only trace left. The Uthwatt Report of 1943 proposed the nationalisation of betterment but this was watered down by the 1947 planning act and abolished a few years later as ineffective.

[173] Ebenezer Howard was lucky when he persuaded Lord Salisbury to sell him the site of Letchworth, his first "Garden City" at agricultural values; never likely to be repeated. His ideas for the financing of his ideal "garden city" now seem naïve in the extreme.

Planning cannot deal with the existing stock of housing. In February 2019 the CCC issued a paper entitled "Housing: Fit for the Future?"[174] It is clear that the CCC is dismayed at the lack of progress in tackling the reduction in GHG, the apparent failure to ensure that new buildings comply with up-to-date standards of design and the lack of progress in retrofitting the existing housing stock. Whatever one may think of the prospect of climate change it makes financial sense for new homes to be thermally efficient. Frequent changes of policy are hindering the mustering of the skills required to carry out the work.

The CCC calculates that there are some 29 million homes which will need to be retrofitted by, for example, replacing gas fired boilers, so that they can contribute to the reduction in the emission of GHG and withstand the effect of changes to the climate. This may be an over estimate. Over 4½ million homes are already over a century old and a further 4 million which were built before WWII. These will probably be beyond economic repair and adaption in (say) fifty years' time and will have been replaced. Buildings rated as historically and/or architecturally worth preserving - part of our heritage - should continue to be preserved but probably cannot be adapted without damaging their intrinsic value as artefacts. However this still leaves nearly 15 million existing homes which could still be standing in the last quarter of this century. The CCC suggests that some at least of the cost of retrofitting these homes should be borne by H.M.Treasury. This seems highly unlikely unless the government takes the view that this work could provide welcome employment.

Retrofitting not only includes the improvement of the insulation of a building but also the conversion of heating, lighting and hot water systems and, in appropriate cases, flood proofing. Insulating existing buildings can be overdone; by restricting air circulation and giving problems of damp penetration. This work will be expensive and it must be questionable in many cases.

As for the future the government is anxious to build as many new homes as possible, the Prime Minister saying "Build, build, build…" This does not bode well for orderly development, let alone development that is sustainable and adapted to climate change[175].

Ensuring that new houses meet the requirements to meet the challenge of climate change is not strictly the concern of planners but at least one Development Plan, namely the South Cambridgeshire Local Plan which was approved within the last 12 months contains the following policies:

> 4.10 To mitigate climate change, proposals should demonstrate:
> • high levels of energy efficiency (Building Regulations);
> • use and generation of renewable and low carbon energy…

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

[175] The White Paper on proposed reforms of the planning system (p 41) has been described as a recipe for slums.

•promotion of sustainable forms of transport, such as using buses, cycling or walking, and reduction of car use….
•recycling and waste reduction both during construction and occupation…; and
•inclusion of high speed broadband to facilitate home working….

4.11 To adapt to the effects of climate change, proposals should:
•manage and conserve water resources…..
•demonstrate that flood risk from all sources has been avoided or managed…
•use Sustainable Drainage Systems (SuDS)…
•use layout, building orientation, design, and materials to ensure properties are not susceptible to overheating and include open space and vegetation for shading and cooling, and to detain surface water run-off…;and
•create a better linked habitat network by conserving, creating or enlarging existing habitats…

It goes further:

Policy CC/3: Renewable and Low Carbon Energy in New Developments
1.Proposals for new dwellings and new non-residential buildings of 1,000m2or more will be required to reduce carbon emissions by a minimum of 10% (to be calculated by reference to a baseline for the anticipated carbon emissions for the property as defined by Building Regulations) through the use of on-site renewable energy and low carbon technologies.
2. This could be provided through the installation of an integrated system or site wide solutions involving the installation of a system that is not integrated within the new building. For a site wide solution, evidence must be submitted demonstrating that the installation is technically feasible and is capable of being installed.
3. For growth areas and new settlements, site wide renewable and low carbon energy solutions that maximise on-site generation from these sources will be sought, such as renewable and low carbon district heating systems.

Policy CC/4: Water Efficiency
1. All new residential developments must achieve as a minimum water efficiency equivalent to 110 litres per person per day.
2. Proposals for non-residential development must be accompanied by a water conservation strategy, which demonstrates a minimum water efficiency standard equivalent to the BREEAM standard for 2 credits for water use levels unless demonstrated not practicable.

Probably the most difficult measure to take is "to use layout, building orientation, design, and materials to ensure properties are not susceptible to overheating and include open space and vegetation for shading and cooling, and to detain surface water run-off". This is clearly a condition which comes within the purview of planners and follows Ministerial Guidance supplementary to Planning Policy Statement 1 (PPS1)[176]. The words quoted comprise just one of 15 stipulations in the South Cambridgeshire plan's Policy HQ/1 which begins

All new development must be of high quality design, with a clear vision as to the positive contribution the development will make to its local and wider context. As appropriate to the scale and nature of the development, proposals must…

[176] https://www.gov.uk/guidance/climate-change#statutory-duty-on-Climate-Change

which is fine and apparently echoes a Design Guide produced by that authority ten years previously[177].

A shortage of sites suitable for housing development, especially within a green belt will make this condition almost impossible to observe. The sites of so many large scale building developments have been determined by their availability rather than their suitability, let alone their sustainability. It is unfortunate that redundant and abandoned airfields were classified as "Brownfield", i.e. previously developed land, and are being or have been developed regardless of their situation. The author knows of at least two developments which manifestly do not follow any conceivable concept of good design or of sustainability. One is an estate of new houses and apartments crammed on to a site which was formerly industrial. Other examples could be cited where a new housing development, probably an "Exemption Site" of affordable housing has broken the skyline on the edge of a village behind which the original settlement sensibly sheltered, leaving the new development exposed to the weather.

Designing a housing development which encourages walking and cycling is not always possible, especially if it does not include a school and shopping facilities. This will be pursued further in Chapter 10.

Providing an adequate and timely supply of housing which is constructed or adapted to meet the challenge of climate change and cutting the GHG produced by the existing stock is likely to prove the most difficult problem facing government at all levels. If we fail then Net Zero will not be achieved, with predictable results.

[177] It was stated to be in accordance with an SPD (Supplementary Planning Document) issued by the MHLG which has since been superseded by ministerial planning guidance which "advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change." Issued in 2014 (https://www.gov.uk/guidance/climate-change)

Chapter 10
The Movement of People and Goods

The population of this country is always on the move. According to the Department for Transport the National Traffic Survey for 2019 shows that on average each person walked on 250 occasions covering a total of 205 miles (26% of all trips, 3% of distance), cycled on 16 occasions covering a total of 54 miles (2% of all trips, 1% of distance), used a car on 580 occasions covering a total of 5,009 miles (61% of all trips, 77% of distance), used a local 'bus on 50 occasions covering a total of 231 miles (5% of all trips, 4% of distance) and used the train[178] on 21 occasions covering a total of 625 miles (2% of all trips, 10% of distance)[179]. These figures should be treated with great caution, especially as there must be wide regional variations, e.g. more cycling must be done in the relatively flat and climatically benign East Anglia. It is clear, however, that most people commute and go shopping by car, the exception being London, hence the congestion and demand for parking space. All this movement contributes to air pollution and air quality is now becoming a serious issue.

The provision of the means to move people and goods necessarily takes up land[180]. The amount of land needed depends, of course, on the type of transport provided. Although Planning is essentially planning of land use the use of land for transport purposes has usually been omitted from the Planning system[181]. This may have been due to the fact that specific statutory powers were usually obtained for the building of a canal or a railway[182].

The NPPF contains a chapter headed "Promoting Sustainable Transport"[183] but coming within a document dealing with policies relating to land use it tends to look at transport, its infrastructure and the impact which it has on its environment from the land use perspective. This is clear from the outset, viz

> 102. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
>
> a) the potential impacts of development on transport networks can be addressed;

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[178] Excluding tube trains

[179] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/906847/nts-2019-factsheets.pdf

[180] 4% of England is used for transport and utilities (MHLG "Land Use in England 2017")

[181] surveys were carried out in preparation for the first Cambridgeshire Development Plan in 1952. A great deal of work was carried out by Holford and his team to analyse traffic and parking although the plan ended up simply by reserving land for their road proposals, none of which was implemented. We also have Dr Sharp and his proposals for the "replanning" of Oxford (Oxford, The City Council, 1948) which included the notorious proposal to build a road across Christchurch Meadow which caused an uproar at the time.

[182] It is a curious fact that the numerous Acts of Parliament passed to authorise the building of a railway did not provide for the possibility that it might need to be closed and abandoned.

[183] NPPF Chap 9

> b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
>
> c) opportunities to promote walking, cycling and public transport use are identified and pursued;
>
> d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
>
> e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.

This is, of course, one side of the coin, e. g. in Para 102 a) planners are told to consider the "impacts of development on transport networks". d) would be clearer if the authorities also need to be told to consider "the impacts of transport networks [both existing and proposed] on the pattern of human settlement and on commerce and industry". The effect of improvements to transport networks on other development is presumably left to be considered by others, presumably the highway and railway engineers, a class of professionals not known for their awareness of the social, economic and environmental impact of their work.

Para 104 a) of the NPPF states that policies should

> a) support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;

This is fine, except that improvements to the road network might frustrate this. People will not necessarily take local jobs. They will travel considerable distances to jobs which suit them. At one time people might have moved house in order to be close to their work but the expense of moving, especially for an owner/occupier, and the transient nature of most employment today means that people are likely to stay put and travel.

The lopsided nature of this policy is illustrated by Para 104 b) of the NPPF which states that policies should:

> b) be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned;

How this can be achieved is not explained.

The movement of people and goods usually comes under the heading "Transport" as it does in the NPPF. This leads, inevitably, to consideration of ways in which that movement can be facilitated. It is best to think in terms of "movement", which leads to consideration of whether it is necessary or even

desirable. However, whatever it is called, the dynamics of human settlement have never been properly integrated into the planning system in this country. It is a serious omission and must be put right.

Before the middle of the eighteenth century there was little movement and that which took place was slow. Most people stayed put, not venturing much outside their own communities[184]. The introduction of private enterprise, in the shape of turnpike trusts, led to the improvement of roads and an increase in traffic, an early example of "induced demand". These new roads were followed by the building of canals which were largely built for the benefit of industry. The railways, originally private tramways or waggon ways to enable the transport of coal and minerals from the mines and quarries to the nearest wharf or port, were transformed by steam locomotion and became public and introduced passenger traffic[185] by accident rather than by design. It was not long before excursion traffic started, by Thos. Cook in 1841, the beginning of mass tourism, another early manifestation of induced demand, as it would not have occurred unless there was a railway to serve it. Private motor cars did not reach the hands of the middle classes until the 1930s and nearly everyone by the 1960s. Now there are nearly 32 million cars on the road[186]. According to the Department for Transport there were 38.7 million vehicles licenced in 2019 of which 2.9 million were registered for the first time in that year. Motor road vehicles began to take traffic from the railways in the 1920s and the response was to build new roads to accommodate them, culminating in the motorway building programme which started in 1959. The need to provide for motor traffic makes a major demand on land.

Both canals and railways also took up a great deal of land. Unless canals follow contours, and the early ones did, tunnels and cuttings were required to provide a level route. Railways likewise; indeed the more so, as the need to keep gradients to a minimum called not only for cuttings and tunnels but embankments as well[187]. A great deal of land was taken up by the railways to provide for trains to overtake one another and for the marshalling of goods wagons. Much of this additional land has now been forsaken as surplus to the requirements of a modern railway[188], although it is not of much use[189].

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[184] This was partly due to the Poor Relief Act 1662 by which welfare payments were the responsibility of one's home parish.

[185] Neither the promoters of the Stockton & Darlington Railway nor those of the Liverpool to Manchester Railway, the first two public railways, envisaged passenger traffic

[186] DfT. Number of licenced keepers of cars

[187] The angle of a cutting or an embankment depends on the soil. Some early cuttings had sides which were too steep, resulting in landslips and accidents. The lower the angle the more room such earthworks take up, as also the approaches to bridges over canals and railways.

[188] A striking feature of HS1, the high speed rail link between London and the Channel Tunnel, is the fact that the line goes "up hill and down dale", as modern trains do not need to avoid moderate gradients.

[189] A few years ago Peter Parker, then Chairman of the British Railways Board admitted that the railways had surplus land; the only trouble was that much of it was 200 miles long and 6 feet wide!

* * *

The NPPF ignores railways; they hardly get a mention. The Victorian railway network, emasculated in the 1960s following the proposals by Dr Beeching, was sold off by the Conservatives. The network was handed over to be operated by a byzantine structure which defies description. Much to everyone's surprise the railways have since enjoyed a renaissance and are carrying more passengers than ever before. Trains are carrying over 1.7bn passengers a year, increasing at a rate of about 2% p.a. Given the size of the UK the network is one of the busiest in the world. It is struggling to keep up with demand and there are predicable complaints over overcrowding. British Rail, the old nationalised entity decided to concentrate on "InterCity" traffic with great success but at the expense of the rest of the network. One step forward in organisation was the creation of Transport for London (TfL) which was created in 2000 and is answerable to the Greater London Authority. The scope of its operations is much wider than the old London Passenger Transport Board as it includes the "Overground" the network of railways, including the "Outer Circle" running round the twilight zone between inner London and the outer suburbs which had been seriously neglected[190].

The most controversial planning issue is HS2, the high speed rail line to connect London with Birmingham and from thence to Manchester and Leeds. It is being pushed through with scant attention to the environmental and social cost to the counties through which it will be pushed[191]. Whether or not it constitutes "sustainable development" depends on the application of the criteria by which all development is to be tested. The emphasis of the promoters of this line was originally on the saving of journey time but saving about 20 minutes on the journey from Birmingham to London could hardly justify the cost of the project. It is now held out as improving the capacity of the railway network. When and if it is built to its full length it will be interesting to see which end of it will benefit the most from it. It is supposed to benefit the north of England but it could serve to attract economic life from there to London[192].

Like all other new transport facilities new rail links are bound to induce demand. At eye watering expense the underground Crossrail has been built across London the completion of which is held up because of the need to reconcile three different signalling systems and now by the pandemic. It is not now likely to open until 2022. It should be a great asset to London but it is almost certain to attract more passengers than it can handle.

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[190] A part of the "Outer Circle" would have been replaced by the notorious "Motorway Box" (Ringway B) proposed in the 1960s but originating from Abercrombie's plans for London, a road which would surely have soon become a roaring stinking *peripherique.*

[191] Although there will be some tunnelling, allegedly to placate constituents in certain areas

[192] The "Northern Powerhouse"

Railways have the edge on road transport from an environmental point of view at the moment because they can use electric traction. They probably use less land, except for the remains of abandoned lines. They need, however, to integrate more with other forms of public transport. Good 'bus or tram connections at stations are vital with, for preference, through ticketing.

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The 'bus[193] is by far the most used of all forms of public transport[194], but probably the one which people try to avoid using if they can. 'Buses should constitute the most effective system of getting people about but they are hampered by other traffic in urban areas and are rated as uneconomic in the open country. Unless they provide a frequent and reliable service people prefer using their cars or bicycles to standing at a 'bus stop, especially in the rain. Using the 'bus is regarded as "non-U" by many people who look on a 'bus as a resort for the poor and underprivileged, and by doing so ensure that it is usually the case. The system for charging and collecting fares, once based on conductors, causes delays at 'bus stops. As 'bus services are mainly run by private operators such as Stagecoach they only serve routes which make a profit except routes which are subsidised. It follows that 'bus services do not provide a fully comprehensive network, compelling many passengers to change 'buses to get to their destinations and to wait at more 'bus stops, adding to the delays they suffer. A 'bus service is always in unstable equilibrium; delays to a service cannot usually be made up.

On the other hand if car users could be persuaded or even compelled to leave their cars at home and use the 'bus there would be an enormous saving in road space. If a double-decker 'bus can carry about 70 passengers when full it should take about 50-70 cars off the road, assuming that most cars only carry their drivers. There would be no need for expensive road improvements, especially in urban areas.

