

Ecotopia:

A sustainable vision
for a better future

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115 - Dr Alice Moncaster, Lecturer in Interdisciplinary Design for the Built Environment, and the Centre for Sustainable Development, both part of the Department of Engineering at the University of Cambridge, and Fellow of Newnham College (UK).

121 - Professor Mugendi K. M'Rithaa, President of the World Design Organization (formerly Icsid) and Professor of Industrial Design at the Cape Peninsula University of Technology (South Africa).

129 - Tim Parsons & Jessica Charlesworth, Lecturers at the Department of Architecture, Interior Architecture and Designed Objects at the School of the Art Institute of Chicago and co-founders of the Parsons & Charlesworth speculative design studio (objects, exhibits, texts & images), Chicago (USA).

135 - Jane Penty, Lecturer in Product, Ceramic and Industrial Design and Sustainability Coordinator at Central Saint Martins, University of the Arts London (UK).

147 - Dr Rupert Read, Reader in Philosophy at the University of East Anglia (UK), and Chair of the Green House think tank.

153 - Stephanie Ristig-Bressers, New Economy expert, Economy for the Common Good (Germany).

159 - Dr. Fátima Vieira, University of Porto, Coordinator of the research project ALIMENTOPIA / Utopian Foodways; Coordinator of the outreach project PAN Utopia 2100: Fighting Food Waste; Director of the electronic periodicals E-topia and Spaces of Utopia; Book Review Editor of Utopian Studies (published by Penn State); Director of the book series Biblioteca das Utopias (published by Afrontamento); former Chair of the Utopian Studies Society / Europe (Jul. 2006 - Jul. 2016).

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Introduction

Ecotopia is both a physical and virtual concept across multiple platforms exploring the appeal of utopian thinking in envisaging a sustainable and better future for our planet and society. It introduces the sustainable visions of experts in science, philosophy, politics, design, architecture, and those communities building transitional villages to a wider audience. It brings together the work of illustrators, designers and thinkers working collaboratively in response to these visions, giving us an insight as to what Ecotopia might look like. The concept includes this publication and a multi-sensory installation, using sight, sound and touch. It is supported, and enhanced, by its own website (www.ecotopia2016.org), and its integration within social media (e.g. Twitter (@Ecotopia2016), Instagram (www.instagram.com/ecotopialdn2016) and Facebook to encourage audience participation.

The quincentenary of the publication of Sir Thomas More's novel, *Utopia*, gives us an opportunity to discuss how we perceive our future and how we might change it. In *Utopia*, More described a journey to an imaginary island state where everything was perfect. It was a pioneering quest for an ideal society that would come to be denounced in later years as wishful thinking, and even dangerous, and only pursued by lunatics and idle dreamers. It is true that there are dangers in utopian thinking, but there are much greater dangers in its absence. Ecotopia holds that in our uncertain times, we need a bold and compelling vision of a better future. Now is the time to reclaim utopian thinking as a critical means of interrogating the current state of affairs and offer alternative visions.

Ecotopia thinks that climate change is the most urgent issue we as human beings must tackle to ensure our survival, as it is being accelerated and exacerbated by human activity. Our current obsession with the need for "stuff," is the cause of much of the damage done to our planet. We have been made to believe that we must constantly consume new things and upgrade to the latest model to keep the economy growing, and in order to attain the good life. This insidious fetishising of economic growth and progress does not take into consideration the depletion of our planet and the huge amount of waste generated.

Since the mid-eighteenth century, more of the natural world has been destroyed than in all previous human history. In the last fifty years alone, we have stripped our planet of a quarter of its topsoil and a third of its forests. A third of all our planet's resources have been consumed in the last forty years. We are living under the illusion that perpetual material growth

is possible using our planet's finite resources, but the reality is our plundering of our planet's atmosphere, oceans, wildlife, and even geology, has created what scientists have dubbed the Anthropocene, ("new human") epoch. This recently proposed new era relates to our present geological age, viewed as the period during which human activities have been the dominant force on climate (change), and the environment.

