

Plan B to Save the World for Our Children

World Auditors Of Sustainable Growth

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Plan B to Save the World for Our Children

There is a lack of recognition of what are the critical issues facing humanity today. Never have those in power faced such a stark decision. On the one hand is the threat of potential disaster requiring early and adequate sacrifice to counter it: and on the other, there is a very limited choice of ways to go about this, and this choice can be exercised so as not just to counter the threat, but also to encourage solutions to so many other problems it would promote a much better world.

But few of the world's cleverest and most influential people appear to see this as a no-brainer: it could be that they prefer, collectively, to adopt a wait-and-see attitude in the hope that given time, the problem will become clearer (it probably will): and more easily be dealt with, which is doubtful in the extreme. Any thoughts they do have on these issues are subsumed by lesser things, only seemingly more urgent.

The argument below attempts to get the problem into context: to examine the shortcomings of world leadership in failing to tackle it: to propose a new approach more likely to succeed: and to point up how we might be able to leave our successors with a world not much worse than we ourselves were left; and hopefully happier and safer.

Climate Change is probably the largest and most urgent part of the problem and action here will also help elsewhere. But Climate Change is a symptom that could be largely countered by replacing fossil fuels laid down from the energy of the sun millions of years ago by what the sun provides now or very recently. But this, though essential, will neither solve the problem completely nor lead to all the benefits alluded to.

Let us be clear that the basic problem is a matter of world growth and consumption. It is a natural thing for us all - individuals, companies and other organisations; and nations - to try to better ourselves by growing and consuming: indeed we are encouraged so to do on a daily basis by all in authority, worldwide. The columns of our business pages and the manifestos of our political parties all tell us not only what a good thing growth has been for us, but that it remains the sine qua non of our future. But all this growth threatens the natural world we inhabit. This is today's Tragedy of the Commons .

These commons are the biosphere we actually live in, the geosphere, troposphere, stratosphere and cryosphere: perhaps even the cybersphere and outer space. The commons are finite: and the increasing world population combined with increasing consumption, and particularly the increasing consumption of world middle classes, are the threat to the commons, which arises not so much from their exhaustion, but more usually is caused by human progression crossing acceptable boundaries.

Nature provides us with assets and services. The assets include the land and water inter alia supporting the agriculture that feeds us; the fish, forests, flora, fauna, fossil fuels and other minerals; plus the air we breathe and the ozone in the stratosphere that protects us from the ultra violet in the sun's rays. These all come free until we decide who owns them or whether they are held in common. Most of the fossil fuels in the known reserves are going to have to be left in the ground unless compensated for by Carbon Capture and Storage. This, when allowed for, is going to cause a considerable reduction in the value of energy shares in the world's stock markets (against which we can judge the financial effects of some of the other things mentioned). Peak oil (and coal and gas) will be for us to choose as a result of how we limit carbon in the atmosphere. Other problem elements include nitrogen, potassium and phosphorous all vital to agriculture: and if wasted by run off, cause major damage to waterways and the eutrophication of the oceans.

And preserving nature's services, the restoration of land and water when overused or polluted by man, will become increasingly expensive in both time and money. We are at a cross-roads and it may be helpful to take a somewhat detached look at the world as if from the outside. For the 12,000 years of the inter-glacial period following the last ice age, what geologists call the Holocene, the climate has been greatly beneficial for man's development. Mean temperature has stayed within a band of less than a degree Centigrade and it is still, just, within that band (but not for much longer, and limiting it to another degree or so is only the target of current

endeavour and will probably be missed). Great things have been achieved, but those of us now reaching retirement age have got tremendous benefit on the cheap (because we have not paid for our pollution). For us now to put off action and allow the extra costs of nature's services to fall on the developing world and succeeding generations seems to me immoral in the extreme. Geologists of the future will know of the industrial revolution and the problems we now face in the Age of Man, the Anthropocene: and also whether or not we solved them.

Other global threats arising from human progression are the pollution of the commons by insects, bacteria and viruses that are becoming resistant to traditional control. And then there is the loss of bio-diversity resulting from climate change and our increasing consumption. Some regard these threats as being as important as climate change; and as costly.

No one can know exactly how world population will change over the next few decades. We have to use our judgement of future risks and rewards to guide our plans knowing these may have to be modified in the face of events such as volcanic actions, pandemics or war. Some populations will likely become very old or very young: some parts of the world may have improving climate and others only flood, tempest and drought. It seems likely emigration pressures will be even bigger than they are today. These pressures are likely to be greatest from poorer parts of the world who are the least responsible for the problem. It is obvious we need better global governance in both developed and developing worlds; a concerted attack on the roots of tribalism, and pressure on the markets to favour the long-term.

And what of Robots? We rely on Security to preserve us from suicidal terrorists today. But what sort of new problems will we face from, say, a driverless car? Surely we are going to have to change world culture rather than rely on Security to deal with such possibilities? And there are some more fundamental threats to Capitalism if our leaders have much more robotic assistance than exists today, as I mention again later.

So there is the problem - human progression going beyond what the world can stand. I am not going to speculate on details such as how the timescales and effectiveness of technical advances will contribute to the answer. I shall not compare, say, Carbon Capture and Storage with Concentrated Solar and high voltage DC transmission. This is the wrong approach. I don't care for the opaque UK process of following European guidelines by ministerial subsidy and bland statements that we are meeting requirements. What we need democratic governments to do is provide an overall global plan: and a rising carbon cost within which companies and individuals can behave and compete to find the detailed answers in a satisfactory timescale. This timescale has to balance the cost of current sacrifice against the need to control future climate change (and the other things). And let us note that when faced with quite small energy price increases, all our political parties once again backed the consumers who are causing the problem. We are getting very short of time for our leaders to act. And people generally, many of whom have problems such as whether they are going to be able to pay the bills at the end of the month, quite naturally find this of more concern than the putative effect of climate change in 50 years' time.

This is why I think we need a Plan B now. Let Mr Ban Ki-moon set up a small group of about 10 independently-minded but internationally-selected people tasked with the responsibility of reporting annually and worldwide their assessment of the world future over the next several decades on the basis of agreements actually in force and any other arrangements they might recommend as being appropriate. Let us call this group WASG (World Auditors of Sustainable Growth, pronounced WASGee). Perhaps Mr Ban Ki-moon could do this on his own but it would be an advantage if it had the imprimatur of, say, the G20 from the start. A little more about WASG below, but first a word about sceptics and a little more on leadership in today's world.

Sceptics should realise that some 170 Scientific Academies, worldwide, nem con, recognise climate change as being real and man made. In particular, the US Academy of Science and the Royal Society last year produced comment on the 20 most often raised sceptical views plus answers to specific questions. Their paper can be found by Googling Climate Royal Society with the date 17 Feb 2014. Nowadays, sceptics make much of the pause in temperature rise since the peak in 1998. But climate change is more than global warming of the atmosphere. The oceans are still changing. And 2015 promises to be a moderate El Nino year, when oceans transfer some of their heat to the air. 2015 will be the hottest year on record by some margin.

Leadership has not developed at all well during the last decade or so, just at the time good leadership has been so vital. It is fruitless to put all the blame on politicians who have to respond to what they perceive to be the

demands of their electors whose actions are, by definition, short term (and globally, on different cycles). I think they could and should do more, such as by encouraging the media to do more. And Mr Ban Ki-moon's office tell me he can only act if asked by the Prime Minister or other national leaders.

Similarly, chief executives and company directors of our larger companies, who probably have the most power, have a prime duty to their shareholders, who are often large companies themselves. Their ambitions for their company's power and money to exceed that of their peers has led to such a bull market in their pay that this effectively prevents them as a group providing needed collective leadership: consequently the standards they regard as an acceptable norm are actually shamefully low. There is no justification for their rewards having risen yearly by so much more (proportionally) than anyone else during the last 15 years or so. We need to pay our entrepreneurs whatever it takes. But ordinary large companies should be prevented from paying top staff more than, say, 20 times the average. We really cannot go on being led by people who regard it as a success that they pay only those taxes that they wish and will move elsewhere if pressed to play a fuller part. And we certainly can't risk these top companies disregarding the wider good and, perhaps, employing robots rather than pay the living wage.