It must be acknowledged that some improvements have been made to 'bus services. Digital displays at 'bus stops and "apps" on mobile 'phones keep passengers informed and so are less likely to complain. 'Buses are better appointed[195] and low emission and even electric 'buses are being brought into service. However the basic design of a double-decker 'bus still remains that which evolved from the open top 'buses of the early years of the last century, clumsy in narrow streets and slow for passengers to board and from which to

[193] The author persists in using the apostrophe; the word is short for "omnibus", introduced in London in the early 19th Century but originating in Paris.
[194] 58% of all trips. Transport Statistics for Great Britain, 2019 (DfT)
[195] although providing charging points for smartphones would seem to be a marginal improvement

alight[196]. Gone are the days when the athletic and foolish would jump on or jump off the open platform at the rear of a moving 'bus!

Recent years have seen the introduction of the guided 'bus. There are three guided busways operating in the UK, one in Cambridge, another in Greater Manchester and one near Dunstable in Bedfordshire. They use ordinary 'buses fitted with small guide wheels like casters jutting out close to the ground just behind the front road wheels. These guide wheels rotate horizontally. The guideway consists of two strips of smooth concrete to take the road wheels of the 'bus outside of which are raised flanges against which the guide wheels run. Apart from the guide wheels the system is rather like the precursor of the railway, the plateway. The advantage of the guided 'bus is that it can run equally well on an ordinary road. It should be the Holy Grail of transport, the "road-railer" but unfortunately the current systems tend to "play trains" with "stations" provided with park and ride facilities whereas the guided 'buses should leave the busway and circulate around the villages and neighbourhoods they serve to pick up passengers, returning to the busway to take them to their destinations and vice versa.

Another system is proposed for Cambridge called the Cambridge Autonomous Metro ("CAM"). The vehicles would run on an ordinary road surface in which cables are concealed[197]. "Trains" of articulated carriages with ordinary road wheels would follow these cables without the need for a driver although, like the Docklands Light Railway in London each would presumably have a conductor or "train captain" if only for safety reasons. A system like CAM is in operation in China although an example has yet to be demonstrated here in the UK.

Given that people these days are less tolerant of delays and are reluctant to walk to and from 'bus stops most measures likely to increase 'bus usage must turn on discouraging other forms of travel, in particular the private car. A 'bus service is not demand responsive except that a 'bus operator will run its services along the routes people most want to use. Alterations to routes operated are very slow to be implemented.

If conventional 'bus services are to be retained they should be routed where people want to go and at times when they want to travel. They should be taken over as public services. The cost of doing do should be more than compensated by savings elsewhere[198].

Finally on the subject of 'buses there is the question of school 'buses and 'buses and coaches operated by or on behalf of employers for their employees.

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[196] "Bendy" 'buses, popular in continental Europe, could be an answer but they are not popular in the UK if they have to mix with other traffic.

[197] A recent consultants' report suggested that they could be designed to follow a white line painted on the road surface. This ignores the possibility that it might snow!

[198] For other ideas relating to 'bus services see below under "Taxis"

School 'buses should certainly be encouraged but there seems to be no call for the yellow specialised school 'buses used in the U.S.[199]

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Trams or streetcars are running in Manchester and Nottingham and provide a good emission free service. Trams also run in Croydon, South London and in Edinburgh. Although trams are used all over continental Europe they were largely ousted in the UK by the demands of the car lobby[200]. The main snag of trams is that they are inflexible. They are excellent on routes which are heavily used most of the day. Trolley 'buses replaced trams for a number of years in London. These were electric 'buses which collected their current from overhead wires. They are still to be seen elsewhere, e.g. in Cambridge Massachusetts. They, too, are emission free and have impressive acceleration. They are not, however, flexible, as they can usually only go where there are wires to serve them.

* * *

There is no doubt that possession of a car is a great but expensive asset and in many cases a necessity, especially in rural districts where the provision of public transport is not regarded as economic. The car is the ideal "demand responsive transport" available at all hours and which, in theory, will take you from your door direct to your destination. A private car is, however, only used for a relatively small time of the day. For the rest of the time it is occupying space which, in theory, could be put to better use. As there has to be room to park a car at both ends of a journey large areas of land are devoted to car parking, empty for much of the time. Large "Park and Ride" facilities adjoining a town should be replaced by much smaller local transport "hubs"[201]. This should reduce the amount of traffic on the roads leading to the town. In any case the duplication of car parks should be reduced by arranging for car parks to be shared. The current popularity of "Chelsea Tractors", large 4WD cars and SUVs adds to the congestion on urban roads and contributes to the wear and tear of country lanes. Cars of all types have grown larger, partly due to the incorporation of safety features such as side impact protection[202] which is tending to crumble the verges of country roads and presenting a hazard to other road users, especially cyclists.

Unless fully autonomous motor vehicles become generally available each motor vehicle has to be driven by a human driver. The time taken for a driver to react to an unexpected situation means that motor vehicles have to keep a safe

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[199] In the U.S. there are fierce regulations about passing a stationary school 'bus, basically it is not allowed in either direction. In our context this could cause serious holdups in the traffic.

[200] This may also have been due to the way tram tracks were laid in the UK, frequently down the middle of the street so that they and their passengers presented a hazard and hindrance to other traffic.

[201] Effectively bus stops with adjacent car parking.

[202] Which has made cars that much wider

distance from one another, limiting the capacity of a given stretch of road. As drivers cannot be expected to remain fully alert at all times allowance also has to be made for human error. The National Speed Limit of 60 m.p.h (70 m.p.h on dual carriageways and motorways) has an impact on the design of new roads[203] which makes them extravagant in the use of land, especially on curves and with junctions where one finds strips and pockets of isolated land[204]. It does not seem sensible for new minor roads to be built to enable traffic to move faster than 60 m.p.h and take up of land could be reduced if vehicles cannot be safely driven above a much lower speed.

There can be no doubt that private motor cars, at least most of the types currently in use, should be phased out. Quite apart from the congestion they cause in urban areas their emissions are now generally accepted as being not only a hazard to people's health but also contributing to the pollution of the atmosphere generally. Leaded petrol[205] was banned in the UK in 2000 followed by the adoption of catalytic converters but motor vehicles other than pure electric ones still emit an unacceptable level of pollution, catalytic converters actually adding to their CO_2 emissions. Petrol cars are the worst offenders for the emission of CO_2 but diesel vehicles are the worst for emitting NO_x and sheer dirt ("particulates"). The sale of new petrol, diesel and hybrid cars is to be banned from 2035 to contribute to the achievement of Net Zero. But it is not only exhaust fumes which pollute the environment and are a health hazard; tyres shed rubber. Most of the noise produced by motor traffic is caused by the wheels on the road. Diesel cars were belatedly recognised as an environmental hazard. Electric cars and cars running on hydrogen still take up room[206].

Cars are a useful means of gaining access to public transport in areas where the provision of public transport is clearly uneconomic but they are inappropriate in urban areas and should be replaced by public transport which is more "demand responsive" although public transport can never achieve an on demand door to door service. Although politically unpopular some form of congestion charging for cars will have to be introduced for all towns and cities above a certain size. If private motor cars are phased out there would seem to be no need to add to the existing trunk road network or widen roads and streets, especially as by doing so one simply encourages more movement - induced demand. Sir Basil Spence, a town planner and architect, is supposed to have observed that it was no use providing for traffic because it was like feeding the pigeons, "the more you do it the more they come!" It must be conceded, however, that some road improvements are necessary to eliminate accident black spots.

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[203] It is possible that highway designers provide for traffic to travel much faster than the national limit.

[204] It must be admitted that those wide verges and isolated pockets of land provide refuges for wildlife as people are not allowed on them.

[205] Petrol to which tetraethyl lead has been added as an "antiknock" agent.

[206] and will still shed rubber.

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It is sometimes necessary to use a car. Without one a taxi can be hired. To use a car for a longer period than a single journey self-drive hire is the answer, like the Zipcar. Car sharing should be encouraged and perhaps car with only a driver in it should be prevented from entering certain areas[207]. Consideration should be given to the introduction of jitneys, popular in many cities in the Far East. They can be demand responsive and an enterprising owner/driver could pick up regular riders from (say) a Park and Ride site and take them to their respective destinations in an economic order. However it is almost certain that the introduction of jitneys would be opposed by 'bus and taxi operators and they would have to be regulated as to the condition of the vehicles, the competence of their drivers and the number of passengers they would be allowed to carry.

* * *

The movement of freight is largely outside the scope of this work. It extends beyond our shores. On the face of it much of this movement is strictly unnecessary and as such is environmentally unsustainable. For example components for new cars are moved backwards and forwards across borders as part of the manufacturing process. It apparently pays the manufacturers concerned to do this rather than produce those components locally. It is apparently economic for the manufacturers of sophisticated items such as laptop computers and smartphones to employ the cheap and nimble fingers of Chinese workers and ship those items to European and other markets rather than make those items locally. We can buy cheap bunches of flowers and vegetables which have been flown in from places like Kenya and Brazil. It is called globalisation. Very nice for consumers, but is it sensible in the face of the prospect of global warming?

We can either ban unsustainable activities or make them so expensive that they are no longer worthwhile. If global warming gathers apace they could become too expensive in any case.

Inland and coastal movement of freight should be in the hands of government. People dislike the heavy trucks which throng our roads but they bring them the goods they want. It has long been suggested that the goods which are consigned in trucks could be transferred to the railways but railways do not come to your door or to the back of your neighbourhood shop. Transferring the consignment of goods to the railways introduces the transshipment problem, giving rise to additional costs and delay. The road network in this country is good; it is probably best to use them but make the trucks which use them more environmentally friendly. Diesel trucks will no doubt

[207] Although in the U.S. a few years ago an enterprising driver put a tailor's dummy on the passenger seat!

be phased out within the next few years. They could be replaced by electric ones but their batteries only give them a limited range (200-300 miles) so they are only useable for local deliveries[208]. Hydrogen powered trucks using fuel cells look promising but they are still some way off.

Online shopping brings trucks and vans on to our roads and streets but could, in theory, reduce the amount of traffic overall.

Heavy Goods Vehicles do not mix well with other traffic. It is policy to encourage cycling and walking which is good not only for the environment but also for people's health and wellbeing but it is clearly important to segregate those who do so from HGVs wherever possible.

There are moves afoot to reduce the amount of pollution produced by shipping. Coastal traffic should be brought within this.

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Great play is made at the time of writing to encourage cycling and walking and this is reflected in the NPPF. This is, of course, wholesome, but the distances people now have to travel to work and to shop usually precludes this. Cycling for a mile or so, and walking a few hundred yards would be acceptable on dedicated tracks or paths for most able bodied people but even they would draw the line at doing so after dark, in the pouring rain or on snow and ice. Cycling is never likely to be popular in hilly districts. Providing shower and changing facilities for cyclists at workplaces is not likely to be taken up widely.

Electric bicycles are becoming popular, although they remain relatively expensive to buy. However even electric bicycles expose the rider to the weather and the hazard of collision with other vehicles. Many mothers are taking their infant children to school on "cargo bikes" which must be quite heavy to pedal and they and their passengers are exposed to the same hazards.

It seems unlikely that cycling will markedly increase in popularity except in the relatively flat and dry areas of the country and where dedicated cycle paths are available.

Walking is a healthy form of exercise and most people would admit that they do not do enough of it. However the lifestyle of the present working generation does not allow enough time for walking. People who through choice or necessity use public transport put in a lot of walking to gain access to it. There is the enduring image of Londoners streaming on foot across the Thames bridges to get to work. However, strange as it may seem, the smaller the town or city the less people walk as people come in from far and wide and workplace parking is

[208]Electric powered trucks could be fitted with pantographs to enable them to collect electricity from overhead wires provided on (say) motorways. This would extend their range.

usually available. When people shop they tend to buy a lot of items at a time as shops are not within comfortable walking distance. Walking with a heavy shopping bag is something to be avoided. It is possible that people would walk more if the air quality of our streets was improved.

* * *

There is always talk of tunnels and "Buck Rogers" solutions to traffic. For many years artists' impressions of the cities of the future always included helicopters or autogyros and monorails. None of these solutions, even if practicable, are necessary if private cars could be reduced in numbers and eliminated from inner city streets.

Even if the movement of people is restricted to various forms of public transport there would still be far too much movement. Movement consumes resources and degrades the environment of the places through which it passes. Although air travel only needs airports, large as most of them are airliners have a much wider effect as they pollute the upper atmosphere.

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Airports are only mentioned once in the NPPF and then in a footnote[209]. The NPPF refers the reader to the Department of Transport's "General Aviation Strategy" of 2015[210] thus bringing out the fact that Transport is regarded as something separate from other development. The DfT is in a world of its own. This strategy is confined to General Aviation which does not include the airline business, being mainly concerned with business flying, gliding, air taxis, hang gliding, ballooning and other recreational activities. It is uncritical of general aviation and supports deregulation[211]. This won't do.

Airports take up an inordinate amount of land, although in terms of passenger miles they must take up less land than rail or road facilities. They generate, however, a huge amount of road traffic which converge on them. The airliners are noisy and polluting, especially in the upper atmosphere and their contrails may contribute to changes in weather patterns. Aviation should be included in the emissions for the purpose of calculating the level of GHG in the atmosphere. A recent academic paper, published in *Global Environmental Change*[212] shows that although that only 2% to 4% of the global population flew internationally in 2018 1% of the world population emits 50% of CO_2 from commercial aviation.

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[209] NPPF p31 n42
[210] NPPF p31 n43
[211] It was issued at the time of the Coalition Government of 2010-15 and may not reflect current policy.
[212]https://www.sciencedirect.com/science/article/pii/S0959378020307779

Against this the airlines now provide essential travel for many thousands of travellers and air freight is an important component in the economy.

Tourist travel is another issue altogether. We all like to take a holiday, especially in the sun, but there can be no doubt that mass tourism is getting out of hand. The British are probably more addicted to holidays abroad than others[213] and a large part of the traffic using our airports is given up to holiday flights. Holidays are probably too cheap, placing reliance upon cheap labour in overseas destinations and untaxed fuel. This may correct itself.

The airports have their own agenda. They have a commercial interest in attracting as many people to use them as possible, and not just for the shopping. It is the proprietors of London Heathrow Airport who are promoting its expansion by the addition of a third runway. This will be a major undertaking, involving, among other things the diversion of the M25 motorway. It is a supreme example of unsustainable development and should not be permitted.

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It must be a source of wonder that people are prepared to spend hours of their working week crushed into crowded trains or breathing petrol fumes in traffic jams. It is to be hoped that the current lockdown due to the outbreak of the coronavirus will persuade many people to work from home. Working from home is perfectly feasible although it must be acknowledged that personal interaction is vital in the creative arts, with medical and social care, in some aspects of legal work and perhaps in some markets.

Movement, the dynamics of human settlement, is not the only factor which should now be included in a comprehensive Planning system. Probably the most important of these is water.

[213] In 2018 UK residents took 93m trips abroad (https://www.statista.com/statistics/290516/total-annual-visits-abroad-by-united-kingdom-uk-residents/)

Chapter 11
Water Supply, Flooding, Drainage and Waste Disposal

Water, and in particular fresh water is essential for non-marine life including, of course, humans. All fresh water comes from precipitation, some of it thousands of years ago when it seeped into the underlying rock. Although the British Isles are blessed with an adequate rainfall it is not from the point of view of human settlement well distributed. Most rain falls in the north and west of Great Britain whereas human settlement has tended to concentrate in the south and east. Greater London will probably continue to enjoy an adequate supply of fresh water as it is, so to speak, at the bottom of the hill unless rising sea levels salinate the groundwater. The East of England, especially East Anglia, has very little rain and would probably be classified as arid if it was elsewhere in the world. Places like Cambridge have depended on water stored in the underlying chalk but there are signs that these supplies are being over abstracted due to the recent development of these places.