The emergence of a contemporary sustainable conscience is associated with Rachel Carson's seminal book, *Silent Spring*, published in 1962. The work of Howard Odum, particularly, *Environment, Power and Society* (1971), pioneered notions of ecological engineering, ecological economics and environmental accounting. Another book that had a considerable impact on our present understanding of sustainability and green politics was the book entitled, *Limits to Growth* (1972), by Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens. The book argued that if the levels of natural resources consumption at the time (amongst other criteria such as population growth) persisted, it would eventually lead to the collapse of our economic and ecological systems.

Ernest Callenbach's novel, *Ecotopia*, published in 1975, was the starting point for this project. It is one of the most recent ecological Utopian novels, which calls on people to change their worldview and adopt a new mindset, placing sustainability and saving our planet at the core of society, and our values and actions, in order to imagine a new life beyond unbridled consumption and growth. In *Ecotopia*, Callenbach writes, "*But what matters most is the aspiration to live in balance with nature, to walk lightly on the land, to treat the earth as a mother. It is no surprise that to such a morality most industrial processes, work schedules, and products are suspect.*"

Although today's understanding of sustainability can be traced to the second half of the twentieth century, historically these ways of thinking about the environment and social life, and its impact on nature, can be traced much further back. Callenbach's, *Ecotopia*, is part of a tradition of Ecological Utopian Literature spanning over five centuries that include books by Henry David Thoreau, Peter Kropotkin, William Morris, Ebenezer Howard, B. F. Skinner, Aldous Huxley, and Murray Bookchin. These ecologically attuned works were described by Marius de Geus, a political scientist at the University of Leiden in The Netherlands, as "utopias of sufficiency", that is, they are societies whose goal is the satisfaction of moderate human needs through balanced and equitable social and ecological relations. What these societies

have in common are meaningful communities with a common sense of purpose, coupled with sufficiency of goods, rewarding work and joy and leisure in harmony with ecological cycles.

The role of art and design in promoting a more sustainable lifestyle can be traced through the Romanticism and anarchism of the nineteenth century, to notions of the sublime and the conservation of nature first propounded by Edmund Burke in the eighteenth century. The work of William Morris, most notably his propaganda novel, *News from Nowhere* (1890), bears the hallmarks of some of today's ideals of sustainability and design for sustainability, and foreshadows the ideologies of Carson and others. In *News from Nowhere*, Morris depicts an England transformed by an imaginary revolution that has taken place in 1952. Previous structures of society have been overthrown, and England has become a place of communistic freedom and genuine equality between men, women and children. There is no private property, no money, and no divorce courts as laws of sexual ownership have been overthrown. Schools, prisons and central governments are obsolete. The work of Morris would pave the way for other pioneers in design for sustainability, not least Ebenezer Howard and his garden cities of Tomorrow.

Ecotopia has been further informed by the work of pioneering and ground-breaking individuals such as Packard (1960), Fuller (1968), Papanek (1971), and Schumacher (1973) amongst many others. Buckminster Fuller, a renowned 20th century American maverick inventor and visionary, dedicated his life to "make the world work for 100% of humanity in the shortest possible time through spontaneous cooperation without ecological offense or the disadvantage of anyone." His concept of synergy, that is the "behavior of whole systems unpredicted by the behavior of their parts taken separately" was at the core of his pioneering concept of 'comprehensive anticipatory design science'. Victor Papanek was a Viennese architect, industrial designer and educator influenced by Fuller. Papanek came to the widest public attention in 1972 with the publication of his seminal book entitled *Design for the Real World*, making to measure. He advocated what is today understood as Social Design, with a particular focus on developing countries, the environment, real needs, and the elderly. Papanek's message was underpinned by a collaborative, multi-disciplinary methodology based on awareness, understanding, and empathy. It was a vision of designers as catalysts for social change. André Gorz's book *Capitalism, Socialism, Ecology* (1994), has also provided a renewed interest in utopian socialism as a solution for the green imperative.

Following in the footsteps of these Ecological Utopias, the present project sets out to usher in a new economy of altruism, of free availability, of mutual giving, of co-creation, of collaboration, public interest, and the greater good of society and our planet. The challenge facing us today is to develop a shared vision that is both desirable for the vast majority of society, and, ecologically sustainable for future generations.