The media - television, radio, newspapers and periodicals- are a special case. I blame the media more than anyone else for failing to provide the debating chamber for educating and informing us on these matters. Only the BBC World Service on the radio appears adequate and I am reluctant to say this because elsewhere the BBC, with their particular responsibilities, seem grossly ill managed. Some of the media have recently been in the dock for invading people's privacy; and more generally the media emphasise their responsibility for publicising matters in the public interest. But I submit it is their omissions that are by far the most important. Mr Burt, once D/G of the BBC, recently criticised their present current affairs coverage for failing to join up their news items.

It has been my experience that the media have little interest in the views of those outside their circle, that is, anyone unknown to them as journalists, celebrities or who are otherwise newsworthy. The doors of Editors are tightly closed. If a view that is unique is read at all, it is discarded as out of line with current thinking. Anyone with an unusual prediction will not be heard. Hence the recent failure to predict the UK electoral public view.

It seems we need the world's academic and professional institutions to appreciate that their accumulated knowledge endows them also with a social responsibility to inform the populace of the dangers that current policies, especially those arising from unrestricted competitive growth and over-consumption, pose to mankind. Communication networks already exist between these groups, but clearly the role of the media in all its guises, in helping to inform, is absolutely paramount. Conventions like the World Economic Forum could help, but again it seems these large get-togethers help those in power protect their positions and do nothing. Hence WASG, a small select group specifically tasked to get our leaders motivated by reporting, annually and to everybody, where their performance is taking us and what more needs to be done.

WASG as a working group should appeal to politicians. By definition, the members would come from some 10 nations and specialisations but they would not represent their own nation. WASG would use assistance from existing institutions such as the IPCC and IPBES, the IMF and World Bank, and would set up its own small supporting groups as necessary. It would consult and negotiate with the larger Nations in particular, and would report in a judicial manner taking into account, for example, the history and interests of developed and developing nations. It is to be expected it would change emphasis from carbon emitting activities to less damaging services; discourage the throwaway society and ensure repair and recycling; promote honesty and simplify regulation. There would be more entrepreneurial action and more volunteering. There would be greatly improved global governance and constant pressure from increasingly united nations on all potential causes of strife.

On dealing with climate change, there is much to be said for the ideas expressed in his book *Kyoto 2* (2008) by Oliver Tickell, although he could have chosen a better title (because Kyoto was less than adequate and should have been replaced before its end date of 2012. Another leadership failure). He seeks climate neutrality by 2050 leading to a CO₂ level below today's. He discusses all the approaches that have been put forward and sets down convincing arguments as to why he rejects all but his preferred solution. His system, which is simple and transparent (which is very important), puts a reducing cap on annual emissions by selling permits for extracting the equivalent amounts of fossil fuels. The permits would be sold at auction on the basis of uniform price sealed bids, a similar process as is used by governments to sell bonds. With the odd exception, the market would keep emissions below the cap. Mr Tickell expected (2008) the amount raised by the auctions would amount to

approximately \$1Trillion per year over early years, but it will probably be a good deal more now because action will start so late. This Climate Fund would be used mostly to promote R and D into new sources of energy, and into agriculture; to help developing countries with their increasingly costly energy needs, and to maintain carbon sinks.

It is fairly obvious that if climate change and other threats to the commons are to be able to be neutralised by deploying sums in the order of \$1-2T, then we are also going to have to get the pay of the leaders of our old established companies (but not our new entrepreneurs) under control: and also do something, over time, about the \$30T plus in the private ownership of the very richest. It is to be hoped WASG would influence leadership to accept these matters voluntarily leading towards honest self-regulation of affairs which would otherwise need excessive external regulation. The increasing red tape complained of by company executives arises quite often because their companies are less than honest and they are not personally accountable. (To get rid of much of the excessive regulation, all it needs is a simple rule that Boards will be held personally responsible for dishonesty lower down if they do not have arrangements in place to prevent this (ie effective internal technical audit).

Agriculture is going to have to change a great deal and the detail is well outside what can be covered here. But it is clear we can do things like more organic and less ploughing; placing herbicides, pesticides and water exactly where they are needed; starting forest in areas currently desert; growing plants with deep roots burying carbon, encouraging fungi and peat bogs, and so forth. This is enough to make the point we have to boost arrangements already underway to bring together science, technology, investment and farming so as both to feed our increasing numbers and develop an agricultural carbon sink.

Before leaving the environment, let us quickly mention the environmentalists , Greenpeace, Friends of the Earth and others who have their hearts in the right place but seem sometimes to be lacking in logic, and anti-science. They have negative power and have held up genetic modification, which agriculture needs; and nuclear power also much needed and which, with further development, perhaps with thorium, might solve the whole problem of nuclear waste. We must try to get the greens on board.

That's nearly it. It has taken a lot of words to try to demonstrate convincing proof of the threat: and to put forward WASG as likely to be needed to push individual nations to agree a global solution. Even if the Paris conference is more successful than I have suggested, we are going to need a transparent answer and a Global Auditor to hold nations to account. To summarise:-

First, there is the problem of consumption that we encounter as climate change and other threats coming from our uses of nitrogen, phosphorous and potassium: plus the problems of resistant bugs- insects, bacteria and viruses and the loss of bio-diversity: and robots. Then there is the damage we do to supplies of land and water. Those who don't think there is an urgent problem which should subsume their seemingly more immediate concerns should ask themselves if their outlook is not so much a difference of perspective but has become more a matter of prejudice.

Secondly, the world powers have not come even close to an answer: and they are plainly willing to take risks enormously greater than those other man-made risks that brought about the recent banking crisis from which we are still not fully recovered (there are reports that energy companies have not been persuaded of effective action and have apparently invested so much money in unusable resources that they may have to be bailed out like the banks. And have those seeking another runway at Heathrow decided they also can carry on regardless?). Maybe December 2015 will produce the solution, but probably not. Hence the need for Plan B, for WASG.

If Plan B is needed, WASG would be able to say what went wrong and suggest what was needed to put it right. It would produce a statement of where the world was headed and what further action was called for: that is, further action to protect the commons. This would continue year after year until satisfactory agreements were reached and ratified by nations and global activities: and further, that actual performance was certified by WASG as meeting these agreements.

One last point and this is the very, very big one. If nations can come to accept the judicial recommendations of WASG, this will mean they have all been persuaded to take this route rather than preserve their own latitude to argue every detail even to the point of global disaster. Nations would be agreeing to give a higher priority to protection of the commons than to what they would otherwise see as their most vital interests. This would be a huge step forward not only in protecting nature but also putting pressure on the whole international community

to avoid or resolve current problems, including both the petty pin-pricks often exciting deep national emotions; and the big difficulties of the last half century or so, such as the Middle East and nuclear weapons. It is impractical both to protect the commons and have serious squabbles about lesser things. We can protect the commons only if world powers are united in making this their overriding priority. Then we can make the United Nations united with all that implies.

What is in prospect is a world still full of danger, but with a major change in global culture, much more honest, better led, more cooperative, less greedy and selfish, and arguably a good deal happier. Also we could leave our descendants with a world not much worse than we inherited from our own forbears: and maybe safer as well.

Never has there been such an opportunity to unite humanity for the common good. Nor a greater need.

WASG

1. The Elephant in the Room

There exist a whole raft of either international or truly global problems seemingly getting worse year by year.

You are reading this probably because you have heard of, and become curious in some way, about WASG, but presently don't know what it is or how it could help.

The Elephant is this. Climate Change and some similar global threats to the commons are not only bigger (and hence more urgent) than the other international problems. They are bigger than all of them put together. Solving them requires such degree of cooperation between nations as will drive out also much of the existing strife either as a result, or as a necessary precursor. The many dangers we face can be overcome together, leading to a much better world. Be clear that this optimistic, even utopian, outlook is dependent on the nations of the world adopting a meaningful global approach to climate change and the other threats to the commons. This implies an enormous change from the way they have dealt with these things up to now.