Water could be distributed by a water grid, bringing supplies from the north and west to the south and east, but if this requires pumping it would be environmentally unsustainable. Distribution must be by gravity wherever possible[214]. The aquifers which provide water from the underlying rock can be recharged by rain provided that they are protected from development and pollution. Protection of aquifers will further reduce the land available for urban and industrial development.

If, as forecast summers are likely to be hotter and drier the question of water storage must be addressed. This means additional reservoirs, taking up yet more land. Reservoirs are not only the means to store water; they can be environmental and social assets as well. They attract wildlife, especially birds, and can be used for recreation, this last can relieve pressure on popular seaside resorts and reduce travel at weekends and on Bank Holidays.

Alerted to the spectre of climate change the authorities have been stirred into action. The Environment Agency has produced a National Framework for Water Resources[215] and in East Anglia Anglian Water was responsible for bringing together all interested and responsible parties as Water Resources East. According to the Environment Agency 14,000 million litres of water a day is provided for public water supply, plus a further 1,000 million litres a day for other purposes. The agency states that "If no action is taken between 2025 and 2050 around 3,434 million litres of [additional] water a day will be needed for

[214] Someone suggested not so long ago that water could be brought down from the north to the south and east by pipes laid along the coast at the high water mark. Although far-fetched the scheme would have delivered water to the coastal areas but it would still have to be pumped to reach inland. Desalination plants use energy but they, too, only provide water for coastal areas
[215] https://www.gov.uk/government/publications/meeting-our-future-water-needs-a-national-framework-for-water-resources

public water supply"[216]. Of this additional water 1,150 million litres will be required to make the system resilient to drought, 1,040 to meet the needs of the growing population, 720 to replace unsustainable abstraction[217] and 400 "to address the impact of climate change". Of this additional water 50% will be required in the south east of the country.

Regional plans are being drawn up and Water Resources East, for example, has produced a Business Plan for 2020-23. Nationally the authorities want to reduce consumption from 150 litres per person per day to 110 litres by 2050, reduce leakage from the system and develop additional means for storing and distributing water. All this is fine but it doesn't line up with the Planning system which is based on local authority districts. The water companies have been busy producing Water resource Management Plans which do not line up either. The water companies and authorities have a problem. Their organisation does not fit the local authority structure neither do the river catchments. Nationalising the water companies will not necessarily solve this problem. The demand for water needs to be managed and all those involved will have to work closely together. There is no doubt that the Environment Agency needs teeth to ensure, so far as it is possible to do so, that demand and supply of water is kept in balance.

All those concerned with managing and developing the supply of water for all purposes are clearly faced with uncertainties. Their current plans are based on the occurrence of a 1 in 500 year drought. This might prove unrealistic if temperatures start to rise across the UK and this has already begun. Ten of the hottest years on record have occurred since 2002 and none of the coldest years have occurred since 1963[218]. On the other hand the authorities are budgeting on a demand for water for energy generation. If there is a major shift towards renewable energy sources then the demand for water from that sector might decrease.

All development places additional demands on the water supply system. There is a plan to develop the Cambridge-Oxford "Arc"[219] which would include building (*inter alia*) one million new homes in an area which is already under water stress and part of it straddles an important chalk aquifer. Water can be supplied for such a development but it can hardly be described as environmentally sustainable. A recent report on the plan by the National Infrastructure Commission "Partnering for Prosperity" mentions water just three times and then only in passing. This is probably typical. Land use planners and politicians just assume that the water undertakers will in some way always provide an adequate water supply for their schemes.

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[216] Ibid
[217] from groundwater
[218] The *Guardian*, 31.7.19, quoting the Met Office
[219] See p 84

The flood risk is a big issue which must be addressed. We must look to the Environment Agency for advice. The agency produces flood maps which make a distinction between the risks from rivers and the sea, surface water, reservoirs and "some" groundwater. These maps are presumably under constant review. It is imperative that all decisions regarding future development be governed by the agency's forecasts. No development should be permitted in an area likely to be flooded or which, if developed, is likely to cause flooding elsewhere.

Current regulations allow for the disposal of surface water. Some places which have large areas of hard surface or roofs must have somewhere to store the runoff, usually a balancing pond, which keeps the water back from the drains until they can cope with it. There are SUDS (Sustainable Urban Drainage Systems) which are designed to absorb surface water and in some cases filter it of pollutants. There are also absorbent surfaces for car parks and similar places. In London the discharge of surface water into the sewage system has long been banned and this ban may have to be applied universally.

The management of surface water on agricultural land should also be mandatory. Trees planted in strategic places can absorb surplus water and drainage ditches should be allowed to meander. Farming practices and machinery which compact the soil should be discouraged.

Flooding from heavy rain can swell a river and in doing so wreak destruction as it works its way downstream. The Severn and its tributaries present problems every year and other rivers like the Yorkshire Ouse and even the Thames occasionally cause devastation. The Environment Agency is constantly improving defences against this risk either with permanent defences or demountable barriers. Again, the Planning authorities should refuse permission for any development which could be flooded or cause flooding elsewhere. The NPPF[220] is good as regards the risk of flooding and coastal management but its provisions should be made mandatory, e.g. the word "should" should be replaced by the word "must" in many instances.

Flooding can be caused by the neglect of drains and culverts intended to take the water away safely. The regular maintenance and clearing of these facilities is, of course, the responsibility of the local authorities but the Environment Agency should monitor the situation and warn authorities which neglect this work.

Some coastal areas of the UK are prone to flooding from the sea which could be associated with coastal erosion. The Environment Agency is responsible for Flood and coastal erosion risk management (FCERM) schemes. Flooding and

[220] Section 14

coastal erosion is, of course, not new but the problems posed by them will now become acute with global warming and associated rise in sea levels.

There are two ways of dealing with coastal erosion and flooding from the sea. At places where there are substantial cities, towns and villages hard defences and tidal barriers have been installed, the most notable being the Thames Barrier which protects Central London from tidal surges. The other way is Managed Retreat, to allow the sea to encroach in a controlled manner. Managed Retreat can provide opportunities for nature conservation and if carried out properly can protect land further from the coast. Sometimes it is necessary to evacuate and abandon coastal communities. This will apply to the village of Fairbourne near Barmouth[221]. All coastal cities across the world are at risk from flooding from the sea and London is no exception. No doubt the Thames Barrier will be replaced, possibly more than once, but the sea will swamp the city in the end.

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The disposal of waste is a problem which has grown rapidly in recent years. It can be split into three parts a) the disposal of human waste water and soil, i.e. sewage, b) the disposal of unwanted and/or worn out belongings and discarded packaging and containers and c) the disposal of organic waste like food leavings and garden rubbish. Waste Management Plans are the responsibility of county councils.

The disposal of sewage, which includes anything else which people put down the drain but in many cases shouldn't, is the responsibility of the regional water authorities. They manage and run the Waste Water Treatment Works ("sewage farms"). These are becoming more efficient and less offensive but they still present a problem. If it is decided that a WWTW should be moved to allow room for other development the piped connections would presumably still remain and restrict development of the vacated site.

Getting rid of other rubbish, from old cars to wetwipes, is another problem altogether. It cannot simply be sent to a hole in the ground ("landfill"). The aim is to recycle as much of it as possible by recovering the raw materials from which it was made. Recycling is now a substantial industry, mostly in private hands. There remains, however, a huge quantity of plastic waste, mainly discarded containers and packaging, which cannot readily be recycled. The practice of exporting this material to countries in the Third World is now encountering understandable resistance from the governments of those countries. Some way of recycling this plastic must be found and some progress is being made. The recycling companies seem to want to burn much of this waste

[221] The village was not started until 1865 and was later developed as a seaside resort so, in a sense, it is artificial. Canvey Island in Essex on the Thames Estuary which was flooded during the tidal surge of 1953 is a similar settlement.

plastic but there is determined resistance to the building of the incinerators they want to build for this purpose.

It is unfortunate that we have polluted the world's oceans, and possibly inland water as well with microscopic fragments of plastic which is finding its way into the food chain and being taken up by wildlife. There is talk of a bacterium which eats plastic. Good idea? The problem might be if it gets out of hand and chomps into plastic that we want to keep.

Chapter 12
Atmospheric Pollution

Human activity has always polluted the atmosphere; certainly since humans tamed fire. Apparently it was not considered to be a problem or a threat to health until quite recent times. It was probably the introduction of coal as a fuel that air pollution became a serious problem, and then only in the larger towns and cities. In London the burning of coal, then called seacoal because it was shipped in by sea, gave rise to sulphurous smoke which on days of dense fog produced the "London Particular" or the "pea souper" so called because the sulphur dioxide gave it a greenish yellow colour. Readers of Conan Doyle's fictional accounts of the adventures of Sherlock Holmes will be reminded of this feature of London life.

It was not until December 1952 that a period of dense fog in London eventually caused Parliament to do something about it[222]. A meteorological phenomenon called a temperature inversion trapped the smoke laden fog close to the ground. It lasted for days and was called "smog" because unlike the old pea soup fog it was impregnated with black smuts from coal smoke. The government was partly to blame for this as it had encouraged householders to purchase "nutty slack", effectively coal dust in which there were supposed to be small pieces of coal, and to "bank up" the fires in their open grates at night to keep them going[223]. It was officially calculated at the time that about 4,000 people died as the result of the incident but later calculations put the figure much higher, perhaps as high as 12,000[224], possibly because people who died in the ensuing weeks were not counted or people delayed registering deaths until after the holiday period.

The government passed the Clean Air Act 1956 which was claimed to be successful in reducing "dark smoke" and sulphur dioxide and other pollutants. In 1952 the railways were still burning coal, houses were heated by using it and there were several coal fired power stations in the London area. In fact the reduction in air pollution which followed the passing of the act was partly as the result of the adoption of diesel traction on the railways and the spread of oil (and later gas) fired central heating for homes.

Air pollution still, however, remains a serious problem. The legislation of the 1950s eliminated most of the visible pollutants and the environment looks much cleaner but invisible pollutants still remain. The 25YEP claims that:

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[222] There had been earlier ineffective attempts to ban the burning of coal in London
[223] Good quality coal like anthracite was being exported.
[224] *Stone, R (2002). "Counting the Cost of London's Killer Smog" (PDF). Science.* ***298*** *(5601): 2106–2107. doi:10.1126/science.298.5601.2106b. PMID 12481106*

- Since 1970, emissions of potentially damaging sulphur dioxide and nitrogen oxides have fallen by 96% and 69% respectively and since 1980 ammonia emissions have fallen by 10%[225];
- The UK was at the forefront of international efforts that have phased out 98% of ozone depleting substances globally, under the UN Montreal Protocol. We also played a leading role in amending the Protocol in 2016 to deliver a phase down of hydrofluorocarbons (potent GHGs) by 85% globally by 2036;
- Since 1990, greenhouse gas emissions have been cut by 42%;

This is largely true. The list does not include the removal of lead from petrol[226]. The reference to hydrofluorocarbons is to a gas which was once used in domestic refrigerators which if it escapes can remove the ozone (O_3) from the upper atmosphere which protects us from some of the harmful effects of solar radiation. The government takes credit for the reduction in GHG but it was due at least in part to the operation of the EU Renewables Directive which gave impetus to the drive for wind and solar power.

Much pollution still remains to be removed. In particular the exhaust from motor vehicles, especially diesel powered ones.

The 25YEP states that "We will achieve clean air by:

- Meeting legally binding targets to reduce emissions of five damaging air pollutants. This should halve the effects of air pollution on health by 2030.
- Ending the sale of new conventional petrol and diesel cars and vans by 2040[227].
- Maintaining the continuous improvement in industrial emissions by building on existing good practice and the successful regulatory framework."

This is fine, so far as it goes but there seems to be a role for land use planning which has not emerged. The NPPF is completely silent on air pollution, probably because its authors thought that it was a matter for other regulatory authorities. However there would seem to be a case for the NPPF to remind planners that the siting of industrial premises and power stations has a role in this issue. However much one can regulate emissions it is sensible to site potential polluters downwind of places where people live.

The UK government published its Clean Air Strategy in 2019 which is excellent. It remains to be seen whether, like all the other "green" policies which have recently been promulgated they will survive the effect of the coronavirus pandemic and the severance of the UK's last ties with the EU.

Of course if Net Zero is achieved air pollution might not be so much of a problem but it will still be there.

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[225] See p 20
[226] See p 71
[227] This has now been brought forward to 2035 and may be brought forward to 2030

Chapter 13
Commerce and Industry

The national "lockdown" imposed in March 2020 to contain the spread of coronavirus has exposed the weakness of the British economy. The large number of people engaged in the "gig" economy, mainly employed on a "zero hours" basis in the catering, hospitality and entertainment sectors lost their jobs, revealing the size of these unproductive sectors. They are unproductive in the sense that the product of their work does not contribute to the earning power of the nation[228]. This event exposed the basic weaknesses of the British economy and raises the question of whether it is capable of surviving Net Zero.

The United Kingdom ceased to be a net exporter of manufactured goods towards the end of the 19th Century and we squandered the wealth we had accumulated by getting involved in two world wars. Since then we have lived on the earnings of "the City" the almost boundless capacity of which for financial manipulation and innovation or, to put it another way, making money out of other people's money at their expense, has enabled us to enjoy a standard of life which we truly do not deserve. The financial crisis of 2008 was precipitated by the exuberance[229] of the City which got out of hand, something which the Bank of England and the Treasury should have scotched in good time but failed to do so. Our determination to sever our ties with the EU will put this to the test. If it doesn't measures taken to achieve Net Zero assuredly will.

Given the amount of space in the NPPF devoted to housing it is astonishing that commerce and industry hardly get a mention. The "economic objective" which is one of the three pillars on which sustainable development is to be built is to "help build a strong, responsive and competitive economy"[230] by ensuring that land is available for that purpose. No guidance is given as to the siting of commercial and industrial development. It is possible that the government is relying upon its Industrial Strategy, published by the DBEIS as a white paper in 2017[231].

The government's Industrial Strategy is a highly political document. It is optimistic and aspirational but is largely limited to setting objectives and indicating how they could be secured, mainly by directing the reader to over 200 research and policy papers, a useful resource in itself. It points up our strengths but readily admits our weaknesses, e.g. our poor productivity record and chronic lack of investment. Whether it paints an accurate picture of industrial Britain in

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[228] It must be admitted that the music business and the production of computer games do contribute to our earnings from overseas but business of this sort is ephemeral.
[229] Mothers used to warn children who got over excited that "It will all end in tears!" but it usually did!
[230] NPPF para 8a)
[231] https://www.gov.uk/government/publications/industrial-strategy-the-foundations/industrial-strategy-the-5-foundations

2017 is another matter, let alone the fact that we are now in a very different political and economic climate, with the coronavirus pandemic and the prospect of breaking our ties with the EU without agreement.

The strategy is based on five foundations, namely

- **Ideas** the world's most innovative economy
- **People** good jobs and greater earning power for all
- **Infrastructure** a major upgrade to the UK's infrastructure
- **Business Environment** the best place to start and grow a business
- **Places** prosperous communities across the UK

Although this reads like an election manifesto the analysis is correct. Tucked away is a commitment to "clean growth" so that the brave talk is tempered by the need to heed the aim for Net Zero. The "Key Policies" follow those foundations

- **Ideas** ``Raise total research and development (R&D) investment to 2.4 per cent of GDP by 2027. ``Increase the rate of R&D tax credit to 12 per cent``. Invest £725m in new Industrial Strategy Challenge Fund[232] programmes to capture the value of innovation
- **People** ``Establish a technical education system that rivals the best in the world to stand alongside our world-class higher education system``. Invest an additional £406m in maths, digital and technical education, helping to address the shortage of science, technology, engineering and maths (STEM) skills. ``Create a new National Retraining Scheme that supports people to re-skill, beginning with a £64m investment for digital and construction training
- **Infrastructure** ``Increase the National Productivity Investment Fund to £31bn, supporting investments in transport, housing and digital infrastructure``. Support electric vehicles through £400m charging infrastructure investment and an extra £100m to extend the plug-in car grant``. Boost our digital infrastructure with over £1bn of public investment, including £176m for 5G and £200m for local areas to encourage roll out of full-fibre networks
- **Business Environment** ``Launch and roll-out Sector Deals – partnerships between government and industry aiming to increase sector productivity. The first Sector Deals are in life sciences, construction, artificial intelligence and the automotive sector. ``Drive over £20bn of investment in innovative and high potential businesses, including through establishing a new £2.5bn Investment Fund, incubated in the British Business Bank. ``Launch a review of the actions that could be most effective in improving the productivity and growth of small and medium-sized businesses, including how to address what has been called the 'long tail' of lower productivity firms
- **Places** ``Agree Local Industrial Strategies that build on local strengths and deliver on economic opportunities. ``Create a new Transforming Cities fund that will provide £1.7bn for intra-city transport. This will fund projects that drive productivity by improving connections within city regions. ``Provide £42m to pilot a Teacher Development Premium. This

[232] This is linked to a decarbonisation programme

> will test the impact of a £1000 budget for high-quality professional development for teachers working in areas that have fallen behind.