The Ecotopia project is a contribution to the broad discussion on what this shared vision might be. Rather than merely speculating, it showcases the visions of scientists, academics, philosophers, designers and architects who are currently looking at climate change and sustainable solutions. Each contributing expert was asked a set of ten questions, which defined the scope of this enquiry. The questions also helped to inform the outcome of this project. Ultimately, this project aims to establish an envisioning process based on expert knowledge. It does not profess to provide solutions to the many challenges facing us today, as these would require a more in-depth level of research to do the subject the justice it deserves. It does, however, provide snapshots of contemporary thinking and what a better, more equitable and sustainable world could be like.

We are witnessing a shift towards more flexible, entrepreneurial and collaborative work approaches. It is an era marked by co-creating and the sharing of skills and knowledge. This self-initiated project was born in this new collaborative spirit, a get together of like-minded, creative individuals from diverse fields wanting to collaborate and explore the possibilities of future ecologically sustainable societies. The emphasis of Ecotopia is on co-creation and the power and agency of visual communication to represent these visions and concepts to a broad audience. The members of the Ecotopia team demonstrate an impressive range of achievements and skill sets. Together we have created playful concepts across a range of disciplines and processes, including, critical thinking, writing, graphic design, typography, drawing, printmaking, collage, digital image making and three-dimensional installation. The Ecotopia team members worked collaboratively in a process of co-creation and idea sharing. Notions of individual authorship have been avoided in favour of a more fluid, and open, collaborative process. Ideas, sketches, drawings, images were part of a common source of material to create the different elements of this project.

We sought out experts currently working in various fields within sustainability, and who represent different geographies and

worldviews. The criterion for the selection of contributing experts was to invite a wide representation of opinions, with the aim to achieve a cross-fertilisation of ideas spanning different continents, expertise, and approaches. The experts who contributed to the realisation of this project are the ones who were available and willing to participate.

This process went through several stages and theoretical viewpoints, which to some extent, has helped crystallise and organise a particular theoretical position, and way of thinking about sustainability. During this process, a partnership was established with Green House, a think-tank with the aim of leading the development of green thinking in the UK. Green House helped us write some of the questions which we asked the contributing experts, and which in turn provided a theoretical framework for this project. Questions one to four are more abstract, prompting reactions and a clarification of theoretical positions and viewpoints. Questions five to ten are more concrete and operational as they look at the role of the state, the level of intervention (local or central – for instance, the level of intervention within societies), and provide a synthesis of how different concrete themes such as renewable energy, politics or sustainable architecture could be explored in tandem.

In total twenty-one experts from three continents, Africa, America and Europe, whose fields include eco-philosophy, social sciences, sustainable development, green economics, sustainable materials, building science and sustainable product design, and those building and creating transitional villages and communities contributed to this project. Our experts are: Paul Allen, Monika Alleweldt, Dr Mara-Daria Cojocaru, Professor Douglas Crawford-Brown, Lonny Grafman, Habitable Spaces, Dr John Harlow, Dr Jason Hickel, Professor Giorgos Kallis, Professor Ted Kesik, Dr Jacquetta Lee, Karin Malmgren, Dr. Alan Marshall, Dr Alice Moncaster, Professor Mugendi K. M'Rithaa, Tim Parsons & Jessica Charlesworth, Jane Penty, Dr Rupert Read, Stephanie Ristig-Bressers, and Dr. Fátima Vieira.

The final visual works that accompany this publication are an interpretation of these experts' visions of what an Ecotopia might be like. They have been organized and curated according to ten recurring themes which are, utopian thinking, process, localization, community, renewable energy, sustainable transportation, upcycling, sustainable architecture, doing-it-together, and seeing ourselves as being part of the earth. A quote selected from our expert's answers was selected to accompany each image,

thus adding more context and intellectual grounding. By creating these themes, and by grouping them together in this way, we are providing cognitive and visual tools to think about a possible realisation of a sustainable society. It also introduces a collection of ideas, future directions, and resources for later scholarly investigation.

The themes, as outlined by our contributors, are perhaps best understood as follows:

1. Utopian thinking is vision and ambition for a better future. Without these faculties, a better future is unimaginable, and therefore unattainable. It is a pragmatic and creative endeavour that encourages risks for effective social change. It requires us to address the current climate and to formulate strategies towards realising utopian thinking in tangible outcomes relating to the given context.