The reason Climate Change et al is so much more important than the other things in today's headline news is that these other things, all brought about by mankind, can be solved by mankind, albeit with great difficulty: but unless the world acts very quickly, the climate problems, also caused by mankind, will likely move beyond man's ability to avoid effects that will be catastrophic. Not since the days of Galileo have the powers that be so disregarded what science is telling them.

Before going on to the next section, I suggest the reader turns to the Paper - Plan B to Save the World for Our Children . This was mostly written some years ago but amended more recently. I write from the UK, and in a few sentences had only the UK in mind, but there is nothing not largely true of the whole world.

What follows below touches on Climate Change, particularly in relation to the need for early action. But it mainly provides the background arguments leading to my conclusions that the world failure to deal with these problems amounts to market failure, leading to a need to reform our Capitalism; and arises from major failures of Leadership by all those with power. There is a lack of Democracy and a lack of honesty in high places.

Hence the need for WASG. To drive those with power into action.

2. Myself and WASG

My name is Ian McLellan, and I mention this only to show I do not write anonymously. I do not add an address because I have time only to correspond with those with power who I am trying to influence. Anyone can easily get in touch if they wish.

I used to be various kinds of engineer in the Royal Navy. As a systems engineer, I spent some years associated with a US Navy group who consulted Stanford University as to how, on their new project, they could avoid the same mistakes that were made with earlier complex systems.

I learned most of my system engineering from my association with this office. "Thus", and this is a quote from an unpublished letter to the Times in 1997 suggesting these principles had a wider application, "we can frequently identify the need for a devil's advocate to stop the impractical: for a risk manager to get the facts, instead of prejudice, before taking decisions, and to overcome the unknowns early: for a coordinator to select the interfaces and communications between groups of people, and to define them: for a disciplinarian to write workable rules and regulate the groups to achieve a common end: and for an auditor to check that what is supposed to be

happening is actually happening; and, if it is not, pointing the need for action not at the failure, but at the levels above, managing the failure. And in addition to all the examples around of inadequacy in these matters, there is an overriding failure to look to the long term.”

These are some of the qualities I feel WASG needs to examine these complex matters and come to a solution. I think WASG would largely argue as I do in the following sections, because I find much of the solution is ineluctable. But, WASG will be a group of people, much cleverer than me, and having varied experience and unlimited specialised support: and will reach its own conclusions. My own view is necessary only to get the attention of the Prime Minister, other G8 leaders and Mr Ban Ki-moon, and so get WASG brought into being.

In what follows, I seek to persuade everyone what WASG will do and can achieve. I seek agreement, but even debate would be something. Press and TV are so hopeless on these things that I have to publish my thoughts in this way. If anyone with a following cares to comment on Face book or some such, that would be great.

3. Choosing WASG

Some readers have suggested it might be difficult to choose WASG, but I see only minor difficulty. Ask a few prominent members of a variety of professions for nominations e.g. Scientists, engineers, architects, politicians (statesmen), entrepreneurs, company executives, historians, diplomatic service, games designers, policemen, military, and so forth, plus head-hunters, journalists and communicators. UN to choose from a short list having regard to needing a variety of specialisation, nationality and age.

4. Growth

There is a global desire for growth which the powerful, and particularly the politicians, the banks and the media, seem to find wholly acceptable, without qualification. But Climate Change and the other threats to the commons are a symptom of this Growth and Consumption. Bad growth, eroding the commons, has to be checked.

The vast majority of people have got used to wanting next year to be better than this. Those with the least wealth want to enjoy some of the privileges enjoyed by those higher up the scale. Political parties seem to place their stress either on lifting the wealth of the poor: or on maximising overall wealth and theorising that trickle-down effect will improve even more the lot of those at the bottom of the pile. Restricting bad growth is likely to reduce growth overall in the short term: that is, until other ways are found to compensate.

There is, I understand, a more fundamental economic need for growth. Growth produces more growth and vice versa, arising from the way the market (capitalism) works. Up to about 500 years ago, world growth came only from increases in population and movement of people to new lands. Any profit was saved for a rainy day. Then bankers found such savings could be lent out for new investment not just once, but about eight times (because banks trusted depositors not all to need their money repaid at the same time because, in turn, depositors trusted their money was safe). As a result, the new investment produced new growth, and continuing trust. In recent years there has been market failure moving us (globally) towards recession and distrust. All this has to be allowed for when we take proper action to protect the commons. This is difficult because the people one might consult on economics are those who created most of the problems we need to solve.

It may be that the high GDP growth rates within Africa, where there is also much of the extreme poverty mentioned again below, makes this continent a particular focus for the early future.

It also seems likely that WASG will find it necessary to recommend early additional changes to our capitalism to ensure robots are a help to mankind.

5. World Groups

Consider a few different kinds of group which I list by way of shorthand:-

Nations

City of London, Wall St, Hong Kong, Shanghai

Europe, Commonwealth, Trade and other state groups

Scientists, Technologists, Arts, Humanities..

Catholics, Protestants, Orthodox, Sunni, Shia, Buddhists, Hindu, Judaism

Poverty, Well off, Seriously Rich

Right wing- Left wing

Health, Wealth, Governance, Human rights, Culture

Education, Gender

Media, Books, newspapers, periodicals, the internet, social media, libraries..

Companies, Banks, Insurance, Pharma, Mining, Energy, Motor .

There are some good things happening here e.g. Nigeria is just about free of polio leaving only Afghanistan and Pakistan affected. The UN is spearheading the attempt to eradicate extreme poverty in the next 15 years.

WASG will be trying to defeat climate change and the other threats to the commons and will necessarily seek cooperation between nations, the top grouping above. Other groupings will help or hinder and some of the details are mentioned in the following sections. WASG will engage with such groups to carry forward an increasingly cooperative endeavour.

I don't wish to include every little thing I think WASG would do. Some readers would applaud some and be completely put off by others. But as some sort of summary, in order to neutralise climate change, WASG would seek agreement of nations to -

A reducing climate cap

A limit in top company pay

A slowly applied but major levy on old money

A ban on large private bank accounts

A major improvement in global governance (and governance in developed and undeveloped nations)

6. Climate Change and Other Threats to the Commons

Mankind has caused carbon dioxide, methane, nitrous oxide and fluorocarbons to be emitted at an increasing rate over the period of the industrial revolution. Carbon is the main problem and over a period of a hundred years or so, carbon absorbed in the atmosphere can be treated as permanent. It is simple physics that this carbon will cause a rise in temperature. The initial rise in temperature will cause effects such as sea temperature rise, cloud formation, humidity changes and so forth. These changes may enhance the initial change (positive feedback) or reduce it (negative feedback). Some effects, such as ice that reflects sunlight being replaced by dark sea which tends to absorb it, are obviously positive: but more generally, it needs complex mathematical models to estimate the effects of greenhouse gases in the atmosphere over years and decades.

The oceans (and earth and vegetation) also absorb greenhouse gases: the seas become more acidic. Oceans absorb or give up heat to the atmosphere all the time, resulting in short term atmospheric variation to be superimposed on the steady heating effect. Ocean acidity and sea level rise are additional problems: as are the increasing likelihood and severity of extreme weather.

These are all complex matters and many books and papers have been written about them. The media, both newspapers and television, have not covered these things at all well, failing to explain what the scientists are saying to people in general, whether technical or non-technical: and failing to provide the debating chamber which would have silenced the sceptics. In terms of their actions, companies and politicians come across as complaisant at best - one could say not knowing or not caring.