All this goes to show that the government is trying very hard to remedy years of industrial neglect. How this ambitious programme will survive the emergency measures taken to cope with the current pandemic remains, of course, to be seen. There is talk of a "green recovery" which would surely receive widespread support. What seems to be absent is the need to achieve Net Zero. Spending on infrastructure must now include the work required to achieve this including, for example, the enlargement of the electricity generation and distribution system and retrofitting of the existing housing stock. One of the "Places" covered in the Industrial Strategy is the so-called Cambridge-Milton Keynes-Oxford "Arc" a superficial examination of which reveals that it cannot be regarded as Sustainable Development[233]. Climate change is only mentioned in passing but it is acknowledged that resilience will need to be developed.

The government's Industrial Strategy has to overcome not only this country's poor record on productivity but also a chronic failure to invest in productive enterprise. These emerged after the first Industrial Revolution, the only exceptions being the railways and shipping. Investment in the railways was characterised by "manias" as investors convinced themselves that it would bring quick and good returns which, of course; it didn't.

A major obstacle to industrial regeneration is the need to achieve Net Zero and to ensure that development rates as Sustainable Development. This obstacle can be overcome but it will not be easy especially if there is to be a dash for economic growth - any growth - following the ending of the pandemic.

Given the almost complete omission of industrial development from the NPPF land use planners will presumably be guided by policy developed outside their field such as the Industrial Strategy. Apart from this the location and nature of industry is presumably to be left to the market, controlled only by general planning policy like green belts and National Parks and regulations which apply to specific types of commercial and industrial activity. It is true that the economic objective to be achieved by Sustainable Development includes the identification and co-ordination of infrastructure but this reads as if commerce and industry can go where it likes and the planners will "identify and co-ordinate" the necessary infrastructure, no matter how intrusive, unsightly and polluting that may be. Commerce and industry is subsumed into "employment" without drawing a distinction between that which provides essential goods and services for home consumption and for export and that which does not, viz:

> 20. Strategic policies should set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for:

[233] A major feature of the proposals to develop the "Arc", an "expressway" (motorway?) between Cambridge and Oxford, has been dropped.

a) housing (including affordable housing), employment, retail, leisure and other commercial development;

No guidance is given on the siting of industry and of large scale commercial activities. Of course some industry has to be located in particular places, e.g. you would not site a coal mine anywhere except where there is coal to be extracted, but most modern industry is not site specific.

It must be admitted that **e**conomic planning, even in countries with totalitarian regimes, is not a sensible exercise and even where it is attempted distortions and disaster usually result. It would be rash to the point of utter folly, to predict, let alone plan, the future of the British economy, especially with BREXIT looming, the outcome of the current pandemic and the uncertainties of climate change.

The pattern of settlement and industry in the UK was largely determined by the location of the natural resources on which the various industries were based, the notable example being the coal industry. It is widely believed that the cotton industry was established in Lancashire because its damp climate enabled cotton to be spun without breakages although it is more likely that it was the proximity to Liverpool as a port for the import of the raw material and as the point of entry for cheap labour from Ireland, not forgetting the high rainfall meant an abundance of water power for the mills. The wool textile trade gained in importance as the Black Death had caused a shortage of farm labour and the grazing lands in places like Yorkshire were better suited for that purpose than arable farming

There were, however, anomalies in the national pattern of settlement and industry. A notable example is the car plant at Cowley near Oxford which was established in 1913 by an enterprising young bicycle repairer called William Morris in a disused school. He had to import labour and components from elsewhere, the former causing local social problems for Oxford. Corby, in Northamptonshire is an unlikely place for a steelworks. Although it had extensive iron ore workings nearby it was not until the 1930s that Stewarts & Lloyds built a steel works but they had to attract workers from elsewhere, notably from Scotland. The steelworks are now closed but the town is recovering from the loss.

Then there are the memorials to attempts to make industrial rivers flow uphill. Ellesmere Port in Cheshire plays host to a factory making Vauxhall cars even though it is remote from the places to which components can be readily delivered. The factory was established in 1964, probably at the instigation of the government at the time in order to provide local employment. It is still functioning. Ellesmere Port is itself an artificial creation having been built in the late 18th Century on the Mersey at the entrance of the Ellesmere Canal which was never completed. A car plant at Linwood in Renfrewshire was established by the Rootes Group with government encouragement in 1963 to provide

employment following widespread closures in heavy industry. It made a small car called the Hillman Imp. After the plant changed hands it was closed in 1976 as the new owners Peugeot preferred Coventry leaving Linwood derelict.

There are several industrial firms which were established on sites originally built and used by the armaments industry or for military purposes. The light industrial area in Slough in Buckinghamshire was a WWI depot for military vehicles[234]. Sites at Park Royal and Willesden in London also trace their origins to wartime industry. BAe produces wings for Airbus airliners at Broughton in Cheshire in a factory which was built in 1939 for the production of bombers by Vickers Armstrong[235]. "High Tech" companies are located near Cambridge on sites such as the Genome Campus at Hinxton and the agricultural research centre at Babraham which had been stately homes but which had been taken over for war purposes during WWII.

Of course the country is littered with the remains of industries which have been abandoned, especially in the North East and South Wales and which have not been replaced.

All this goes to show that most commerce and industry these days is mobile. Only those industries which are extractive are tied to their source of raw material. A whole industry can move out of the country, usually attracted by a better or cheaper workforce or by government inducements. This makes industrial planning and providing employment difficult. It will be interesting to see what happens when the UK finally severs its remaining ties with the EU. Many industrial concerns in the country, especially the "(UK)" companies came here or were formed to take advantage of the UK's membership of the EU and possibly our relatively flexible employment laws and practices. The terms, if any, on which the UK finally leaves the EU could cause major changes to manufacturing industry in which components and partly finished products crisscross the Channel and the North Sea.

The old heavy industries have probably gone for good. Large countries like China can support them far better. The remnants remain because of government support and possibly because foreign buyers value our expertise. The future lies in "high tech", e.g. computing (including AI (Artificial Intelligence)) and biotechnology. In theory such activities can be located anywhere - or nowhere, as they could decamp overseas with little notice. High tech firms depend upon highly educated people the source of whom is the universities. They like to interact with their own kind hence the clustering round the universities. The "Cambridge Phenomenon" and "Silicon Valley" are prime examples and the Industrial Strategy recognises this. To keep such people in this country pleasant working conditions and surroundings are essential.

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[234] When those vehicles were sold off at the end of the war Slough became known for dealing in motor vehicles.

[235] It was a "Shadow Factory" built by the government before the outbreak of WWII ready for war production (Wikipedia).

The NPPF overlooks the need to allow for small enterprise to get established. Many firms started in railway arches and lock up garages. Such firms should not be discouraged or driven away. The odd corners they find should not be tidied up out of existence There are examples of new facilities designed and built for startup firms but they are few and far between and probably too expensive for people starting a business from scratch.

Banking and financial services generally are the prime source of income for the UK. They depend on access to overseas markets, especially the continent of Europe. If the EU shuts the City of London firms out of their market this could be a disaster for the UK. "The City" used to depend upon "the old school network" but since the Thatcher government opened the financial markets to almost anyone who was prepared to come - the "Big Bang" of 1987 - the ties with London could now be weaker. Nevertheless the Square Mile" remains a village and people are unlikely to leave it unless they leave *en bloc*[236].

The chapter in the NPPF "Building a strong, competitive economy" is therefore largely waffle and it is not worth devoting space to it. The sub-section "Supporting a prosperous rural economy" is dealt with under Agriculture[237].

One of the objectives of sustainable development is, however, "to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time…" Making sure that economic development is not hindered by shortage of land is itself a tall order, let alone ascertaining whether sites allocated are "in the right places at the right time".

The current preoccupation with building homes is causing derelict industrial and commercial sites, called "brownfield land" to be used for housing[238] which could, of course, reduce the supply of land for industry and commerce unless this is met by incursion into the open countryside. The fact that those sites have been abandoned may indicate that they were in the wrong places but some have not been reused because the previous occupier left it seriously contaminated by the industrial activities formerly carried on or covered by abandoned industrial buildings and plant. House builders are naturally reluctant to go to the expense of remediating such sites to make them fit and healthy for housing. It is also sometimes difficult to work out the ownership of abandoned industrial sites.

Government is sometimes so anxious to attract an employer who can offer employment that it will offer inducements. A section of the A50 road in

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[236] When the country "locked down" with the onset of the coronavirus pandemic many large offices were abandoned in favour of "WFH" - working from home - and it will be interesting to see whether some or even all of those who stayed home will return.

[237] See Chap 15

[238] Plus the appalling practice of allowing empty office premises to be converted into inadequate living accommodation.

Derbyshire was built to motorway standards to persuade Toyota to build a car plant nearby, never mind that it abruptly turned back into a rural road at its junction with the M1 Motorway, a junction which has recently been rebuilt. Research should show many other examples of the distortions to sensible planning created by political expediency to attract or meet the supposed needs of industry or commerce. There is, however, a strong case to be made for adequate sites to be reserved for commerce or industry but the selection of such sites is difficult in advance of knowing what kind of undertaking is likely to take an interest in any of them.

Between the two world wars it was fashionable to build "trading estates" some of which have been successful. Trafford Park near Manchester was the first trading estate in the world and one of the largest, founded in the early years of the 20th Century. A great success once firms started to move in but it encountered problems as its physical environment changed. It has now revived. In places like Cambridge which have a reputation for scientific research "Science Parks" have been established. Some of these have been a great success, like the Genome Campus at Hinxton near Cambridge mentioned above, based on the centre started by the Wellcome Trust but, like that campus they usually need a thriving establishment to attract others. In the Greater Cambridge areas there is talk of "clusters" of similar firms which, all things being equal, should be a good idea provided that they don't attract cross country road traffic. The NPPF is silent on the establishment of sites for commerce and industry.

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We have long been described as a Nation of Shopkeepers and the retail trade is an important part of the UK economy. Unfortunately for planners that trade is highly mobile and volatile. It has to be, although some major retail chains laboured for years under the delusion that they were fixtures. The principal feature of most of our towns and cities has been its shopping centre, possibly the legacy of markets which themselves were and are the successors of the medieval fairs. But those fairs were mobile. They would arrive for a few days[239] and then move on. The town and city centres are the hearts of their social, religious and corporate life, or at least they were until town and city halls were closed and replaced by anonymous Kremlins somewhere in the suburbs and law courts and public libraries were closed or "reorganised" elsewhere. A vibrant and diverse city centre should not only be centre of a community but also the cultural and political centre which gives the city its identity. Those responsible for our corporate structure are just as responsible for the decay of our town and city centres as the directors of food and retail chains. The growing popularity of online shopping poses a growing threat to the viability of shopping centres. At least the hospitality sector continued to flourish, the old "spit and

[239] Stourbridge Fair in Cambridge developed to run for about 5 weeks from late August until Michaelmas

sawdust" pubs largely being replaced by restaurants, often run by recent immigrants and their families but even they are under threat from the coronavirus pandemic.

The authors of the NPPF are conscious of the need to maintain the vitality of our town and city centres. Under the heading "Ensuring the Vitality of Town Centres" para 85 of the NNF states:

> Planning policies should:
>
> a) define a network and hierarchy of town centres and promote their long-term vitality and viability – by allowing them to grow and diversify in a way that can respond to rapid changes in the retail and leisure industries, allows a suitable mix of uses (including housing) and reflects their distinctive characters;
>
> b) define the extent of town centres and primary shopping areas, and make clear the range of uses permitted in such locations, as part of a positive strategy for the future of each centre;
>
> c) retain and enhance existing markets and, where appropriate, re-introduce or create new ones;
>
> d) allocate a range of suitable sites in town centres to meet the scale and type of development likely to be needed, looking at least ten years ahead. Meeting anticipated needs for retail, leisure, office and other main town centre uses over this period should not be compromised by limited site availability, so town centre boundaries should be kept under review where necessary;

This is all very well but after two pandemic “lockdowns” we are now well aware that the retail and catering trades are highly mobile and transient. Even long established department stores are closing. Shopping online is rapidly increasing. Unless car parking is provided nearby people are reluctant to carry their purchases any distance. It would be nice to feel that every town has a vibrant centre, including a wide range of shops and entertainment but this is becoming increasingly unrealistic. Young people may like to hang out in coffee bars and public houses but their shopping habits are unlikely to support anything more than cheap items. However the NPPF does recognise this, viz

> **Main town centre uses:** Retail development (including warehouse clubs and factory outlet centres); leisure, entertainment and more intensive sport and recreation uses (including cinemas, restaurants, drive-through restaurants, bars and pubs, nightclubs, casinos, health and fitness centres, indoor bowling centres and bingo halls); offices; and arts, culture and tourism development (including theatres, museums, galleries and concert halls, hotels and conference facilities).

It is sad that this list does not include places of worship, although the draftsman of the NPPF probably thought that they come under the heading "culture" or even, perhaps, "entertainment".

The most flexible retail outlet is the market stall. Consideration should be given to the building of more market halls where stalls can be set up under cover. Arrangements should be made for goods selected by customers to be

delivered or collected from an edge of town location[240]. Apart from this it is difficult to see how planners can induce vibrant shopping activities.

One other factor cannot be dealt with by Planning; the practices of landlords of commercial premises. Landlords appear to take a short term view in order to maximize the return from their lets. The current stress (2020) felt by retailers is almost certainly due to the attitude of their landlords who appear to be insensitive to the ups and downs of the retail trade. They seem to be prepared to let an old established retailer go under and leave them with empty premises on their hands rather than tempering the wind to the shorn lamb. Except for newly built shopping centres landlords seem to prefer established names as tenants rather than a local startup. This results, of course, in shopping centres across the country looking like one another. It is asking too much for planners to intervene in the market.

The government is minded to allow the conversion of retail premises to housing. This would be a retrograde step. Whilst having people "living over the shop" can add life to a shopping centre letting retail space be converted to living accommodation would be a bad thing.

Out-of-Town shopping centres should now be ruled out entirely except possibly those centres which are well served by public transport. Permitted centres should have limited car parking. If adopted this would probably rule out centres in the open country, leaving only centres on the edge of a built up area.

[240] John Lewis already does this, with a facility adjoining a Park and Ride Site on the edge of Cambridge

Chapter 14
Meeting the Demand for Energy

Until the 1960s the main source of energy and of heat in the UK was coal. Gas and electricity had been distributed since the 19th Century but both were produced by using coal, generating a huge amount of atmospheric pollution and, of course, carbon dioxide. Oil began to contribute to electricity generation and to heating in the 1960s and this increased with the discovery of North Sea oil. With that discovery came "natural" gas which rapidly replaced gas produced locally by gas works from coal - "town" - gas. Natural or North Sea gas[241] is cleaner than town gas but it still produces an unacceptable amount of CO_2. To achieve Net Zero all our energy and heating requirements must in the future be met from renewable resources which means direct or indirect solar energy most of which will have to be converted to electricity.