2. Process is the means by which we continuously, and progressively, adapt current systems/structures to meet current and future needs, while keeping those processes in harmony with ecological systems. It demands collaboration, stakeholder engagement, innovation in governance, rigorous experimentation, systemic thinking and serious consideration of uncertainty.

3. Localisation is the establishment of strong local communities that are governed by themselves, and which draw, primarily, from locally sourced resources. For localisation to work it requires communities to be inclusive and to embrace difference and otherness in order to avoid xenophobia and discrimination.

4. Community is central to Ecotopia. It requires pride and participation in one's local community for Ecotopia to be a concrete reality, and for it to be a sustainable vision. The notion of "Commons", in which there is no private property, is a key concept within community. The commons are governed collectively by the community, which in turn are part of a wider global community concerned with protecting global commons.

5. Renewable energies are vital within the realization of Ecotopia. Their use and the physical processes used, for example, solar/photovoltaic, hydro, geothermal, wind and ocean wave sources, would be governed in accordance with the needs and capacity of a given region. Energy would be created locally and would not stem from a centralized energy grid system.

6. Sustainable architecture is the production of domiciles that are specific to a given region. It is an architecture which is suited to the needs of its inhabitants. It would be constructed, primarily, using locally sourced resources and celebrated by its inhabitants as the work of local craftsmanship.

7. Doing-it-together is the encouragement of knowledge sharing within communities. It contributes to the building of local communities, both in their physical construction, and in the development of their social fabric. This ensures the sustainability of Ecotopia for future generations.

8. Seeing ourselves as being part of the earth dictates that communities should reach an understanding of togetherness in order for there to be a sustainable future. It requires an abandonment of individualism, so common in western societies, in order to ensure the longevity of Ecotopia. Moreover, being part of the earth is inherently associated with deep ecology which regards human beings as just one of many equal elements of a global ecosystem.

9. Upcycle is a mode of thinking which calls for the continued use of existing buildings and tools in our societies today, but their continual modification into things which are better suited to the needs of their users at a given time. It is based on re-use, re-cycle, re-adapt, and adhocism.

10. Sustainable transportation proposes there is no need for significant infrastructural transport systems. Local communities would be connected via light railways, walk and cycle paths. In short, it is based on sustainable transit-oriented development.

It is perhaps worthy of mention that the most prevalent theme to emerge within our contributors' answers was the end of capitalism, however, this has not been included due to its more abstract nature, and the challenges presented in its visual representation. The problem with global capitalism, as we know it today, is that it promotes a singular worldview, one that is based on individualism, competition, consumerism, growth, corporatization and urbanisation. Several of our contributors pointed to an alternative model based on prosperity without growth, and meeting real needs, whilst respecting the environment and our planet's own capacity to self-regenerate.

This anti-capitalist stance is part of a wider emerging sustainable conscience manifested in the post-growth or degrowth movements. Several books have been written on both post-growth and degrowth,

not least, *Prosperity without Growth*, by author and economist Tim Jackson, one of the advisers of The Green House, and, *Degrowth. A vocabulary for a new era* by Professor Giorgos Kallis, one of our contributors. However, as professor Kallis reiterates in his answers to our questions, “*The difficult point is not to realize the absurdity of capitalism and growth; most people do. The difficult point is to struggle to overcome it. We are all constrained within the structural constraints of the system and the need to secure our everyday survival and reproduction.*”

In his book *Where Stuff Comes From* (2005), American sociologist Harvey Molotch offers an insight into the possible role of governments in promoting sustainable thinking and action. The last chapter of his book entitled, *Moral Rules*, advocates the benefits of legislation, regulation, and governments, acting as model clients in establishing more sustainable practices. By integrating ecological measures and values, governments can initiate new cultural change. Governments could, for instance, facilitate the implementation of sustainable development by promoting a shift towards a circular economy with ecological accounting at its core. Odum’s concepts provide an excellent example of a method to evaluate and compare systems, and their transformation and use of resources, by accounting for all the energies and materials that flow in and out, and expressing them in an equivalent ability to do work.