The best I can do is to tell the reader why I agree with the scientific consensus formally expressed through the periodical IPCC reports. These are very conservative conclusions from peer reviewed papers at least two or three years old and passed through a final political review. [Readers who find numbers difficult could skip the next paragraphs. Accept that the science is overwhelming and start again with the reasons we have to move fast]. Much the same scientists reported through an International Symposium (the Exeter Conference) in 2005. Asked to say what CO₂ concentration would be dangerous, this conference said it depended how much certainty was needed. The conference examined the link between atmospheric greenhouse gas concentration and the 2C ceiling above pre-industrial level then thought necessary to avoid the most serious effects of global warming. Previously this had been generally accepted as being 550ppmv CO_{2e}, but the conference concluded that stabilising greenhouse gas concentration at just 450 ppmv would only result in a 50% likelihood of limiting global warming to 2C: and it would be necessary to achieve stabilisation below 400 ppmv to give a relatively high certainty of not exceeding 2C. More recent science has shown that the weather, environmental and social impacts for a 1C rise are expected to be as great as those previously assumed for a 2C rise. We will probably reach a 1C rise this year, which is expected to be the hottest ever. It may seem excessive to reject the 2C figure, which is the only thing the whole international community has so far agreed to: but today it does seem to be wrong to me to ask only the simple question - what amount of Carbon emitted will lead to what concentration of CO₂, and thus to what temperature rise? We are so late now in making a proper start that I feel we can adopt the more simple aim of reducing emissions as fast as current generations can stand in terms of sacrificing some available (but bad) growth: and that later, when we will know more, we will almost certainly have also to extract some carbon from the atmosphere and bury it.

These figures are a touch more stringent than are quoted in their book *The Burning Question* (2008) by Mike Burners-Lee and Duncan Clark, which I thoroughly recommend to anyone wanting an easy but authoritative introduction with good references. This book gives 565 GT as the amount we could still emit (measured in CO_{2ve}) and have an 80% chance of remaining within the 2C figure. This is about a quarter of the known reserves which in 2008 we were using at 32GT per year rising 3% per year. Allowing for the temperature rise already in the pipeline (even if we stopped emissions altogether), this emphasises the need for early action. Let me mention a few more of the many reasons for this urgency, if only to rebut those economists who argue that the later you leave action the cheaper it will be.

First there is the fundamental point that it is the total carbon emitted that has to be limited. The amount we emit each year must eventually peak, and the later this peak occurs, the sharper must be the downturn to achieve this limit overall. The Exeter conference mentioned above, said in 2005 that a delay of even 5 years could be significant. If action to reduce emissions was delayed by 20 years, rates of reduction might need to be 3-7 times greater to meet the same target.

Secondly, we can consider whether the science is robust enough to justify expenditure and sacrifice. Although I put it round this way, those who have benefited during recent decades have done so in part through not paying for the pollution they have caused, payment which will mostly fall on succeeding generations. The scientific consensus is overwhelming, and their conclusions have changed little over 20-30 years: they have rather become more certain and have a better understanding of such matters as how ice sheets melt: they have a more realistic estimate of likely sea level rise; and are less immediately concerned about possible tipping points resulting from non-linear changes such as methane arising from melting permafrost.

There are many other reasons why starting late and having to proceed faster will cause much more difficulty. Take, for example our personal decision making. If we cook or heat our houses by coal or oil or gas, we are going to have to change to an electricity which has to be made carbon free. And then there is transport by car, bus, train, ship or aircraft. Something like 40% of emissions in the UK arise from such domestic needs and leisure, typically 10T per person per year, a bit more for the rich and travelled, and a bit less for the poorer or larger families. How do we get this 10T down to 1-2T in 35 years? Unless we have some form of rationing, Government must push us into timely action with some combination of carrot and stick. In the UK there is a small carrot to promote better roof and cavity wall insulation and that's about it (people generally seem rather resistant to the renewables being promoted by ministerial subsidy. And even government stops some renewables because they will spoil the view). One really needs to start early both to be fair; and to be effective, if people are all going to be persuaded to make their own major capital decisions in a timely manner.

[Having mentioned rationing, It is worth taking a quick look at the idea of David Fleming's Traded Energy Quotas - quick because this might be difficult to introduce globally, and it hasn't taken off. However, it does raise an important moral issue. We would each be given a ration, probably issued electronically, and the total collective ration being subject to a reducing cap. Our allowance would be debited each time we paid for household or travel power, and any purchases made after our ration was used up would have to be paid for just as we pay for VAT. Anyone not needing all their ration would be able to sell it at the going market rate. The moral question is the extent to which it is proper that the rich would be able to buy their way out of making their contribution to solving the climate problem, particularly noting that the rich - individuals and nations - have greater responsibility for the problem in the first place. Note also that the market would determine this increasing annual transfer of assets from the rich to the poor. I will come back to rationing in a moment].

Those who are not yet fully convinced of the need for urgent action might study some of the references mentioned below. They may well find the scientists appear to present their views honestly whereas the media seem often to refer to the scientists in a pejorative manner such as, for example, references to global warming fanatics or alarmists. Such journalists often cherry pick their evidence and make simple errors in their arithmetic or science, and never correct them. There has sometimes been confrontation between a scientist and a politician or PR person. Such discussion is rarely helpful in bringing light to any debate and the resulting difficulties scientists have in getting heard was expressed by a prominent oceanographer - the distinction between what we know firmly, as scientists, and what we suspect is happening, is so difficult to maintain in the presence of rhetorical excess. In the long run, our credibility as scientists rests on being very careful of, and protective of, our authority and expertise .

Short list of references for the Doubtful :

Books : Kyoto2 by Oliver Tickell

The Burning Question by Mike burners-Lee and Duncan Clark

Bankrupting Nature by Anders Wijkman and Johan Rockstrom

Internet real climate.com

Skepticalscience.com

Royal society papers of 17 February 2014

7. What WASG will do

Having regard to all that follows, remember WASG will try to adopt a judicial stance in all its dealings: and its members will specifically not represent their own nation. The need for the earliest possible start to provide time for response will permeate all its activities. WASG's recommendations will lead to cultural, political and economic changes of a fundamental nature which need time to take effect. If we get on top of all these things, WASG's recommendations will get increasingly authoritative.

WASG will meet existing organisations concerned with these matters, and will first start to develop its position on climate change. In relation to the existing progress of bottom up solutions under which each nation volunteers the part it is prepared to play to contribute to the overall desire of limiting temperature rise to 2C, it is virtually certain WASG will find these inadequate. The arrangements could be backed by a Treaty, but will, in any case, need ratification by democratic governments. Even if the present opaque arrangements were clarified, they would also need Audit (we could hardly expect each nation had actually done what it had promised without external Audit). WASG could volunteer itself to oversee such Audit.

WASG will thus need to determine a better way forward, either Kyoto2 or similar. I have said that I favour the methods of Kyoto2. Licences would be issued for the extraction of coal, gas and oil at a market price guided by but not determined by governments, thus providing important transparency, and separating climate sticks and carrots from taxation. Measurement of actual extraction against these licences would be needed at only about 2000 locations worldwide, greatly assisting practicality and Audit.

WASG will now have a starting position for the initial carbon cap, its projected progression, a carbon price and the total money expected to be raised (the Climate Fund). It will probably start to build a second fund (a stabilisation fund raised by levy) to deal with the other threats to the commons: and to help fund rapid progress to eradicate potential causes of strife and bring to an end actual warfare and population abuse.

WASG will likely set up its own small groups to help it maintain communications with existing international organisations most notably the IPCC, IPBES, the IMF and World Bank, but many others also. There is also much knowledge in smaller groupings sometimes bilateral.

The Climate Fund raised by WASG, directly or indirectly, will be distributed as described in Plan B. It will be spent to help developing nations pay for their energy (mostly solar), to provide additional investment into R and D for things like extracting and burying carbon, and into agricultural changes needed to feed the increasing world population, whilst also reducing the harmful effects of contaminating our waterways with nitrogen and phosphorous. Agriculture must also move towards being a sink rather than a source for our emissions.

Again, there are enormous changes here that will take time, and which bring us back to the whole question of leadership, governance and those with power and money (and the need to separate these).

Traded Energy Quotas were mentioned above so as to point up the moral question as to whether the rich should be able to use their money to buy their way out of the effects of mitigating or adapting to climate change. This would be quite wrong, both because it would make the reduction of emissions much harder for everyone else, and for WASG: and because it is largely the poor standards of the very rich that have brought us to the present position.