Electricity can be produced by coal fired boilers, "natural" gas from the North Sea, nuclear energy, oil, wind and hydro power. We now have electricity and gas grids which supply most of the country. The coal fired power stations which lined the Rivers Aire and Trent are now being mothballed, converted to other fuels or demolished. In spells of warm weather no electricity is now being produced by burning coal[242]. There is a case for eliminating gas as a fuel, even though it is cleaner than coal and the government plans to do this, but as so many homes now use gas as a fuel for heating, cooking and hot water it will prove expensive and time consuming to do this.

The obvious substitute for fossil fuels such as coal and oil is wind power but this, even from offshore windfarms, can be fickle so power has to be available from some other source to provide a base load[243] unless the means is available to store electricity. The base load can be provided by nuclear power and although the older nuclear power stations are being phased out and decommissioned we will have the use of Sizewell B power station[244] on the Suffolk coast and the new Hinkley Point power station in Somerset. Reliance upon nuclear power gives rise to the problem of the disposal and storage of nuclear waste unless the harnessing of nuclear fusion becomes possible but the prospect of this seems a long way off.

Wind is a feature of our weather which is derived from the sun. The UK has invested in large offshore windfarms and they are proving successful. It remains to be seen how long they will stand up to the conditions in which they

[241] Not all natural gas comes from the North Sea, some of it is imported as Liquefied Natural Gas (LNG)
[242] The UK managed without burning coal to generate electricity for nearly 68 days ending on 17 June 2020.
[243] In August 2020 a coal fired power station had to be activated as days of anticyclonic weather had stilled the offshore windfarms.
[244] And possibly a Sizewell C

have been built. Installing wind turbines on inland sites is possible again, now that the ban on installing them has been lifted although they will never be popular. Many homes now have solar panels on their roofs. Solar farms can make direct use of solar energy but the former take up rather a large area of land. Using new photovoltaic roofing materials might be the answer.

There is a possibility of using geothermal sources for heating; a project has been recently announced for using water from abandoned coal mines which is hot from the conditions in which it has accumulated. Some homes have recently been fitted with heat pumps which extract heat from the subsoil to provide central heating[245]. There are also air pumps which extract heat from the surrounding air.

The UK is surrounded with tidal water but we have made little progress in harnessing the power of the sea. An obvious site for harnessing tidal power is the Severn Estuary but objections keep on being raised to any idea of using it[246]. There should be almost limitless opportunities to exploit wave and tidal power unobtrusively and without using much land or endangering natural wildlife.

As renewable sources of energy tend to be intermittent they should be backed up by some means of storing their output. There is the pumped storage power station at Dinorwig in North Wales which generates power by water pumped up hill using off peak electricity but it can only deliver at full power for about six hours. There are a number of battery installations but they are at the experimental stage. It is possible that energy could be stored as hydrogen. Production of hydrogen may have to be increased in any case if goods vehicles are to use it. All this are areas on which research must be devoted if a changeover to renewable sources of energy is to be successful.

Finally there is a prospect, albeit a distant one that electricity could be produced cleanly by replicating photosynthesis. This would only require sunlight, water and CO_2 to break down the water into oxygen and hydrogen.

To achieve Net Zero will require massive investment in new electricity generators and the means to transmit the electricity generated to consumers. This is in hand but whether it is being pushed forward with a sufficient sense of urgency is another matter. There will be the predictable objection to new power lines across the countryside and understandable reluctance to abandon existing infrastructure like the gas grid but these must be overcome.

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[245] Although if one overdoes this your garden might end up as a frozen tundra!

[246] Mainly by environmentalists on the grounds that the Severn Estuary is a rich haven for bird life

Chapter 15
Agriculture, Horticulture, Forestry and Fishing

It is also astonishing that food production in the shape of agriculture and horticulture is not covered by the NPPF at all[247]. This is probably explained by the facts. Agriculture in the UK uses over 60% of the country's land area, but employs only 1.5% of its workforce (476,000 people[248]) and contributes 0.6% of its gross value added (£9.9 billion). The UK produces less than 60% of the food it consumes. Agricultural activity occurs in most rural areas, it is concentrated in East Anglia (for arable) and the South West (for livestock). There are 212,000 farm holdings, which vary widely in size[249]. Thus from a Planning perspective agriculture looms large in land use but is negligible in almost every other respect.

According to DEFRA only 50%[250] of the food produced for consumption in the UK originates in the UK, 30% comes from the EU with the remaining 20% coming from the rest of the world. Can we continue to rely on the import of food?

This is a situation most likely to be the first to be affected by climate change and it is a situation which could change at short notice.

We have been accustomed to buying our food from overseas fruit and vegetables, for example, being flown in from places like New Zealand, Brazil and Sub-Saharan Africa, racking up “air miles” in doing so. We are not likely to be able to count on these sources of food in the future, especially as it is manifestly unsustainable. We will need to be more self-sufficient and possibly forego certain items altogether. We also have a problem with labour. Some crops are labour intensive and we have become dependent upon importing cheap labour from places like Eastern Europe. If those crops are to be grown in the future they may have to be cultivated in less labour intensive ways. New methods of cultivation and more intense farming will inevitably change the landscape by, for example, the increased use of Polytunnels and “vertical farming”. This will be exacerbated by the planting of millions of trees as part of the decarbonising of the country. We may have to make the painful choice between preserving a cherished landscape and growing more food.

The fact that the NPPF is completely silent on agriculture and horticulture may, like control over the production of renewable energy, be an interdepartmental phenomenon, i.e. these subjects are dealt with by DEFRA but

[247] The word "agriculture" only appears once, in connection with development permitted in a green belt.
[248] It is not clear whether this total includes people engaged in contracting out farm machinery and the people employed by them to operate it.
[249] Data from Wikipedia
[250] Based on "farm-gate value"

as no less than 63% of land in England is devoted to agriculture[251] and as agricultural buildings are subject to planning control one would think that it would at least get a mention in the NPPF. So far as the NPPF is concerned agricultural areas are treated as "rural" and the NPPF seems to treat rural areas simply as a resource available for the development of commercial activities other than food production, e.g. farm diversification, viz

> 83. Planning policies and decisions should enable:
>
> a) the sustainable growth and expansion of all types of business in rural areas, both through conversion of existing buildings and well-designed new buildings;
>
> b) the development and diversification of agricultural and other land-based rural businesses;
>
> c) sustainable rural tourism and leisure developments which respect the character of the countryside;

Para 84 adds qualifications to this but it doesn't mention the need to protect or foster agriculture.

The promotion and control of food production is the responsibility of DEFRA even though agricultural practices can affect rural land use. The control of the use of pesticides, herbicides and insecticides is the responsibility of the Health and Safety Executive ("HSE") so that the principal concern is the health and safety of the agricultural workforce and only incidentally the general public. The effect of the use of these chemicals on ecology does not seem to be the responsibility of any particular government department or agency.

The 25YEP, produced by DEFRA, a department which should be promoting agriculture, is more concerned with the adverse effects of modern agricultural practices. It has, however, useful policies regarding soil health and the protection of peat, a resource which is diminishing. The 25YEP reminds us that "organic or peat soils make up 11% of England's total land area, over 70% of which are drained or in poor condition" and states that

> Over the last 200 years, we have lost 84% of our fertile peat topsoil in East Anglia. The fens there could lose the remainder in just 30-60 years given current land management practices and a changing climate.

The government has been urged to ban the sale of peat for horticulture and in garden centres by 2023. There remains, however, an urgent need to restore them. An effort will be made to restore them but some will be effectively abandoned as agricultural land and established as nature reserves such as the Great Fen project near Peterborough.

[251] MHCLG "Land Use in England 2018" (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/900974/Land_Use_in_England_2018__Fact_Sheet.pdf)

The health of the soil must now be a matter of concern. The 25YEP states that "We need to ensure healthier soils by addressing factors in soil degradation such as erosion, compaction and the decline in organic matter." It seems that a great deal of research into the health of the soil is needed[252].

Everyone concerned with the development of land should now be aware of the need to protect biodiversity as it is upon the continued existence of the "birds and the bees" that our own existence ultimately depends bees, for example, being important pollinators. It is therefore vital that agricultural practices, such as the use of pesticides be brought under proper control and not scattered between departments and agencies. Moreover it is not sufficient to set aside land for designated wildlife sites, important though they are, farming and building development practices must be modified to ensure that biodiversity is maintained and enhanced. It is vitally important to establish wildlife corridors and encourage the preservation of field margins and roadside verges. Compliance with the letter and the spirit of the EU Habitats Directive must be maintained and this must continue despite the UK leaving the EU.

According to WRAP (Waste and Resources Action Plan wrap.org.uk) "10m tonnes of "post-farm gate" food waste is thrown out across the UK every year, of which only 1.8m tonnes is currently recycled." Although the British public are getting slightly better at reducing the waste of food this is a situation which cannot continue. The government has consistently pursued a cheap food policy and may be it is time that food became more expensive in real terms so that it becomes a habit only to prepare what people are willing to eat and for people to "leave a clean plate". Another culprit is food labelling, with food items being labelled with "Best before" and "Display until" dates which encourages customers to throw out perfectly wholesome food.

Great play has been made recently about the need to plant more trees, even in areas like Cambridgeshire which have never been noted for their tree cover. Trees are important for wildlife, for the climate and in flood control but extensive afforestation will reduce the amount of land needed for food production. More trees in urban areas are desirable, providing they are of the right species and size for their environment and they need, of course, to be looked after and managed. The idea, put out by politicians, that trees should be planted in every street is not sensible.

* * *

Offshore fishing is, of course, a contentious issue. UK fishermen would like to keep their fishing grounds to themselves, even though they often sell their catches to EU countries. Foreign fishermen want to muscle in on our fishing grounds. Added to this there is the urgent need to conserve fish stocks and not allow factory ships to hoover up everything. With global warming the fish are on

[252] NCC report (see p20)

the move, which complicates the picture still further. There is clearly a need to have a comprehensive agreement on fishing with the EU and the means to police it.

* * *

In some quarters at least it is being suggested that we cut down on dairy products[253] and meat. One-third of global arable land is used to grow feed for livestock, while 26% of the Earth's ice-free terrestrial surface is used for grazing[254]. The eating of meat is clearly wasteful but as it is regarded as superior to eating other products it will spread as living standards rise, e.g. in China. Although it is considered to be unacceptable for swathes of tropical rain forest to be cleared for the raising of cattle there is a growing problem in the Amazon basin. Cattle are also responsible for an unacceptable emission of methane, a potent greenhouse gas. A recent report by the Institute for Agriculture and Trade Policy (IATP) in the US[255] claims that "The biggest dairy companies in the world have the same combined greenhouse gas emissions as the UK, the sixth biggest economy in the world, according to a new report. The analysis shows the impact of the 13 firms on the climate crisis is growing, with an 11% increase in emissions in the two years after the 2015 Paris climate change agreement, largely due to consolidation in the sector." Substituting milk based on soya or oats for dairy milk would result in a substantial saving in the emission of greenhouse gases.

* * *

On "Rural Housing" the NPPF clearly wants to concentrate housing in the countryside in rural communities which have the potential to "grow and thrive" and attempts to control the building of isolated houses. The somewhat hilarious provision for country mansions still remains[256], hedged about in such a way that it is almost impossible to meet the stated criteria, but some oligarch or oil sheik may try to.

DEFRA has not been idle in considering the future of farming and how best it can be supported. This has been partly due to the impending severance of the UK's ties with the EU. In a recent memorandum[257] on the future of farming DEFRA states

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[253] In the UK the high consumption of milk and dairy products may be a legacy of the propaganda disseminated by the Milk Marketing Board ("Drinka pinta milka day")
[254] www.globalagriculture.org. It is not clear whether this includes feed for poultry
[255] Reported in *The Guardian* 15.6.20
[256] NPPF Para 79 e)
[257] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868041/future-farming-policy-update1.pdf

we have policies which are focused on making sure we have a food producing sector which plays a part in meeting the global challenges of a larger, richer population living on a hotter, less resilient planet:

• we will provide grants to help farmers and growers invest in technology and equipment that improves environmental sustainability and reduces carbon emissions, helping them prosper and produce food and plants, and protect the environment at the same time

• we will support farmers and growers to become more profitable and productive and receive the best prices for their produce through improving market conditions - taking action to make the supply chain fairer

• we will support innovation in agriculture putting farm businesses at the front of future research and development

There is to be an Agriculture Bill which will include

a requirement on the Secretary of State to provide a regular report to Parliament on food security in the UK. This report is likely to cover a range of current issues relevant to food security including:

•global food availability

•supply sources for food (including the range of supply sources and the availability to the public of food from domestic and other sources)

•the resilience of the supply chain for food (including in response to disruptions in, or significant price increases for, the supply of energy)

•household expenditure on food (including in comparison to expenditure on other items)

•food safety and consumer confidence in food

DEFRA also plans a new regime for farm support and an Environmental Land Management scheme. It looks as though DEFRA is active in planning for both short and long term changes to UK farming.

Chapter 16
Conservation and Heritage

Surprisingly Great Britain remains a "green and pleasant land" despite the depredations of humanity. Indeed human activity has in many instances actually enhanced the appearance of the country. Whether any parts of it are beautiful is a matter for the eye of the beholder. Some tracts of the landscape are by any standards breathtakingly beautiful, although this is a matter of taste. Before the "Lake Poets" extolled the beauties of the Lake District in the late 18th Century most people of the south of England would have shunned it and would also have given the Fens a wide berth, and some still do, blind to the huge skies of East Anglia. Given their propensity for litter and vandalism it is perhaps fortunate that most British people spurn the open country except for the well-known Beauty Spots[258]. Large tracts of the country are protected as National Parks or as Areas of Outstanding Natural Beauty. They have held up well despite the fact that people live and work in them in large numbers, unlike the National Parks in the U.S in which no one is allowed to live. Many of the surviving stately homes are now owned and managed by the National Trust as also some select areas of open country. It is ironic that the Ministry of Defence, by excluding people for good reason from their training areas have turned those areas into rich havens for wildlife. The British possibly have a jaundiced view of the countryside probably because the most neglected and cluttered bits adjoin our roads and railways where they can be seen by travellers speeding through[259]. Many townspeople who have ventured into the countryside have bad memories of mud, cowpats and barbed wire, unfriendly cattle, fierce farm dogs and of being shouted at by irate farmers. It is difficult to erase these but access to the countryside is much better than a generation or so ago. People have to learn to respect the countryside and behave accordingly. The Countryside Code published by Natural England should be widely distributed, studied and observed.

Field and hedgerow have changed. Dutch Elm Disease and the grubbing out of ancient hedgerows make some parts of the countryside unrecognisable from what it was (say) 70 years ago. But the views from the Malvern Hills or the Staffordshire moorlands remain essentially the same. The scars left by the building of the railways and motorways have healed or have been concealed by tree planting. Only the roar of motor traffic spoils the idyll. We shall no doubt get used to wind and solar farms as most of us now accept electric pylons and high tension wires marching across the landscape.

Our townscape is another matter. We have largely inherited the mess left in and around the outskirts of our towns by piecemeal and insensitive

[258] Nature is "the green bits you see through the windscreen-wiper" (W.C.Sellar & R.J.Yeatman, "Garden Rubbish" (London, Methuen, 1936) p 10)
[259] It is, perhaps sad that the motorways are now lined with maturing trees which, although desirable in many respects, prevent the traveller from seeing the landscape.

commercial development in the 1920s and 1930s. Some of our historic towns and cities, especially those which were bombed by the *Luftwaffe* with their "Baedeker" raids during WWII[260] were vandalised by insensitive and intrusive redevelopment in the 1960s, made worse by new urban roads and carparks built in a vain attempt to reconcile a medieval townscape with modern motor traffic. We are trying to do something to remedy the worst of these depredations but there is a long way to go. There is a system of designating certain parts of our built environment as Conservation Areas, putting severe restrictions on what people can do to alter or change the appearance of the buildings and streets. We still, however, suffer from street clutter with the proliferation of signs and the apparatus of telecommunication companies and public utilities[261]. The Planning authorities seek to protect certain views across, into and out of towns and cities but this does not seem to work. Look across London from Parliament Hill on Hampstead Heath and regret the intrusion of The Shard, a structure which it is difficult to avoid from almost any direction.