Implicit in this project is a belief that a sustainable future lies in our shared commitment to shape public perception of climate change and sustainability. As several of our contributors have pointed out, public education is perhaps one of the most efficient ways of fostering an awareness about deep ecology and sustainability. Deep ecology, pioneered by Norwegian philosopher Arne Næss implies a state of ecological harmony and equilibrium between all living entities on our planet, each an equal part in a global ecosystem. For Næss, humans can only attain, “realization of the self,” as part of an entire ecosphere, as the survival of humans depends on healthy global ecosystems.

Ultimately in order to strive towards Ecotopia we will need to fully embrace Ecosophosy, that is, the interrelationship between social ecology, mental ecology, and environmental ecology. Only then will we be able to fully embrace a sustainable future for our society and planet.

Ecotopia Team Members

The members of the Ecotopia team demonstrate an impressive range of achievements and skill sets. Together they have created playful communication concepts across a range of disciplines and processes, including graphic design, typography, drawing, printmaking, collage, digital image making and three-dimensional installations.

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ZeroCarbon-Britain
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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

I feel it is important to define between:

- a) a vision of a world where we are rising to the most urgent climate crisis (i.e. countries agreeing to do what the COP21 Paris agreement demands)
- b) a vision of utopia

We have an urgent timeframe to deliver a), so must focus on it ASAP, if we can identify co-benefits that move us towards b) all the better.

Achieving a) will require massive and rapid action, retrofitting millions of buildings, restructuring transport systems, building massive new energy systems, so there is no way anyone working to achieve this could be framed as 'an idle dreamer'

Achieving b) is less easy to define, but starting from where we are now, looks like a lot of work.

Business as usual in a post 2 degrees climate is an absolute fantasy, those who talk about it as being possible are the real dangerous dreamers.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'.) How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Are you saying utopia and ecotopia are the same thing? I think there are visions of utopia that do not meet the needs of 'the other life on Earth'. This makes the question a little confusing to me.

But overall I think Utopia can be different for different people and different cultures, so it can be both. Personally I see it as an enabling process, a 'yes we can' mind-set that empowers people to press ahead for positive change.

I feel engaging people in a discussion about what a green future would look like is important but also think it is valuable to paint a picture of what we mean by a zero carbon society not focused on material consumption. The 'green movement' often highlights that we could have a better quality of life with less of a focus on materialism, but what does this mean in practice for the everyday lives of most people? (in particular for people living in cities rather than those who have opted out of the rat race and bought a piece of rural land to live on). If this can be demonstrated - as a concept rather than a fixed vision - and in a way people can relate to rather than as an academic idea - this would be very valuable.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

Our current addiction to self-gratification through material goods and fossil fuels is itself a symptom arising from even more fundamental factors. Thomas Berry suggests a core driver appears to be the belief that we regard ourselves, as a species, as separate from nature and separate from each other (Berry, 2003) Even in green thinking, any reference to "the environment" subliminally leads to a perception of humans and nature as distinct entities.

Global spiritual leader, poet and peace activist and writer Thich Nhat Hanh puts this succinctly: *"The Earth is not the environment. The Earth is us. Everything depends on whether we have this insight or not."*

This prevailing belief that we are separate from, or even somehow 'above' nature, allows any feelings to be shut down when faced with clear evidence that lifestyle choices are deeply damaging the habitat of other humans and other species and perhaps most importantly, threatening humanity's stable collective living platform on planet

earth. In any analysis of the barriers to a zero carbon, climate-safe future, it therefore makes sense to explore how a re-vitalisation or re-orientation of worldviews help embolden and empower the practical actions urgently demanded in homes, communities and places of work. These actions are often underpinned by values, which in turn can be shaped by religious, spiritual or ethical beliefs. Part of the role of faith, spirit and worldview is to help explore answers to deep questions such as:

How should we live our lives? How should we treat our fellow humans? What is our responsibility to the natural world? How should we care for the future?