During the 1990's the UK and others deregulated in a number of ways, but actions that followed included some that tended towards lowered standards (actual dishonesty in some cases). We must make sure this never happens again seemed to come up with monotonous regularity, leading to minor regulation, too often of the knee-jerk kind. When it does happen again, we seem also quite regularly to have top company executives saying 'I did not know'. In 1999, my newspaper published the conclusions of the Lawrence Report (stolen from the printer) a few days before it was issued and the Editor later took pride in this scoop for which I thought he should have been punished. I wrote to him then 'I see this as completely at one with the lowering of standards throughout public life today, that is among top people generally. I am not meaning the occasional examples of corruption and sleaze or the odd excesses of the tabloid press (these we expect and have always had), but by the acceptance as the norm by those at the top of our most important and enduring institutions, in both public and

private sectors (and I think with very few exceptions) of standards they just do not seem to realise have become shamefully low. How much more apt these words seem today (29 Sept 2015).

In the UK during the last 15 years, we have seen money scandals in both Houses of Parliament (a gravy train only partly corrected and just as bad in Europe and America). And CEOs of our larger companies have been paying themselves rises of 30% or so in years when lower staff has been lucky to get the odd percent. Collectively, these Chairmen and CEOs, having failed to achieve organic growth, have then presided over risky and failing takeovers, and a long recession: and together have failed to play their part on climate change. One CEO has said he chooses whether to pay taxes, and can always move to Switzerland if Tax Authorities take a stronger line. Is this what we want? Could we end up with a very few rich, with either very high capital or very high income, employing robots? How do we get robots to go on helping in a way that does not amount to short term profit and capitalist failure to achieve a desirable society? We have to restore full accountability by holding to blame those at the top. It is not that we want to punish them: it is rather that we want them to be more efficient so producing a society more even, more honest and, perhaps most important of all, more long term.

WASG would consider making at least three things happen with the aims of making the markets work and redressing the effects of inadequate global institutions and unrecognised low standards. First, WASG would require (induce nations to require) global companies of size to agree to limit the pay of their CEOs to, say, 20 times average (this in such a way as not to interfere with entrepreneurial activity) Those wishing to avoid such regulation would be taxed at a global rate. Secondly, WASG would arrange for the \$30T or so of money in private hands to be drastically reduced by levy. This could only be done over a period of time. Thirdly, all bank accounts above an appropriate level (to allow for reasonable privacy) would be open to WASG and other international institutions. There is no proper reason for existing secret numbered accounts that are mostly there for criminal or other improper reasons.

WASG would also examine and report on the extent that existing organisations met global needs in respect of the other threats to the commons.

There are several medical threats of a truly global nature. Our atmosphere is contaminated by antibiotic resistant bacteria. Thus there is a need to develop new antibiotics, and save some of these up, to be available in the long term. There is also a threat from some larger bugs becoming resistant to insecticides. And the world has to be ready to make an immediate response to viral outbreaks threatening a pandemic. All the money needed is not in place and it needs to be. The recent Ebola outbreak showed one cannot rely on promises of future help in such matters. In much the same way, some global action looks as if it is needed in respect of anti-venom treatment for snake bites.

Bio-diversity comes about as a result of complex systemic interactions on land and sea. The action on climate change will help, but more is likely to be needed, particularly in association with agricultural development as we have to feed additional population. In the chicken and egg situation here, it is raising the standards of the poor that will limit future birth rates.

WASG is now approaching the position to start negotiations with nations. It is difficult to describe the outcome or progress of any individual negotiation, let alone such as these, which would need a very full briefing on the history and interests of the nations and their leaders. There are some general points to stress:-

- a.** WASG has no baggage. It is in a better position than, say, the UK Prime Minister or the President of the USA negotiating with Mr Putin's Russia.
- b.** Looking back, all countries have done things they might wish they had not done or had done better. Every nation has failed to observe human rights on many occasions. WASG will only be looking to the future. Nations need to admit to their failures in a spirit of reconciliation.
- c.** WASG will meet nations separately and, perhaps together. WASG will report to everyone. It will report judicially. It may be wrong in its judgements, but it will be honest. Any nation not trying to reach a proper conclusion will be criticized. WASG's reports will not be anodyne. A great deal will depend on how embarrassed individual nations will be if and when they are openly criticized.

d. WASG will recognise that some things that have been wrongly decided in the past cannot now be corrected completely after what may be several lifetimes of those involved. Other such things must be put right. This will be a judgement and WASG will be able to hear both side of the argument.

e. The most difficult areas are going to be those where tribalism applies, with or without religious connotations. In the longer term a cultural change is needed. Again, one has a shortage of time. Many areas may need an element of forgiveness and reconciliation taking time to produce a stable but essential cultural change.

f. There will be a need for extensive educational programmes of global governance. This will cover global institutions and the governance within nation states.

These matters have not been well dealt with over the last 60 or so years. I am no historian but it does seem to me there is one thread running through world affairs which has been misplaced and which we need to keep always in mind. It started with American pressure on the UK after WW2 to put an end to the British Empire, which was carried through too quickly to leave governance as good as it could have been. The Belgian Congo was rather worse. Then there have been bad assessments, such as the American assessment that the French being driven from Viet-Nam would lead to Chinese domination of the whole of SE Asia, this leading to the Viet Nam war. In the Middle East, the fundamental Arab/Israeli problem has not been pressed forward as a result of internal American politics. This problem is now worse than it was. Wars have been fought in Iraq, Libya and Syria, where previously internal strife has been kept in check by dictators who have been ousted, leaving such unrest that the overall outcome is possibly worse than under a dictator. The US, UK and France have had difficulties with Russia and China when considering action in these areas. Our media represent these differences as the Western nations pursuing their well-meant affairs, whilst the Russians and Chinese are being awkward for one reason or another. But there are things to be said in favour of Russian and Chinese positions: and, in any case we all have to play our parts in seeking the rapprochement needed to produce some stability in the Ukraine and a United Nations approach to Syria. This rapprochement is also vital to success in fighting climate change.

In more general terms, over many decades, a British Empire has given way to an American Empire and now must surely become a global Empire. We must make the UN united and it should provide such temporary control in some places as to allow stability to be built up and restored. Sunni and Shia Moslems may be at the root of division between some countries such as Saudi Arabia and Iran, and within others such as Iraq, Yemen and Syria. The similar problem in Northern Ireland shows that until children are educated in these things and a generation or so passes, we are not going to succeed. Everybody has to push in the same direction with the big problem, climate change, pointing the way.

Prior to discussion with nations, WASG must reach a preliminary decision as to whether a nation can expect any return from the Climate Fund to compensate, for example, for winding up its individual arrangements to allow for the global approach. This has been a great holding point, but usually expressed the other way round - how much the developed world should pay the undeveloped to get on top of climate change (how much the greedy should pay the needy would not be a bad shorthand in respect of climate change, but would not be fair or helpful more generally. Many rich are also very charitable). It does put some focus on the US Congress which exercises global power with only local votes. WASG may well consider pressing for simultaneous elections across the major nations to improve democracy: something Europe has failed to do this last 40 years and suffers greatly as a result.

WASG will start with the 5 permanent members of the UN Security Council - Russia, China, France, UK and USA. These are concerned with international peace and security whereas other groupings, such as the G7,G8 and G20 are concerned with money and trade.

WASG will be fully aware of the need to reach agreement on the way ahead between Western Nations, or NATO, and Russia and China. Without agreement here, we shall not achieve the benefits that have been outlined: nor will we adequately resist climate change.

Starting with China, WASG will probably be able to present its solution to the climate and international problems in a way that it will not be too difficult for China to agree. One would expect such difficulties as South China Sea islands and Taiwan to be able to be resolved having regard to the more important issues being determined. On climate change, China has good individual reasons (atmospheric aerosol pollution etc.) for early action. One would wish for more democracy and better human rights, but these matters are bound to take time to happen, and China would not find it hard to produce examples of UK and US failures of human rights.