The mess left by our industrial past is being cleared up, largely thanks to deindustrialisation. The coalmines, blast furnaces, pottery kilns and marshalling yards have largely disappeared. This will be greeted with mixed feelings as for some this is evidence of the UK's industrial decline.

Even the most philistine of people will surely agree that the British landscape needs to be protected. It remains an open question of how this should be done. Farming practices will have to change and more trees will have to be planted as part of the drive to achieve Net Zero and if the climate changes the landscape will change as well. Some people want more trees to be planted but this has to be done with care. Some areas, like the open chalk downland cannot support trees and if any were planted would soon perish or be blown down. The drystone walls which crisscross some parts of our land were built for good practical reasons and require constant loving care and attention. Rivers and streams must be conserved and should in some way be protected from pollution and over abstraction. Within reason they should be allowed to meander and nurture rich wildlife[262].

Should the landscape be protected from unsightly human activity? It depends on what most people regard as unsightly. Many people see red at the very prospect of a caravan or holiday park but properly sited they can blend into the landscape and give people an opportunity to enjoy and benefit from the countryside. Open air activities such as hang gliding, rock climbing and boating are fine provided that those who take part in such activities respect the countryside and have regard for the interests of other people including, of

[260] Prompted by the bombing by RAF Bomber Command of German historic cities and towns. They were named after the famous international guide book.
[261] And yet we seek to "List" redundant red telephone booths and pillar boxes!
[262] A few years ago the National Rivers Authority had a policy of removing trees and bushes from river banks because they obstructed the machinery used to dredge rivers.

course, those who live and work there[263]. There remains the problem posed by people trying to gain access to the countryside. There are schemes to exclude cars from certain areas, providing minibuses from car parks.

The NPPF says the right things when it comes to conservation. The Strategic Policies which should be adopted is the need to provide for "the conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation."[264] The danger is that conservation will be restricted to specifically protected areas such as National Parks, Areas of Outstanding Natural Beauty and "Heritage Assets". This is brought out by Para 186 of the NPPF which says:

> When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.

This misses the fact that although an area might lack anything of "special architectural or historic interest" it could be important as a whole or as a setting for an adjoining or nearby area which does contain items of special interest. There is also Para 172 which permits in exceptional circumstances major development in (say) a National Park if that development is in the national interest. Judging from recent reports the contractors clearing the way for the new HS2 rail link are not respecting protected areas[265].

Since the late 19th Century efforts have been made to protect our heritage of ancient buildings and cherished landscapes. Pioneers like John Ruskin, William Morris and Octavia Hill were instrumental in founding societies like The Society for the Preservation of Ancient Buildings and the National Trust[266]. The Ministry of Works stepped in in the early 1900s and now we have Historic England as guardians of our "Heritage", at first concerned with "Ancient Monuments"[267]. Structures of Historic and/or Architectural Importance are now "Listed" in specified categories and now even modern buildings can be Listed like red telephone boxes and the house in Liverpool where one of the Beatles was

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[263] Most people abhor the driving of FWD vehicles along tracks and bridleways except for legitimate business reasons.

[264] NPPF Para 20 d)

[265] There was the notorious case of the demolition of the Firestone factory in Brentford which was supposed to be protected as a building of architectural interest but which was demolished in 1980 without permission over a weekend when the developers got wind of a plan to List the building.

[266] Also the first steps were taken to preserve biodiversity with the founding of the Royal Society for the Protection of Birds, although those who took them did not know where their and their successors' steps would lead.

[267] Even the 1909 Act envisaged the first Town Planning Schemes making provision for "The preservation of objects of historical interest or natural beauty"(4th Schedule). What constitute "objects" in this context is not clear.

brought up. The trouble is that there is only rudimentary control over the setting of these structures and buildings[268].

What should be protected? A classic example, frequently cited, is the redundant railway viaduct which spans Monsal Dale in Derbyshire. When it was built in the 1860s, as part of a rail link between Buxton and Bakewell, John Ruskin eloquently (and fruitlessly) railed against its construction as ruining an acknowledged beauty spot[269]. The railway is long gone but the viaduct remains and is now cherished as a monument to our Victorian past[270]. "Beauty is in the eye of the beholder".

It is a matter of nice judgement whether development should be frustrated by the need to preserve evidence of our cultural and industrial past. At the moment we seem to have reached a reasonable compromise but as development, some of it essential, proceeds preservation is going to be more difficult to maintain. Moreover one has to consider whether this country is for living in or should be used as a museum. Although carefully preserved historic remains and cherished landscapes attract paying tourists, many from overseas, there is clearly a conflict which is likely to be more difficult to resolve as time goes by.

The protection of the landscape is of a different order altogether and one which concerns like the Campaign for the Protection of Rural England (CPRE). There are some areas of the country where it would be criminal to allow inappropriate development. The product of the new Woodsmith Potash Mine beneath the North Yorkshire Moors National Park near Whitby is to be conveyed to Teeside by a 23 mile long tunnel to avoid the works disturbing the moors[271]. Much fuss is made about the building of inland windfarms, not allowed for a while but now permitted, but it could be that the wind turbines will eventually be cherished as windmills are today. Nevertheless the establishment of the National Parks in 1949 was a great step forward. It remains to be seen whether they will survive the increasing pace of change. The land outside the National Parks is more vulnerable to development, as witness the likely effect of the building of the HS2 rail line.

There is some comfort to be drawn from the fact that Nature, given the chance, will prove a great healer of the scars and dereliction of our industrial past. Coalbrookdale in Shropshire, the nursery of our Industrial Revolution was once lined with ironworks and other polluting factories. It is now tree covered

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[268] There is a street in Worcester which contains some precious medieval buildings but they can only be seen against the background of a large concrete multi-storey car park!

[269] "The valley is gone, and the Gods with it; and now, every fool in Buxton can be in Bakewell in half an hour, and every fool in Bakewell at Buxton; which you think a lucrative process of exchange – you Fools everywhere." Ruskin "Fors Clavigera"

[270] It also acts as a focus in the local landscape and is used by walkers and cyclists, as also the tunnels.

[271] But the imperatives of the Cold War allowed the installation of the BMEWS radar station on Fylingdales Moor. The famous white "golf balls" are a feature of the landscape.

gorge through which the River Severn flows. The only evidence of that industrial past is the famous iron bridge[272].

[272] and a lot of rubble and junk concealed in the undergrowth.

Chapter 17
People

Many organisations have renamed their personnel departments "Human Resources". This can sound as if employees are still regarded as "hands" or even serfs but the way people are treated and behave can have a profound effect on their environment and this must now be a matter of the gravest concern in the face of climate change. Planning cannot be used directly to control or modify human behaviour, at least in a democracy but means must be made available to persuade or educate people to behave in a way which will improve our resilience to climate change and contribute towards achieving Net Zero.

We must encourage and bring out all potential talent in the UK regardless of age, gender, ethnic origin, religious persuasion and social background. Great strides have been made in this over the last fifty years or so but we still have a long way to go. To manage the immense problems we are likely to face we need all the help we can get.

People may not be susceptible to Planning, except in a ruthless centrally controlled dictatorship, but if we are faced with emergencies brought about by climate change the government may have to introduce measures which would normally be quite unacceptable. The "lockdowns" imposed in the face of the coronavirus pandemic seem to have been widely honoured although at the time of writing it may have to be eased in order to keep the economy ticking over and young people are showing signs of rebellion. It is, however, still essential to remove social and economic obstacles which stand in the way of equality of treatment and opportunity.

Faced with climate change it is vital that our education system produces as many people as possible with the qualifications needed to cope with the immense problems which we are likely to face. We have to start now so that those people are available mid-century. Although we should not neglect the arts priority must now be given to technical education. We will need engineers and scientists and competent managers to direct their work. A truly comprehensive and adequately funded education system is required. The primacy of the public schools and of "Oxbridge" have been perversely both the source of much of our strength and of our social problems in the past. It is now perhaps time for them to give way to a more “polytechnic” system in which they should, of course, play a part. We have an underlying problem namely the emphasis given to academic learning rather than technical knowledge and skills. Both are important but more support should now be given to the latter. Practical education has traditionally played second fiddle to academic learning, hence the great competition to get children into grammar schools even though some of those children were manifestly unsuited to the pursuit of academic subjects. It was, perhaps, a mistake to encourage polytechnics to become universities, aping their academic counterparts. A technical qualification should have the same importance in the

eyes of employers as an academic one. The move to encourage more apprenticeships might prove to be a good thing. All this is not new. William Arrol, a distinguished engineer of the late 19th Century, notable for building the Forth railway bridge, rebuilding the railway bridge over the river Tay and Tower Bridge in London is recorded as saying

> I hold it altogether wrong that so many young men are not learning trades. Give them, certainly, the best education you can but, at the same time, give them a trade along with their education. Our trade has got into the hands of a few, and you cannot get so many decent tradesmen. If you advertise for a tradesman you will perhaps get a single application. Whereas if you advertise for a clerk you will get 400 or 500[273]

If Arrol were speaking today he would no doubt have "degenderized" his speech and substituted "technical qualifications" for "trade" but the message would be the same.

It is, of course, important to retain a balance between generalists and experts, both have roles to play, especially in the realm of high administration. A classical education, once prized as a qualification for senior administrators is valuable in order to see the wood from the trees, specialisation brings forward those who can advise on their respective fields of knowledge and experience but who sometimes cannot see the bigger picture. The trouble is that the top jobs tend to be given to Arrol's "clerks".

There seems to be one facility which seems to be neglected in the modern education curriculum. It is the ability to make rational, impartial and informed decisions based on a careful analysis of the situation and to communicate those decisions clearly and unequivocally to those who have to act on them. A legal training cultivates this facility and to a certain extent military training as well but it needs to be encouraged and fostered over a wider field. Perhaps we need the equivalent of the French École National d'Administration. The current successor to the Civil Service College is not quite the same thing and in any case the higher Civil Service has been diluted with personnel recruited directly from commerce and academia whose skills are not necessarily apposite for giving impartial advice to ministers.

Concern has been repeatedly voiced about the low productivity of the British labour force[274]. Although there has been a great expansion in university education following the Robbins Report of 1963 it is not at all clear that graduate status is valued, possibly because it has lost its former rarity, and that it leads to productive activity. Many young people are encouraged to read "soft" subjects like "Media Studies" which have limited or no appeal to most prospective employers. Resources need to be diverted to technical, vocational and professional education, especially in those areas where there is a shortage of

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[273] Quoted by Charles McKean in "Battle for the North" (London, Granta, 2006) reported in the *Scotsman*, 27.2.1880

[274] See p 82

qualified people. All these problems have been exacerbated by the charging of high university tuition fees probably pushed up by the Student Loan scheme.

It is heartening to read that the government is trying to encourage apprenticeships but it has to be focussed properly. Being apprenticed to a hair stylist is not what we want.

* * *

The UK has traditionally welcomed newcomers and has greatly benefited from doing so[275]. It is surprising how well newcomers assimilate into British society, although strains have been put upon this with the immigration of people from the "Third World".

We also export our talent, especially highly qualified people to the U.S.A. Of course some of them return, but it is a loss difficult to make up. We should not, however, try to put a stop to this mobility.

It is, perhaps, a compliment to our society that so many people want to settle here. About 3 million non UK EU citizens have settled here and it is interesting that many of them have elected to stay notwithstanding our departure from the EU.

There are, however, about 67 million people living in the UK, most of them in England and it is arguable that we have become overcrowded. If the overwhelming majority of those people are productive the country should manage the situation. At the moment, however, it would seem that too many people, especially young people, are trying to make their way on poorly paid Zero Hours Contracts or are "self-employed", many in the catering and hospitality sectors, e.g. working in coffee bars and restaurants. There is also the problem of low productivity. The UK has been cursed with low investment in productive assets. Those who should be investing tend to employ relatively cheap labour instead especially if the people taken on can be dismissed at will. Ever since the Industrial Revolution industrial promoters have tended to take a short term view, the coal mining industry being a notorious example. This is a feature of the capitalist system and difficult to put right without substituting an even less efficient one. Many foreign firms, like Toyota, Nissan and Honda were attracted to this country because of our membership of the EU and our relatively flexible employment laws and practices. BREXIT may see those companies migrate elsewhere. We are also wasting talent by retiring people too early. Some steps have recently been taken to raise the retirement age and this must be pursued. The erosion of the value of pensions might help in this regard.

[275] One notable exception was the expulsion of the Jews from England by King Edward I in 1290. They were not allowed back until the Commonwealth in the 17th Century.

Many people from abroad who settle here are productive and enterprising. There is, however, the problem of refugees from places torn apart by war and terrorism and places suffering from drought and crop failure. It is a major problem for the developed world as a whole. Should the developed world allow these people in, creating, at least in the short term, major social and economic problems, or should the affluent refuse them entry? This problem could become acute when climate change makes large parts of the tropics uninhabitable.

Chapter 18
Green Belts

It might seem strange to many readers that a chapter should be devoted to green belts but they play a part out of all proportion to their extent. But there are 15 Green Belts in England which in aggregate constitute nearly an eighth (12.4%[276]) of the land of the country[277]. Of all the aspects of Planning green belts are probably the least understood and give rise to the greatest controversy. Created for specific purposes they have since been treated as if they serve a range of others. Distorting the market in land huge sums are at stake with green belts.

A green belt does not exist on the ground; it is a Planning policy which applies to specific areas of land. Para 134 of the NPPF states the purposes the designation of a green belt is supposed to serve, viz:

a) to check the unrestricted sprawl of large built-up areas;

b) to prevent neighbouring towns merging into one another;

c) to assist in safeguarding the countryside from encroachment;

d) to preserve the setting and special character of historic towns; and

e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

The idea of protecting the setting of a town or city pre-dates Planning. Prohibiting building outwith city walls also served military purposes as it ensured that the defenders of the city had a clear field of fire and denied shelter and protection to anyone who would lay siege. The boulevards in continental European cities mark the line of demolished defences. Our history has not handed down that heritage as the need for defences to protect our towns and cities ended with the Wars of the Roses[278].

Elizabeth I's decree of 1580 is sometimes held out as the first recorded attempt at establishing a green belt but she commanded that "all manner of Persons…to desist and forbeare from any new buildings of any house or tenement within three miles of any of the gates of the said cittie of London" which included the city itself[279]. It was not until the nineteenth century that

[276] CPRE website (the MHCLG experimental land use statistics state 7% but they may exclude built up areas)
[277] In contrast the National Parks in England and Wales cover approx. 10%
[278] Defences were thrown up around London at the beginning of the first English Civil War in the 17th Century but they were never put to the test and were soon dismantled.
[279] The decree notes that in London "there are great multitudes of people brought to inhabit in small roomes, whereof a great part are seen very poore…heaped up together, and in a sort smothered with many families of children and servantes in one house or small tenement." The Stuart kings raised money by selling dispensations from this decree and a Commonwealth order

concern was voiced at the rapid spread of towns and cities and in particular that of London. This gave rise to ideas to curb that expansion. Those ideas included plans for a ring road around London connecting existing and new green spaces. Some ideas came from the U.S. where parkways were being built. However it was not until the 1920s, after Howard's pioneering work and Town Planning had become a function of government that official consideration was given to curbing London sprawl, with talk of green rings and "girdles". Two approaches were floated. One was the imposition of a ban on new building within a certain radius of London but leaving towns and villages in that zone as they were and the other allowing London to expand in a controlled manner leaving generous areas of open space as it did so. The first approach took root. By the mid 1930's the London County Council took matters in their own hands and started reimbursing neighbouring county councils 50% of the cost of acquiring open land around the capital, land acquired ostensibly for the purpose of providing playing fields[280]. A green belt of a sort was thus established around London by the end of the 1930s.