If we can bring about a cultural shift in attitudes in which we see ourselves as deeply connected to each other and to nature, then political systems will follow suit.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

The first step is to develop positive visions of what a post-carbon future would actually be like, to remove fears and counter ‘propaganda’ that we will have to live in caves and eat insects off the walls. Since its inception in 2007 the CAT’s Zero Carbon Britain project has been offering the hard data and confidence required for visualising a future where we have risen to the demands of the climate science – to remove fear and misunderstandings and to open new positive conversations. The range of reports produced since 2007 clearly demonstrate that using only existing technology; we can meet the scale and speed of decarbonisation required, and that such a transition holds potential for positive co-benefits on society, the environment and the economy.

We do not intend any of our ZCB scenarios to be seen as the ‘only way to save the planet’, our intention is to open conversations that start with the physical realities of what scientific consensus demands, acknowledging the UK’s historical responsibility as a long industrialised nation that has been emitting GHGs for over 150 years. Through researching and communicating this work, CAT aims

to stimulate economic and political debate around rapid decarbonisation, engage the research community and get society thinking in a new way to help build consensus on action.

It is now almost ten years since our first report Zero Carbon Britain report was launched in Parliament. Today Zero Carbon is becoming a much more commonly accepted and achievable goal. We are confident our work to date has played an important part, not only in raising the profile of 'zero' but also in increasing confidence it is deliverable.

A key part of this has been a recognition that the pro-active communication of our findings is equally as important to undertaking our research. For almost a decade, the ZCB team has been engaging with a wide spectrum of society; from faith-groups, local environmental groups, climate activists and Transition groups etc, to MP's, AM's, policy organisations, NGO's, think tanks, UK parliamentary groups, international networks and the UN COP process itself.

In that process we have grown to understand that it is vital we help audiences recognise that as we go about our everyday lives, our current relationship with energy, used to deliver many of the things that shape our lives and make us happy, is only the most recent chapter in a very long story. This story and its wider historical context may help us to better understand today's energy-extreme lifestyles; seeing them not as a natural evolution of human development, or even well intentioned progress gone slightly wrong, but rather a deliberately designed break in our connection with each other and with nature. Understanding this story, and how today's 'normality' is actually an extreme energy lifestyle can change how we think about our world and ourselves, and open us up to new possibilities.

In describing this future vision, if we can identify potential co-benefits that help move us towards the better society and increased wellbeing, health and happiness described by a utopian vision this also acts as additional motivation.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Ideally the democratic state should offer a lead, but if it has been captured by corporate vested interest, which itself is bound into short term thinking by the system in which it operates - then the role falls to the people.

What levels of organisation should societies have?
Local or centralised?

Mixed - some things are done optimally by a centralized democratic government, and others are far better done by local democracy. The challenge is if corporate interests dominate.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

This is all outlined in our Zero Carbon Britain reports, see www.zerocarbonbritain.com/en/

Basically we need to power-down from our current extreme energy lifestyles whilst also powering up clean renewable energy sources. But the optimum infrastructures for delivering this will vary between cultures and countries. In 2015, to get ready for the COP21 UN climate summit in Paris, CAT Charity teamed up with Track0 to develop the "Who's Getting Ready for Zero" report. This maps over 100 peer-reviewed research projects, plans and practical on the ground projects from across the globe that demonstrate paths towards zero greenhouse gas emissions, using only existing technology. To bring this to life, we featured 27 of these from both developed and developing countries, using a range of icons highlight the scale, scope and origins of the work. To download 'Who's Getting Ready for Zero' visit www.zerocarbonbritain.org/en/ready-for-zero

Many robust scenarios from across the globe now clearly demonstrate that the technologies already exist to reach zero or near-zero net GHG emissions, whilst offering co-benefits in many sectors - cleaner air, better diets, smarter cities and increased wellbeing.

What sources of clean renewable energy do you envisage?

Off-shore wind is the major source of renewable energy for the UK – we are a windswept island with significant coastal waters. In our Zero Carbon Britain energy model off-shore wind provides approx 50% of energy, especially as peak supply coincides with peak energy demand (i.e. in the winter). The other renewables, on-shore wind, solar PV, solar heating, hydro, tidal etc provide the other 50%.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Sustainability means living safely within the boundaries of earth systems. A good indicator of this is The Planetary Boundaries framework. (see www.stockholmresilience.org/research/planetary-boundaries.html)

There are many ways of achieving this from humans accidentally killing themselves off, to a flourishing egalitarian high-wellbeing zero carbon society. So how it looks is up to the choices we make and how the worldview that underpins our society evolves.