Russia appears the big problem. Russia is a major supplier of oil and gas, which are suddenly going to be worth a lot less: and Russia will have difficulty in reducing its own emissions. On top of these matters, Russia has the continuing Ukraine situation and an ambition to remain an international player. Since the break-up of the Soviet federation, Western powers have not been particularly friendly towards Russia, the European border between NATO and Russia moving to the East with the inclusion within NATO of Lithuania, Latvia and Estonia. In the Ukraine, there appears to have been a rough 50/50 division between pro-Russian and pro-Western grouping prior to annexation of the Crimea and the fighting in the East. NATO appeared to acquiesce in the overthrow of the elected pro-Russian government. Sanctions remain in place against Russia. In summary, WASG negotiations with Russia over climate change and other international matters, including Syria and ISIL, and the need for better Russian governance, have been made much more difficult by Western actions during the last few years.

One can similarly argue that American governance is not what it should be for the prime world power. The Executive often lacks the support of Congress. There have been deployments of US power, sometimes with UK, French or NATO support, which have ended in something of a vacuum without a stable government in place. Government in a democracy can be quite difficult.

At the time of writing, Pope Francis is still in the USA having sought action on climate change and other matters. I believe no less a person than the Vice-Chair of the Republicans in the House of Representatives does not believe that humans are contributing to climate change. WASG is likely to have seek some fundamental changes in the American posture.

Turning to just a few of the difficult international problems of the last few decades, we can expect certain of the major powers to assist.

We hope Russia would come to assist in Syria, but with several apparent civil wars in place, it may be that a UN force will be needed on the ground for a long period.

North Korea is a special case like no other. We would expect China to help as a result both of history and the current postures.

Israel/Palestine has been a problem worsening over 50 years or so, mainly influenced by the US position, which has been driven by internal US politics. The judicial view of WASG will sympathise with the Israeli position several decades ago when threatened by surrounding Arab states, but since Israel has defied UN resolution, WASG is likely to seek USA help to force an early two state solution with an eventual accommodation in Jerusalem.

WASG will press for major educational changes to promote an end to periodical conflict between tribes and factional religious groups.

More generally, there is the hope of ending area military groupings. The future should be a judicial United Nations as the only military power, all national forces being restricted to limited internal security or operating together under the UN flag.

For the first time, I personally, who was closely involved with the UK Polaris Weapon System for about a quarter of my working life, can see a way through to getting rid of all nuclear weapons in a few decades time.

Let me finish with a quote:-

It seems to me that the issue of conservation of the natural world is something that can unite humanity, if the people know enough about it, and we can be persuaded to change the way in which we behave - that gross materialism and the search for material wealth are not the only things in life . Sir David Attenborough

My whole object has been to try to tell people enough about it. I say again:

There has never been a greater need for mankind to unite: nor a better opportunity.

30 September 2015

Open Letter to the Prime Minister

Published by Western Morning News 15th August 2016

I write in an open letter because I believe the important matters I raise are best dealt with in the open. I have four particular points to make.

President Ronald Reagan, on several occasions, including in a speech to the UN General Assembly, said "In our obsessions with antagonisms of the moment, we often forget how much unites all the members of humanity. Perhaps we need some outside, universal threat to make us recognise the common bond. I occasionally think how quickly our differences worldwide would vanish if we were facing an alien threat from outside this world".

Although it comes from within rather than as an alien hazard, climate change and other global threats to the commons exert such a unifying pressure: but the evidence is that your predecessors and the other permanent members of the UN Security Council have been, and remain, willing to risk future generations being saddled with climate problems exceeding man's capability to resolve. Without doubt, some of the foreseeable difficulties can much more easily be dealt with now (by reducing emissions, including of the super pollutants, which must otherwise be compensated for later by the costly process of sucking CO₂ from the air and burying it).

These countries need to take the lead and will not do so until you all realise that climate change is more important (and more urgent) than all your other problems and 'antagonisms of the moment'.

It follows that you personally, and this applies equally to the leaders of France, China, Russia and the USA, must always have in mind in all your dealings the imperative need to build bridges with each other. This is the first particular point.

However, taking account of a potential adversary's point of view when you actually think he or she is acting selfishly, inappropriately (or perhaps is just trying it on), is obviously very difficult. So you (all) will need a catalyst, a judicial coordinator to help.

WASG (World Auditors of Sustainable Growth) is that catalyst. This is the second point. WASG's rolling annual Audit would report annually to the UN and the world. Any nation whose present actions and outlook threatened the future would become open to WASG criticism now. Mr Ban Ki-moon will not act without a request from yourself and other national leaders. Please get your closest advisors to study my reports at wasg.co.uk

WASG, which I should perhaps emphasise, is not a Western but a global entity, will not only guide the way to effective action on the Climate problems, but will solve, or at least help with most of your other problems which you understandably but wrongly find more urgent. As President Reagan stated, our differences could quickly vanish. If this all seems utopian, consider how much further we have to go in eliminating differences to get proper climate and capitalist action started: and once started, cooperation will continue as a result. This is my third point.

We are looking for better governance, which is even more important in the developed world than in the developing. When we stop money buying power we will achieve a better balance (over years and decades) between rich and poor, within and between nations.

Action (more often, lack of actions) on these matters has come from a status of denial, among both leaders and led, and among politicians, companies, academia and the media. Those who should have known better have referred to the Brexit decision on which we have now voted as the most important for generations past and to come: but Brexit is hardly in the same league as climate change which is a threat to our very civilization and/or could cause the sixth extinction of species. We now desperately need WASG, which you could help set up quite easily: but you could do without being diverted to Brexit as well.

It would be good if you felt Brexit could properly be put off for several years and that this would accord with our democratic tradition of the executive acting through Parliament. This my fourth point.

Letter Published by Western Morning News 19th February 2019

Late in the 90s I became critical of most groups of top people. When a major newspaper published the conclusions of an important Report, stolen from the printers, just days before publication, I felt a wrong had been done. When the Editor later claimed this was a great scoop I wrote to complain. I said "I see this as completely at one with the lowering of standards throughout public life today -----by -----the acceptance as the norm by those at the top of our most important and enduring institutions, in both public and private sectors (and I think with very few exceptions), of standards they just do not seem to realise have become shamefully low".

Since then there have been some obvious major failures: plus the expressions "we must make sure this never happens again" and "I did not know" occurring far too often. Today, it seems to me, action on Climate Change (using this term as shorthand to cover, besides global warming, the many other ways also in which mankind is damaging the living environment) has never been debated to a proper conclusion and so action falls far short of the urgency needed. Those with power (nations, the media and big business) still have the low standards. They need a big push so that governments are made to put out the sticks and carrots that will guide the rest of us.

It is pleasing that the Western Morning News is getting ahead of the media generally. Last week (16 Feb) Keith Rossiter summarised the world environmental problems: and yesterday (18th) he suggested that politicians should rise from their Brexit slumber and legislate. Also on 16th you had an editorial on Climate. As you say Britain is often doing her bit with our own emissions: and you add that we can and have taken the lead with the global aspects, but I worry that you appear to accept that we are not taking the lead now – so that no one is. Listen to Myles Allen, lead author of the IPCC 1.5C Summary for Policymakers¹ at Oxford Martin. The media have made nothing of the fact that this is the first time the three elements - the science, the impacts and the economics of the IPCC have operated together.

We and the Americans have been central on climate matters, which can and must have a unifying effect on world powers. You published my open letter to the Prime Minister on 15 August 2016. One point I made then was the need for the members of the Security Council to build bridges with each other. In practice, we have all moved appreciably further apart. We, the UK, appear to want to preserve all the enmities of the past and are quite unnecessarily aggressive.

I have proposed WASG, a small group performing an annual rolling Audit reporting worldwide. WASG would be the catalyst promoting changes in our approach and helping to build the bridges. This is not just the technical matter of reducing emissions to net zero by about mid-century. There are three or four matters needing action which can only be taken by heads of government.

If WASG were reporting this year with nations still working on the "bottom-up" process, it would likely indicate we were not achieving 2C let alone 1.5C. It would exemplify what might be achieved by more ambitious targets: and outline what massive cultural changes would be involved. To take just one telling example, it seems inevitable we would have to take effective action to cut back on flying, at least deterring flying for tourism only and for business club class. How difficult will it be to get national peoples and leaders to agree such cultural changes that they have so far strongly resisted? Any excessive emissions now will have to be balanced by negative emissions from our children, costly in terms of money and land use. Is this democratic? I don't think so.