It was Patrick Abercrombie's "Greater London Plan" of 1944 which set the path towards formal green belt policies, with his proposals for four designated rings around London to control development and sprawl including a "Green Belt Ring" "primarily for recreation and fresh food for the Londoner, and to prevent further continuous suburban outward growth". Where building was to be permitted the maximum density would be 30 persons per acre[281]. His ideas were largely followed by the first development plan for London.

Green belts as formal Planning policy were established purely as a political expedient by a circular (42/55) issued by the Ministry of Housing and Local Government in 1955. The minister responsible, Duncan (later Lord) Sandys, wanted to give some comfort to towns and cities that felt threatened by London "overspill" policies[282]. The circular encouraged the establishment of green belts for the purposes mentioned above apart from e) (Regeneration). Abercrombie's idea that a green belt should be used "primarily for recreation" was overlooked or ignored possibly because land owners would not countenance their land being reserved for that purpose[283]. Although some kinds of development are permitted in a green belt, like sports facilities and cemeteries, Green belts today are largely used for agriculture and for non-conforming uses which existed before they were

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of 1657 decreed that any new house built within 10 miles of London should come with 4 acres of land was apparently never enforced or allowed to lapse.

[280] This was ruled to be *ultra vires* the LCC so Parliament passed the Green Belt (London and Home Counties) Act 1938 to regularize the position. Mention should also be made of the Restriction of Ribbon Development Act of 1935 which tried to stop development along existing roads radiating from towns and cities.

[281] Difficult to convert into modern parlance as it does, of course, assume a level of occupancy.

[282] These policies were introduced as successors to the new towns programme, building housing estates adjoining small and medium sized towns, like Thetford in Norfolk, further out from London. Elson, Martin J "Green Belts" (London, Heinemann, 1986) p 13ff.

[283] The LCC acquisitions around London were based on calculations by the Sports Council of the number of football pitches and tennis courts required for the population of London (No golf courses?)

established. "Very special circumstances" have to be demonstrated to allow development normally deemed "inappropriate" for a green belt[284].

On the face of it the government gives firm support to the maintenance of greenbelts. Para 133 of the NPPF reads:

> The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.

but when defining a green belt plans should (*inter alia*) "not include land which it is unnecessary to keep permanently open"[285].

There is an anomaly in the NPPF. Having defined the purposes a green belt is supposed to serve[286] it includes para 141, viz:

> 141. Once Green Belts have been defined, local planning authorities should plan positively to enhance their beneficial use, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land.

This is fine, except that "planning positively" will not achieve anything. Green belt policy is essentially negative and as such is one of the few aspects of Planning which has on the whole been effective.

Two important outcomes of the establishment of a green belt were overlooked. One was the treatment of communities which found themselves inside a green belt, usually tightly hemmed in by the green belt boundary, and the other was the increase in the value of properties in a green belt, being situated in salubrious and protected surroundings. These, apart from the fact that inner green belt boundaries were treated as permanent, were to create the problems now faced by towns and cities with green belts.

As development of our towns and cities gathered apace so the pressure has built up to ease green belts or scrap them altogether. Local Planning authorities carry out "reviews" of their green belts to find excuses to release land from them on the perhaps spurious reason that the land to be released does not serve the purposes of the green belt. All too frequently people claim that some green belt land should be released because it does not add to the landscape value of the green belt, claims based on the mistaken belief that a green belt has to be "green". All this particularly applies to medium sized cities like Cambridge where development has been rapid and the green belt is small and was probably

[284] NPPF para 143
[285] NPPF para 139 b)
[286] NPPF para 134 and see above

drawn around the original built up area too tightly[287]. Green belts have become, however, political sacred cows. There seems to be no way in which the system can be reformed, given the financial and social disparities which have been allowed to grow unless, of course, owners of land designated as green belt are allowed to cash in and, in doing so, build homes which are even less affordable. A green belt is in any case a brittle device; chip a bit off it and you run the risk of the whole green belt shattering.

But green belts can and should play an important part in the creation of healthy resilient and thriving cities in a future threatened by climate change. If financial arrangements can be made to ensure that owners of land subject to green belt restrictions do not profit financially green belts could be used for new semi-autonomous "townships" along the lines of garden suburbs with generous amounts of accessible open space for recreation, nature conservation and amenity. They would have to be semi-autonomous because the infrastructure of the towns and cities they would surround would not be able to cope with the extra load, especially those cities, like Oxford and Cambridge which have historic cores.

But even if green belts remain sacrosanct they will be increasingly damaged by public utility and communications apparatus and the need to improve infrastructure, especially by the building of transit systems designed to replace the car.

[287] and in the case of Cambridge including sizeable "villages" which are now bursting at the seams.

Chapter 19
The Defence of the Realm

The effect of catastrophic climate change elsewhere in the world will inevitably affect the British Isles and some aspects of this have already been discussed, e.g. the threat of an influx of refugees and to our food supplies. We can and should plan to deal with these. We cannot coerce other nations to take timely precautions against the likely effect of the changing climate but we can, of course, set them an example and use our powers of persuasion.

There have been times when the UK has been beset by enemies who would have destroyed us or laid these islands to waste had they been given the chance. However, as Shakespeare observed England is set in the sea:

> Which serves it in the office of a wall
> Or as a moat defensive to a house,

so that until the 20th Century we could rely upon our navy for protection. We saw no need to maintain a standing army, only raising troops to police our growing possessions overseas. We raised large armies to take part in the two world wars of the last century but the nature of armed conflict today does not call for us to do so again. We now have small armed services which although they suffer from constant political tinkering are remarkably effective in limited ways.

Climate change will place great strains upon our economic activity and social cohesion which could lead to unrest. We have seen this in a small way with the reaction of people to the restrictions imposed upon them to contain the spread of the coronavirus. People are risking their lives to try and reach these islands across the Dover Straits in small craft. There is evidence that malicious attempts are being made by parties overseas to penetrate and damage our computer networks. The government needs to plan to counter these and the armed services can play a role in this. There are elements in the armed services which are particularly well qualified to help[288]. They need not and should not take a leading part except in catastrophic circumstances. The civilian security services such as the police and the Border Force should be the first line of defence.

The Second World War saw the construction of military installations on a massive scale such as airfields and coastal defences. Accommodation had to be built for the large numbers of service personnel that were called up and large areas of land reserved for manoeuvres. Works of this type are unlikely to be

[288] An army searchlight unit was brought in to help rescue efforts at Canvey Island after the flood of 1953. RN cruisers were traditionally prepared and equipped to deal with disasters such as earthquakes and hurricanes. HMS “Tiger” which happened to be in Swansea when disaster overtook the mining village of Aberfan in 1966 was able to render immediate assistance.

required in the future, even assuming that we would have time to build them. If some works are required they will have to be built even though they can hardly qualify as sustainable development. Planning for their construction is virtually impossible.

It is almost certain that the Border Force will need to be strengthened if the refugee problem escalates. So much will depend on what we decide to do if large numbers of refugees try to land on our shores.

It seems clear that we need small, efficient, resilient and flexible armed forces which can assist with civil emergencies at home and which are able to assist elsewhere without necessarily getting involved in full scale warfare. If flood defences on a large scale are called for there could be a case for the Royal Engineers to be enlarged on being given the civil role of constructing or supervising the construction of the works in rather the same way as the U.S Corps of Engineers.

Chapter 20
Response

This work is intended to show whether or not use can be made of the Planning system as the basis for the preparations required to meet the challenge of climate change. It shows that the Planning system, as exemplified by the current (2019) version of the NPPF does not fully take on board the need to do this. The chapter of the NPPF (14) which deals with "Meeting the challenge of climate change, flooding and coastal change" is fine except that it is relegated almost the end of the document. It begins at para 148 and is only one section of the three into which the chapter is divided. The other two deal with flooding and coastal change. It is, however, generally good on the need to protect the environment but climate change, which is a distinct issue, is not fully addressed. Planning policy evolves and it is reflected in the periodic revision of documents and guidance which emerges from the MHCLG which in turn is influenced by the current preoccupations of ministers. As such it can fall behind events.

The response of the government has so far been piecemeal, each department devising its own response. The notable exception was the Climate Change Act itself which was passed during the last Labour government[289]. Under that administration there was a department dedicated almost exclusively to climate issues, the Department for Energy and Climate Change whose minister was Ed Milliband. Unfortunately that department was absorbed by the Department for Business, Energy and Innovation in 2016 which would have tended to push climate issues down the agenda. The Climate Change Act was, however, amended by order in 2019 in order to set the target of Net Zero. So far as meeting the challenge of climate change is concerned the government has concentrated on decarbonising energy production by closing down coal fired electricity generation and encouraging the establishment of offshore windfarms which has produced gratifying results. This, however, represents the "low hanging fruit" as the next steps which will be required will be much harder and more expensive to take, like making the existing housing stock more energy efficient and changing domestic heating from oil and gas to electricity. There is also, unfortunately, a tendency to confuse the need to protect biodiversity and the environment generally with the need to deal with climate change. Departments have come up with some excellent reports and plans, like DEFRA's 25YEP but they tend to put the issue out of focus.

But this barrage of paper from the government has so far not produced results[290]. In its 2019 Annual Report to Parliament[291] the CCC stated "The

[289] Right in the middle of the banking crisis
[290] One is reminded of the policemen in Gilbert & Sullivan's "Pirates of Penzance" who parade up and down singing lustily about what they are going to do to the pirates without actually going off to do anything. At the end of their song the character the Major General exclaims "But you don't go!"
[291] file:///C:/Users/User/AppData/Local/Temp/CCC-2019-Progress-in-reducing-UK-emissions.pdf

Government needs to be much more ambitious on climate change adaptation, to match the growing risks from climate change" and "Of the 56 risks and opportunities identified in the UK's Climate Change Risk Assessment, 21 have no formal actions in the National Adaptation Programme..." Further it reports "..and we have been unable to give high scores for managing risk to any of the sectors we have assessed in this report..." and "..Despite pockets of excellence and dedication from specific organisations and individuals, the risks from climate change are not being reduced quickly enough, and in some cases not at all."

In its 2020 Annual Report[292] the CCC has markedly changed its tone as the result of the Coronavirus pandemic. The committee asserts that

> COVID-19 is a public health crisis; our recovery from it will reshape how we tackle the climate crisis. Choices in the coming months must steer a recovery that drives vital new economic activity, accelerates our transition to Net Zero and strengthens our resilience to the impacts of climate change. UK domestic climate ambition can be the basis for UK international leadership in 2021, in the Presidency of the delayed UN climate summit in Glasgow (COP26) and in the G7 Presidency.[293]

The committee is still disappointed with progress towards achieving Net Zero. Noting that there is now a cabinet committee on Climate Change chaired by the Prime Minister the report goes on

> There [have been] important new announcements on transport, buildings, industry, energy supply, agriculture and land use. But these steps do not yet measure up to meet the size of the Net Zero challenge and we are not making adequate progress in preparing for climate change.[294]

In the committee's view advantage should be taken of the postponement of COP26 by taking the following steps

> The Buildings and Heat Strategy, due later this year, must take low-carbon heating from a niche market in the UK to the dominant form of new heating installation by the early-2030s. It should be supported by a national effort to improve the energy efficiency of UK buildings along with ensuring their safety and comfort as the climate warms.
>
> The Government's welcome new ambitions to change patterns of transport demand and decarbonise surface transport still require strong policies to deliver them, especially in the context of COVID-19 recovery and social distancing.
>
> The goal to substantially expand supplies of low-carbon power must be accompanied by steps in the Energy White Paper to encourage a resilient and flexible energy system.
>
> Enduring market mechanisms are needed to drive investment in a much wider set of low carbon industrial technologies and industrial sectors than the piecemeal schemes announced so far.

[292] file:///C:/Users/User/AppData/Local/Temp/Reducing-UK-emissions-Progress-Report-to-Parliament-Committee-on-Cli.._-002-1.pdf
[293] CCC 2020 Annual Report, Executive Summary
[294] Ibid

> The unique opportunity to reform agricultural support and encourage transformational land use change will be missed unless the Environment and Agriculture Bills are strengthened. They should be backed by a strategic mechanism to fund tree planting and natural carbon storage at a much larger scale while improving the productivity and resilience of our food supply, strengthening flood protection and protecting biodiversity.
>
> UK leadership also depends on building resilience to climate change, a resilience which no UK sector has yet demonstrated for even a 2°C rise in global temperature. We will publish our updated assessment of the risks and a review of the UK's progress next June, by which time much better plans must be in place.[295]

This is firm and clear advice but in the present climate (Autumn 2020) it seems unlikely that the government will heed it, being preoccupied with dealing with the pandemic and preparations for the ending of the BREXIT transition period.

The committee's 2019 report elicited two responses from the government, a general one sub-headed "Progress in preparing for climate change"[296] and the other "Reducing UK Emissions"[297]. The latter is a detailed catalogue of the steps taken so far and was published by the Business Department before the 2019 General Election. The former appears to be the official response and is much shorter and was published before the postponement of COP26 because of the coronavirus pandemic. No government department is named as sponsoring it.

The Executive Summary of the official response betrays a cautious reaction to the line taken by the CCC

> Here, we set out government's response to the CCC's [2019] progress report and recommendations. Government welcomes the CCC's constructive assessment, both its recognition of areas of excellence and progress that has been made, notably on public water supply and rail infrastructure, as well as recommendations, sectoral scores, and reflections on areas for further development. There are a few areas, which we have indicated within the response, where we have queried the assessment given, or where further work with the CCC will be needed in clarifying and developing in specific areas, such as on monitoring indicators. The government's response highlights a range of important developments which will support progress on these diverse areas over the coming months and years. We acknowledge there is more to be done and government looks forward to working with the CCC and others in further strengthening our preparedness for climate risks and opportunities across sectors.

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[295] Ibid

[296] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/839556/CCS207_CCS0919071748-001_Committee_on_Climate_Change_2019_report_web_accessible.pdf

[297] Triumphantly also called "Leading on Clean Growth" https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/839555/CCS0819884374-001_Government_Response_to_the_CCC_Progress_Report_2019_Web_Accessible.pdf

The summary then goes on to publicise the National Adaptation Programme. Indeed the theme of the response is based on that programme.

The response singles out criticisms taken from the CCC Report and gives detailed replies. Few, if any, of those replies reveal action on the ground. Great emphasis is placed on drawing up yet more plans, frameworks, assessments and initiatives and committing money for spending over a period of years. The CCC is rightly concerned with outcomes. The Civil Service cannot plant trees, for example, but someone has to and the CCC is concerned to discover whether tree planting is actually taking place. To be fair most extensive programmes of conservation, mitigation and adaptation take time to set up. Against this the CCC would point out that time is limited and that someone needs to get on with the jobs required.

One example should suffice. Under "Water" in the government's response appears:-

> 3.17 Government made clear in the 2019 Price Review (PR19- looking at investment between 2020 and 2025) that Ofwat, the water regulator, should challenge water companies to ensure they assess the resilience of their system and infrastructure against all potential hazards and take proportionate steps to improve resilience. This includes consideration of the impact of other infrastructure failures. Government continue to work with Ofwat throughout the PR19 process to ensure water companies have properly considered this objective in their business plans.

From this it can be seen that central government is working through its regulatory body Ofwat but all that Ofwat is being enjoined to do is to ensure that water companies have included the requisite action "in their business plans". There's nothing about ensuring that those plans are actually carried out, and within the timescale needed. The CCC is acting as watchdog but no one it seems is heeding its barking and going to find out what has caused the alarm.

There is clearly a danger that the Climate Change Act is spawning an extensive bureaucracy which is not delivering the action required. The government's response calls in aid Local Resilience Forums which were set up under another statute altogether the Civil Contingences Act 2004.

The response by the Industry Department to the CCC's 2019 Report is detailed and covers all areas thoroughly. It admits that the reduction in greenhouse gas emissions achieved so far has been largely due to the commissioning of windfarms and the phasing out of coal fired power stations. On the whole the response indicates a great deal of departmental and other activity which could achieve significant results in a few years' time. The question is whether this is fast enough. In the UK persuasion is preferred rather than compulsion which is necessarily slow as it has to be done through a hierarchy of organisations. It would be interesting to see reports by the various reporting authorities on what they are actually doing to implement all the various officially sponsored schemes.

To sum up the UK government seems to be anxious to demonstrate its green credentials and achieve Net Zero. The CCC is clearly keen to see much faster progress in each of the areas in which decarbonising needs to take place but may not be fully aware of the fiscal and practical problems which have to be overcome. At the moment the UK government is trying to make use of the existing machinery which may not in the end prove fast or effective enough. The setback caused by the coronavirus pandemic could well have a profound effect on the steps we take to meet the challenge posed by climate change. The next and final chapter examines various ways in which adaptation to climate change can take place within the time we have available.

Chapter 21
Where do we go from here?

The science is clear. The planet is warming up, the climate is changing and this is largely due to human activity. The Paris Accord acknowledges this and has resolved to take steps to keep this warming to within 2^{O}C above the pre-industrial level and preferably within 1.5^{O}C above that level[298]. In a recent assessment the IPCC has stated that "limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society. With clear benefits to people and natural ecosystems, limiting global warming to 1.5°C compared to 2°C could go hand in hand with ensuring a more sustainable and equitable society." The UK should be given credit for making a good start in cutting GHG emissions but the CCC is warning that much more needs to be done, and soon. It is going to be progressively more difficult for the UK to meet the carbon budgets set by the Climate Change Act. The UK kept to the first four of these budgets but the CCC in its 2020 report makes it clear that on present showing the UK will not meet the next and succeeding ones. In that report the CCC "highlights five clear investment priorities in the months[299] ahead:

- Low-carbon retrofits and buildings that are fit for the future
- Tree planting, peatland restoration, and green infrastructure
- Energy networks must be strengthened
- Infrastructure to make it easy for people to walk, cycle, and work remotely
- Moving towards a circular economy.

There are also opportunities to support the transition and the recovery by investing in the UK's workforce, and in lower-carbon behaviours and innovation:

- Reskilling and retraining programmes
- Leading a move towards positive behaviours
- Targeted science and innovation funding"

The action which needs to be taken ranges right across all human activity, to industry, agriculture, travel, tourism, even domestic life and leisure. It therefore involves virtually every department of government. Is there any department or official who has the oversight and can direct action to be taken? There is now the Climate Change Committee but its role is advisory. "The" Secretary of State has the power to require reports and give directions and there is a Cabinet Committee on Climate Change chaired by the Prime Minister but given the British reluctance to endow any person or organisation with overreaching powers coupled with the ethos of the Conservative Party which reflects this it seems unlikely that anyone is going to be appointed "Climate Change Tsar" any time soon. But there will have to be a clear chain of command if the multitude of "reporting authorities" and others are to be persuaded or, if necessary, compelled to take timely action. We cannot afford to let matters drift

[298] It is already over 1° above that historic level (NASA website, 11.20)
[299] Author's emphasis

and then burst into frenetic activity at the last minute. Climate Change is like the proverbial supertanker; once it is moving it takes a long time and a great deal of energy to stop it.

The government has a lot on its plate at the time of writing (Autumn 2020) and it is understandable if ministers are distracted from paying attention to climate change. There seems to be a real risk that the more forthright the advice of the CCC becomes the less likely ministers will be inclined to heed and act on it[300]. The chairman of the CCC Lord Deben is a respected former government minister[301] and a Conservative but his standing is unlikely to cut much ice with the ministers in the current government if the advice from his committee is inconvenient in the present situation.

We cannot avoid human failings, failings which contributed to the situation in the first place. Three of the Four Horsemen of the Apocalypse are now in our midst and it is all too easy to be pessimistic and see humanity in a self-destruct mode. There is, however, still a chance that the nations of the world will drag us back from the brink. The UK still has a small, and some would say diminishing role to play and we should, of course, play it. In the meantime we must put our own house in order.

Although we have the Climate Change Act and the eminent CCC there are some weaknesses in the framework to deal with climate change which is emerging. It is based on a departmental structure which is not fit for the purpose. There is no Secretary of State charged with the responsibility of seeing that all the departmental plans which have been produced are mutually supporting and compatible with one another and that action is being taken to ensure that those plans are being implemented with appropriate urgency. There seems to be a failure to understand that taking steps to mitigate the effect of climate change and to adapt to it is distinct from the more specific and important tasks of protecting and nurturing the natural environment and of conserving natural resources. Those tasks can contribute to mitigation and adaptation but are not a substitute for it. It is clear that the current UK government is loath to use powers of compulsion and to direct action, although it is readily using them in an attempt to ameliorate the effect of the coronavirus pandemic. However at the current rate of progress the case for direct control becomes ever stronger. There are limits on the use of free enterprise. There may well come a time when the country has to be put on a war footing.

In the main the UK government seems to be trying to make use of existing organisations and agencies to carry things forward, even to the extent of allowing "reporting authorities" to volunteer their plans and activities rather than working to ministerial directives. However as the minister and the CCC acquire a better idea of what is and what is not going on so the need for firm

[300] cf the reaction of ministers to scientific advice on the coronavirus pandemic
[301] as Mr Selwyn Gummer

control increases. As each of those reporting authorities has its own powers and spheres of responsibility it will move forward at its own speed which is unlikely to produce early progress across the board.

This work set out to answer the following questions:-

- Is government in the UK at all levels and across the four administrations capable of recognising existential threats in time for action to be taken to meet them?
- Does the machinery exist to plan responses to those threats and
- Can and will decisive action be taken in time?

and to explore the idea that the land use planning system could be adapted to answer the second of these questions.

The answer to the first of these questions is clearly "Yes" but whether it will do so is another matter. Will government keep the need to counter these threats at the top of the political agenda? That is a real problem. Governments of all colours tend to focus on immediate issues, preferably ones that can be dealt within the life of the current Parliament. There seem to be only two ways by which the need to deal with the climate crisis can remain a top priority namely by a disaster which can only be attributed to global warming or by relentless campaigning by NGOs and concerned private citizens, preferably with the support of the media.

The answer to the second question has to be equivocal. On paper the machinery is in place but it has not been put together specifically to tackle the issue and it is fragile, subject to the whims of politicians. Climate change is an issue which seems to have been buried in the Business department with only a Parliamentary Under Secretary to oversee it. We must hope that the matter will rise rapidly up the agenda as the need to prepare for COP26 becomes urgent. That conference is due to be presided over by Mr Alok Sharma, the Business Secretary and it must be a success, with decisive action agreed by all parties. Somehow we have got to make up for lost time. The UK government must hope to gain kudos from the chairmanship.

Despite the nominal responsibility of the BEIS the lead in planning for climate change seems to have been taken by DEFRA. It produced the 25YEP and the NAP both of which are excellent summaries of what needs to be done and describes what various agencies are supposed to be doing but apart from encouraging action by others it does not seem to be taking action itself. Development across the board needs to be monitored and controlled to ensure that it is environmentally sustainable and contributes to tackling climate change.

It is important to emphasise the use of the word "environmentally" in the context of the concept of sustainability. It suits politicians and commercial

people to drift away from the Brundtland definition of "Sustainable Development" and there is a constant need to drag them back to it.

Can use be made of the land use planning system to monitor progress towards achieving Net Zero? Planning purports to control the development of land, and as land is a common denominator in most of the activities which will need to be adapted to meet the challenge of climate change it would, seem, on the face of it, to be a suitable vehicle. As we have already seen Planning has already been extended to embrace protection of many aspects of the environment, notably by the adoption of the concept of Sustainable Development. However the present planning system is not comprehensive. It does not, for example, embrace transport, commerce and industry and farming. The land use planning system is overseen by MHCLG but the NPPF only mentions the need to mitigate and adapt to climate change in passing. Many applications for planning permission have to be accompanied by a Sustainability Assessment but all too often these are pro-forma and in any case do not necessarily set the proposed development in its wider setting. The trouble is that each individual proposal for development may be sustainable when considered in isolation but taken together may represent a substantial threat to any attempt to tackle climate change. When faced with numerous applications for permission to develop a local planning authority may be unwilling to or may be precluded from treating an application as the proverbial Last Straw. As set up the land use planning system can only deal with the bigger picture when a Development Plan is prepared. A plan which deals with the need to tackle climate change comprehensively needs inputs from agencies and other bodies, such as the Environment Agency, Natural England, Highways England and Network Rail whose contributions are at present largely treated as advisory. The preparation of such a comprehensive plan would need more planning staff and inevitably more expense. If the recent White Paper "Planning for the Future"[302] is anything to go by current thinking in government is to send the planning system off in the opposite direction with efforts to "streamline" and "speed up" it, all to make it deliver housing, almost to the exclusion of everything else. Although it appears to be discretionary the current planning system is largely regulatory, with all development largely in the hands of private developers who control its pace and distribution. Nevertheless the planning system provides regulatory machinery which covers the country at a local level. If it is not to be adapted and used to ensure that timely steps are taken to mitigate the effect of climate change and adapt to its effect then a parallel system will have to be set up at even greater expense.

Adapting the current land use planning system in this manner will not be sufficient. So far as government is concerned the problem is interdepartmental, with each department cultivating its own patch. Transport (DfT) resolutely remains independent but there is already an overlap between the functions of MHCLG and DEFRA. Although the appointment of a Climate Change "Tsar" may

[302] See p 60

be remote there is clearly a case for a department which has the power to oversee and coordinate and, if necessary control the activities of other departments, especially in the production and implementation of plans. At the very least the oversight must be prised from the Business department and handed over to one which has a definite part to play.

In pursuing this idea there is a danger that the mistakes made when the first Harold Wilson government in 1964 created the Department for Economic Affairs (DEA) and put the manifestly inadequate George Brown, Wilson's deputy in charge of it. The National Plan which the DEA sponsored cobbled together all the business plans which the department had unearthed. It made no sense and was quietly and decently buried. However there is a need for departmental plans to be reconciled with one another.

At the present time (Autumn 2020) the Cabinet Committee on Climate Change chaired by the Prime Minister is supposed to meet regularly. Cabinet committees are ephemeral, they come and go and some contain too many members to be effective. Issues seen to be more urgent, like the current pandemic can push cabinet committees aside. Given the importance of tackling climate change, and mindful of the need to avoid the mistakes made with the DEA, it would seem sensible for a "Principal" Secretary of State for Climate Change to be appointed who would function (*inter alia*) as the Secretary of State for the purposes of the Climate Change Act 2008 or any replacement of it. The CCC would therefore report to the new SoS.

The new SoS would need a department, call it the Department for Climate Change ("DCC") but care would have to be taken to ensure that it does not duplicate the work of the authorities and agencies it would oversee. It is vital that the DCC does not follow Parkinson's Law.

A new Climate Change Act would be needed, if only to specify the overarching powers of the new SoS. The new SoS would have the power to call in all plans for development in the UK to check that they are both individually and collectively environmentally sustainable, sound and serve to achieve Net Zero. These plans would include those sponsored by those bodies whose developments are not subject to planning consent, e.g. projects sponsored by the National Infrastructure Commission. The new department would be advised by the CCC and would have the power to veto or require changes to projects and developments which do not meet its criteria. It seems important that schemes and plans for development should be both sustainable and serve the achievement of Net Zero because it is conceivable that a scheme could meet the requirements of one but not of both. There will, inevitably be hard cases, e.g. a proposal for a new reservoir which would involve drowning a village or destroying an ancient woodland. The new SoS could perhaps be given the power to decide such an issue.

The Planning system includes no power to compel development to take place. If the CCC or, indeed any department or agency advises that something should be done which the new SoS considers would be sustainable and serve the aim to achieve Net Zero he/she could lend support to it and with projects of sufficient importance take the matter up in Cabinet. It might be necessary for the new SoS to arbitrate between rival schemes (say) between a proposal for a new motorway and one for a new high speed rail link.

It would not be sensible for the new DCC to be required to vet every plan, scheme or development proposal. There would have to be clear guidance as which of them should be drawn to its attention. Directions given or regulations issued to reporting authorities pursuant to the Climate Change Act could be made to serve this purpose. These could be amended or replaced in the light of experience.

The new SoS should be given the power by order to require the making by a department of new regulations to ensure that certain categories of development meet the criteria for approval, e.g. new Building Regulations regarding the thermal insulation and ventilation of new homes and offices.

It seems unavoidable that a much wider range of activities will need to be controlled. "Development" will need to be redefined and somehow a new scale of Permitted Development will need to be devised. Development control will have to be exercised by local authorities functioning as "Local Development Authorities". Development which spans several local authority areas will need to be approved under separate arrangements. All this must not spawn a huge and expensive bureaucracy but somehow be effective in containing and reducing GHG emissions. And would we need a "Trace and Track" system to hunt down offenders? The mind boggles but if we are serious in achieving Net Zero such complications would seem to be necessary.

The new SoS should be able to order the carrying out of works and other actions he/she considers necessary to achieve Net Zero. These could range from the construction of a new tidal barrier to the reduction of herds of dairy cattle. At the time of writing it is mooted that the government has in mind banning the sale of petrol and diesel cars by 2030 and the sale of hybrid vehicles by 2035[303]. If the order is not made the power to make the order should be conferred on the new SoS.

The cost of certain measures would need to be addressed. Given adequate notice the cost of some measures would be borne by those whose properties are affected, with grants made to people who manifestly cannot afford to. The cost of a large infrastructure project would have to be met by the Exchequer. If the new SoS is not to be directly responsible for such a project

[303] Presumably the use of petrol, diesel and hybrid vehicles will tail off with time, possibly accelerated by the closure of filling stations, although we can be sure that people will want to keep and run "vintage" models.

he/she should be given the power to insist that the project is adequate to achieve the expected reduction in emissions. It is not suggested that achieving Net Zero will cost zero. However in the current political climate such ideas would be rejected out of hand.

Whether effective steps to tackle climate change can be taken in time is problematic. The country is falling behind the timetable for decarbonisation set by the Climate Change Act and the situation can only get worse, not helped by the current pandemic and the severance of the last ties between the UK and the EU which are already causing mounting confusion. There is also the “Whoopee!” factor; that when the pandemic is over people will enthusiastically try to make up for lost time and seek to recoup their losses without regard for the threat of climate change. Such behaviour is likely to be be connived at by governments anxious to rebuild their economies. If this should happen, and the odds are that it will, the timetable to Net Zero would be abandoned, with obvious consequences.

The fact that the UK has little or no control over the behaviour of other countries should not be used as an excuse for inaction. The same goes for events which are already occurring as the result of climate change, e.g. the wholesale emission of CO_2 as the result of forest fires like those which have recently occurred in north eastern Siberia[304]. The UK must set an example and at the same time preserve so far as possible our natural capital and precious landscape.

* * *

We have little enough time to achieve Net Zero so we must get on with it with an appropriate sense of urgency without allowing ourselves to be distracted by other issues, even one as important as the current coronavirus pandemic.

The world climate will change even if all the countries in the world eliminate carbon emissions but we owe it to ourselves and to our descendants to preserve what we can of our "precious stone, set in a silver sea".

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[304] *The Guardian,* 31.8.20 Arctic wildfires emit 35% more CO2 so far in 2020 than for whole of 2019

Abbreviations

GHG	Green House Gases
IPCC	International Panel on Climate Change
NASA	National Aeronautics and Space Administration
CCC	Committee on Climate Change
SoS	Secretary of State
ASC	Adaptation Sub-Committee
CCRA	Climate Change Risk Assessments
DEFRA	Department for the Environment and Rural Affairs
NCC	Natural Capital Committee
25YEP	25 Year Environment Plan
MHCLG	Ministry of Housing, Communities and Local Government
DfT	Department for Transport
NPPF	National Planning Policy Framework
COP26	UN Climate Change Conference 2021
UNCED	United Nations Conference on Environment and Development 1992
CPRE	Campaign for the Protection of Rural England
CIL	Community Infrastructure Levy
NIMBY	“Not in My Back Yard”
DHLG	Department of Communities and Local Government (now MHCLG)
SPD	Supplementary Planning Document
BEIS	Department for Business, Energy and Industrial Strategy