In today's world, democracy and human rights are also much affected by the rich/poor divide. WASG will likely make recommendations reducing top pay to, say, 20 times average and the world might move towards universal income as a human right. Readers doubtful of this might study Rutger Bregman's Utopia for Realists containing much evidence on human behaviour that is counter-intuitive.

During the last three decades there have been failures of communism and of the market. We have to redefine capitalism so that it works.

World leaders will also have to pay much more attention to building bridges. WASG, starting with no baggage, will act as the catalyst. Nations will have to alter their Foreign Policies.

These four things – Democracy, Capitalism, Foreign Policy and the Rich/poor divide constitute the world problem today and require the urgent and full time attention .of national leaders.

Added to which, if we (the UK now) are to leave Europe, this is a terrible time to do it.

The Prime Minister should postpone Brexit which is a dangerous diversion from the really urgent things that really matter as I have described. And get the UN to take on WASG. And get the US to change its mantra on climate and pursue its relations with Russia. She had much better listen to Greta Thunberg than the likes of Boris Johnson or Liam Fox.

Ian McLellan

More on the Case for WASG (World Auditors of Sustainable Growth)

1 Introduction

I used to be a systems engineer with some knowledge of the disciplines and techniques needed to coordinate the activities of large groups of clever people (many much cleverer than myself, but often less experienced). In retirement, I formed the view that these characteristics could be much more widely used, including many instances where there was no physical end product.

I became aware of climate change only in 2005, and quickly reached the view that it was a major threat being inadequately countered. I wrote to a number of Editors, Politicians and Scientists, and was (and am still) impressed that it was only those to the Scientists (arguably the most senior in the UK) that gave rise to replies. I have found time and again that editors and politicians just don't want to know.

Since 2012, when I presented a paper to a small group (Our Legacy in the Age of Man), I have tried to keep up with the basic science of global warming and with other global threats such as the decline of species; ocean and fresh water effects, and the development of dangerous bugs, especially bacteria resistant to antibiotics: but my own work has been to examine what organisational change may be needed to improve the global response. I believe I can show the world needs an additional group that should be kept small: and that WASG has some major advantages over alternatives.

The first paper above "Plan B to Save the World for our Children" is a revision, mostly written in 2012, of my presentation. I deliberately avoid updating it every time some new information comes out. My solution is for the long term and will hardly be good if the arguments don't continue to stand up to the inevitable new evidence arising with the passage of time.

Paper A, with the next paper B - WASG, includes some indication of what I think WASG will do: but my own thinking is needed only to get WASG set up: I have tried to show how persuasive WASG could be and so how much it could achieve. I add a little more now to reinforce the case. My open letter to the Prime Minister (at C) observed the unifying pressure that climate change could create and the help WASG could bring to building bridges between the permanent members of the UN Security Council, who should have this need at the front of their minds at all times. (In practice these nations have built barriers not bridges during recent years: and the UK needs to change its attitude just as much as the others – indeed if the UK is to take the lead, the UK should move first).

My route to the Secretary General of the UN is preferably via the UK Prime Minister: so I tend to restrict myself to the UK when commenting on cultural matters. My further letter (at D) emphasised the need for the UK to take a lead in climate matters, which are vastly more important than Brexit. The actions needed to combat the UK's own emissions include changes to almost all our buildings and transport as well as changes to our individual behaviour, which must be driven by governmental sticks and carrots. Much of this cultural provision will not be popular which brings into focus how we maintain democracy in today's world of populist right wing national rebellion.

2 Background

The world is in improperly recognised climate crisis. Humanity is outgrowing our planet. GDP, a measure that has existed for only about 100 years, includes all activities that are bought and sold. It has no regard for value. Activities performed for free, such as family cooking, child rearing or care for the infirm in the home are not a part of GDP. Costed activities are included even if they are undesirable eg clearing up after a natural catastrophe such

as a tsunami or drought: or dealing with criminal activity. Yet GDPs in the major countries of the world are quoted in the media daily, a plus being regarded as good. The market (capitalism) is pretty much a disaster. It seems to be a means of making the rich richer and not much else. The problem with the seriously rich is not only that they are rich, but that their collective standards are so appallingly low.

The unqualified pressure for growth and consumption has symptoms. These are climate change and the other attacks on the commons: and the grossly inequitable division of wealth both within and between nations. In what follows, I try to tackle these symptoms, and any other global symptoms that may arise in coming decades: but I mainly seek the organisational change that limits world growth and consumption to what is sustainable. The target of the Climate Convention has been amended to aim for temperature growth of well below 2C and, if possible, to 1.5C. It should be no surprise if action to achieve this causes world GDP as currently measured to drop to zero. The hopes of voters will be disappointed, but the evidence is that that it is relative performance that influences people's feelings, and many will be relatively better off.

3 Sceptics and Denial – Logic and Psychology.

May I start with those who are so sceptical as to be "in denial". These included the BBC until quite recently, when I understand they ceased what I thought their outrageous policy requiring any comment on climate change be balanced by a sceptical view. Those in denial are not going to be converted by expert argumentative logic, but I invite them to consider whether, for the sake of future generations, they are prepared to take the risk they may be wrong. They may like also to consider that getting the science over to a sceptic is not always easy. A well known Oceanographer observed "The distinction between what we know firmly, as scientists, and what we expect is happening, is so difficult to maintain in the presence of rhetorical excess". Rhetoric is all very well in urging action, but is out of place when argument needs logic. So often, it is used by people lacking evidence and whom I think are plain wrong.

Probably a half or more of all people have some scepticism. My regional newspaper has had letters from several people suggesting most of our warming could be the result of natural forcing. Such writers don't appear to realise their suggestion implies that climate scientists must be totally slipshod: nor that, if it were so, reducing our emissions would not necessarily compensate. Luckily, natural forcing at this time seems to be close to zero.

There are psychological reasons suggesting sceptics become bored or fatigued by repetition: certainly Editors of newspapers and television/radio exercise their power to ignore. I suggest sceptics should subscribe (at no cost) to a good media outlet, such as Carbon Brief, whose coverage is wide and references to other sources in the UK and abroad made available at the click of a mouse. They may well come to the view that if scientists make a mistake, it is a genuine error, whereas leading sceptics are less transparent.

I have been aware for many years of two ways in which top people's approach to a range of problems is often inadequate, but have failed to get either view published by our blinkered media. On 30 January 2002 I wrote to the Telegraph to praise Sir Harry Kroto's plea for top people to have greater appreciation of science and technology: and especially for him saying that the problem was at its worst when lack of appreciation of technical matters failed to cause any shame among otherwise intellectually cultivated leaders. I found this often led to slow progress with important issues, mentioning the Health Service, the railways, law and order and Europe. Elsewhere I had asked why prisons were filled with the wrong people (often illiterate or with mental problems): and I offered praise for an article giving one school's success with their alternative to expulsion and exclusion, which otherwise caused as many problems as they solved. I think it very important that this lack of shame be corrected. So many problems would benefit from a more systematic approach. Those I mention above are all still problems waiting for someone to make a proper start on them.

(This is so important, I'll risk saying it once more. People at the bottom may be illiterate or innumerate, and probably regret it. Those at the top who lack technical appreciation but feel no shame are a disaster, not to themselves, but to everybody else).

The second point came from Mr John Gray giving his "Point of View" one Sunday morning on BBC Radio 4. He complained action in one area was often proposed on the assumption that all the surrounding area stayed exactly

the same. Climate change, either through major mitigation, or otherwise through resulting need for major adaptation, will have enormous effect during coming years: Are we in the UK taking proper account of this? I don't think so.

This may be a good moment to mention a point made by historian Noel Harari in *Homo Deus*. No one can foretell the future, but if several possible ways forward are identified, it may be possible for us to help progress towards those felt to be desirable and prevent all the others. You need to be much better organised than we appear to be to guide our progress in this way.

4 Alternatives to WASG

WASG's aim is a bit more specific: to audit the future on the basis of existing agreements and to suggest/justify/audit such other arrangements as may more nearly meet international aims. The requirement for Audit puts down a strong marker that the balances (between fear and hope: between rich and poor: between this generation and the next: between developed and undeveloped) : these balances are to be the truth with judgement – not just opinion. WASG will be aware of all the thoughts mentioned in Paper B. It will be aware that succeeding rolling annual Audits need to be close to a steady progression if world peoples and the powerful, are to be persuaded that any early sacrifice is followed by rising hope.

It would be possible for the Climate Convention to produce a similar periodical report in plain language, but the fact it has not done so, and that it is currently operating on a national bottom-up basis, suggests potential well below expectations of WASG.

A more hopeful idea comes from a Mr Paddy Shannon in a letter in the *New Scientist*. He suggests a magazine, an impartial media outlet, could bring people together, educate and improve response in much the same way as I promote WASG. WASG would be ahead largely because it has to get the major nations to support WASG being brought into existence on the basis current national postures. I am all for Mr Shannon's idea. So much money is badly employed in today's world: this could only do good: inter alia, it could publicise the logic (or otherwise) behind growing numbers of movements and legal challenges. To the extent that it had any difficulty in engaging with the powerful at the top of nations it could help WASG come into being.

5 1.5C Target

Nations agreed at the Paris Conference in 2015 to try to limit global temperature rise to well below 2C, and if possible to 1.5C. The IPCC agreed to examine the impact of global warming of 1.5C above pre-industrial level and related gas emission pathways in the context of strengthening global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

The IPCC Report was accepted in South Korea on 6 October 2018. The report indicated some major advantage in achieving 1.5C rather than 2C (notably regarding coral, all of which would be destroyed above 2C): and that although very challenging, it could be done. Most of the additional cost would be incurred getting from where we are now (3C plus so far as I am aware) to 2C. In early October there were many headlines and summaries in the ordinary media, not a few of them being somewhat misleading in an optimistic way (making the decade just starting sound easily doable rather than extremely difficult and urgent): then, after a week, almost nothing. I find politicians and the media quite appalling yet again regarding these long term matters. Is it not very evident something is missing? Is there not a single member of the House of Commons thinking Brexit must stop slowing action on Climate. WASG is needed.

6 Capitalism (the markets), Democracy, Foreign Policy and the Rich/poor Divide Morality and Human Rights

Let me start this with a story that I have felt could help guide the young towards leading a good life. A Major General named Robertson joined the Army as a boy soldier aged 16, and when he attained Field Rank he was invited to present the prizes at a boys' school. He said (and this is his whole speech) – Boys, “Speak the truth always – Think of others – And don't dawdle”.

This takes me straight to (technical) Audit which measures the truth about the activities of others. WASG seems to me now to be needed more by my generation so as to guide, nudge or drive them into much overdue action. The headings above set the desired long term agenda for world national leaders and are starting to be the subject matter of many books. I shall just try to set down the important points I have at this stage: they give us hope for the future, provided, that is, we act now and vigorously

WASG activities are summarised at some length in Papers A and B. If brought into being now, they would quickly contact existing groups, but also set up some support and liaison of their own: tomorrow's programmes will need something more than yesterday's institutions.

WASG will likely set up a group with one representative for each large nation, smaller nations grouping together to keep numbers down. It will establish liaison with the IPCC on the science, impacts and economics of climate change. It will get in touch with the Central Banks regarding the development of Capitalism that adds value to the lives of people worldwide.

Probably the most important of all, it will form groups to begin building bridges between the permanent members of the Security Council (maybe also the larger G20 nations). All this is global: but as I write from the UK who should be my route to the UN, may I add that my expectations of promise would be greater from contact with Russia and China than from very backward governments in America and UK.

The effects of the 1C rise in temperature (above pre industrial) are beginning to be noticed: and among the balances WASG and nations will have to deal with are those between developed and developing nations. It is mostly the developed countries that have brought us to the present position, America being the largest contributor. USA's cumulative emissions are almost twice those of China and UK's (cumulatively) about a third of China's, because we started first. It is clear we (the UK) have a moral responsibility to initiate action – to lead, (as, of course, does America). This moral imperative is very much the greater because our inaction passes on to future generations problems which may be beyond their ability to solve.

This brings us to a whole lot of problems of Democracy in today's highly technical world. First, there is our duty to help with this global problem which we started (although unknowingly) about 250 years ago: but what if voters don't see it as their duty to help those affected a great distance away? Then there is our failure to protect the next generations who will be passed problems that may prove catastrophic (and can certainly be more easily solved by us now by just cutting out some of our consumption). Then there are those separated by both time and distance (possible future immigrants) who are much affected by today's voters but have no vote themselves. Are our voters given a relevant choice? In the UK we have recently had a referendum. Referendums are very different to elections partly because referendum results tend to be regarded as semi-permanent. This is allowed for in the rules for referenda published by the Venice Commission. The two sides were and are very opposed. One side disregarded the Venice rules and the other told lies. The result has been to divert UK Government from the much more important matter of climate change so as to deal with Brexit, a passionate matter for some, but petty in global terms.

Another problem with Democracy is reported this very day (TED April 22 2019). Facebook is accused of targetting swing voters in the referendum mentioned above with false information (on Turkish immigration and EU expenditure). This a major matter, fake news being directed in ways that cannot always be traced. I rather expect WASG would demand to Audit Facebook and the other social media.

Nothing whatsoever connected with the referendum impresses me as democratic

We may well find in time, we need to ensure that when we are lucky enough to have arrangements that have already been agreed, that we use them.

The subjects listed at the top of this Chapter 6 are discussed in many recent books and the little story in the first paragraph could form the basis of many sermons: but I have no desire to even try to preach. I've said almost all I need to on Capitalism, Democracy and Foreign Policy. Nor do I wish to define what early effect WASG might have on the inequitable distribution of wealth within or between nations: WASG will have to make allowance for how these things progress over time.

I do wish to add a little more on how the world might change over several decades or so. Please read this in the spirit that if possible futures are identified, we may be able to influence progress in favour of what we find desirable. Mr Harari has also said that we have no viable plan for running the world as a whole. But the whole purpose of WASG is to deal with the downside: and push, nudge or drive the whole world into a hopeful plan for the future. I know just how difficult it is to do things to a tight timescale even when all the technicalities are well known and a good organisation has been set up bring everyone together. We start from a more difficult position and cannot afford all this delay.

A hundred years ago, those looking ahead to today's date were wondering what we were going to do with all our spare time. Yet now, many are working harder than ever. There is little actual unemployment and in UK immigrants are needed among both skilled and unskilled categories. So what gives?

I just want to make a very few points before going on to say how nations, possibly helped by WASG, could progress over decades: and might reach what I think would become a desirable stable state. These thoughts won't concern WASG in early years, so there is nothing to be gained by examining them in detail now.

I have already shown in Papers A and B that top incomes will be held to about 20% above median: and that a slowly applied levy will be applied to the capital of the very rich.

There are two points to emphasise about the vast numbers in paid employment. Many of them say they are not happy in their work either because they are asked to do too much or are underpaid. Another large group say their work is unnecessary so no one would be harmed if they just stopped.

At the bottom of the scale there are all those earning about the minimum wage, or are unemployed and in debt. Many of these will attract the attention of the authorities, particularly if they also have responsibility for children in poverty. They are expensive because they have usually been thought to need education, advice and support: and also monitoring to prevent them spending what little they have on undesirable consumables like tobacco, alcohol and drugs. But there is a great deal of evidence that that such worries are misplaced: if the very poor are given money it is virtually always well spent. It is cheaper by far to give cash to those who need it.

Following this line of thinking leads (in the longer term) to the idea of introducing universal basic income as a human right (Article 25 probably wouldn't even need changing). Such income would be sufficient to live on. No one would have to work. Income from work would be an extra. The relative income of those providing long term societal value, such as teachers, carers and nurses, would likely be a good deal better than it is today.

Let me finish by coming back to climate change. Failure here could cause war as many books have suggested. But proper action attracting the undivided attention of heads of government will start a unifying effect. All nations will have to make changes, particularly accepting materialism is not the only way to live. WASG will guide those changes. The UK and USA must get their act together.