In the Zero Carbon Britain scenario, most things would look the same. We would still have personal mobility, but the cars would be electric, although ZCB assumes reduction in the amount of time we need spend in a car (better public transport, reduced need to travel etc). We would still have homes, but they would be better insulated and have shops near-by.

The two key big changes would be a reduction in flying and a reduction in meat consumption, but there could still be some of both.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

All new buildings would be zero carbon, most existing buildings retrofitted to high standards.

There would be a rise of low embodied energy natural materials (timber, hemp, lime etc) and a decline in high embodied energy materials (steel, cement etc) - but still careful use of 'industrial vitamins' - high tech materials used in small quantities but in roles where they make a big difference (IT, electrical wiring etc).

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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

New ideas release new potentials for action. Grand theories are paving the way for grand revolutions. The Dutch sociologist, politician and futurist Fred Polak showed that a positive image of the future is the most important determinant in the rise and fall of civilizations. (The Image of the Future, 1973, Fred Polak).

We can only overcome the old system of violence by creating a new one. Small reforms within the existing system are not enough. What is decisive for the success of the new systems realized in some models on Earth, "... is not how big and strong they are (compared to the existing apparatuses of violence), but how comprehensive and complex they are, how many elements of life they combine and unite in themselves in a positive way. Within evolutionary fields what is key is not the "survival of the fittest" but the "success of the more comprehensive." Otherwise, no new development would have been able to establish itself, for they all began as "small and inconspicuous." (Dieter Duhm in: Future without War)

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'.) How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

We live in a becoming universe. Evolution never reaches an end. It is the constant co-creation between us humans and the powers within creation which gives birth to the next pictures and phases of the development. There is never a final truth, but an oscillating compass. Once we start to follow this inner compass we know the direction with growing certainty. The way is the goal. It is like walking on a winding path. Behind every corner we

might discover a new component of the whole. There is no problem other than to train our consciousness to get used to understanding the unity of polarity, the “koan” nature of our reality.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

We will have to unleash in ourselves the power of thinking, the power of art and the power of love. The power of thinking will bring us to the point where we understand that we can heal our planet. The knowledge is there. Now we have to study and implement it. The power of art will help us to connect with our own creative source and will give us humour and the ability to find the higher level to solve conflicts. The power of love will give us the endurance and compassion to care for all beings.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

By implementing it in a model where people are invited to see how it works. We made the experience once you replace the old system of food, water and energy supply by regional and autonomous ways we step from dependency to freedom. It is regaining a power we have given away to institutions. You can get rid of a good part of your fear. And you feel the abundance, instead of being bound to the illusion of scarcity. You do not have to think how to persuade enough people, they will follow your example, once you yourself set it up.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

In the vision I love most there will not be any governments in the future. The future society is a network of autonomous communities, taking care of the land, of

people, of life. These communities are based on trust and cooperation within the community and between each other. The need for institutions with centralized power is overcome. They will find creative ways of how to deal with all the issues coming up.

What levels of organisation should societies have?
Local or centralized?

It is clear from the above statements that I see a network of communities. (But I cannot yet see the full picture. It will unfold once we are further down the line... One cannot just theoretically say something, it is important to only say what one can already "see" with their inner eyes." Otherwise we get lost in senseless discussions.)

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Before I can see infrastructure and transport systems I have to visualise and realise a form of life based on trust. This is the basis for everything. We are so used to first thinking of outer life forms, which have to be changed. But the inner paradigm shift is much more important. Here we have to change! Our thinking habits, our love systems, our ways of treating one another...! I skip this question. We did envision solar zeppelins for transportation, but this is still far from being "seen" and realised.

What sources of clean renewable energy do you envisage?

There is a lot of solar technology, biogas which is very useful even though it still operates within the known energy paradigms. Outside of this there is a new energy concept developed by inventors like Jürgen Kleinwächter for example.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

We live in community with each other and nature. The community has its own fresh drinking water, its own energy supply, its' own food supply. We would cooperate with all animals around us. We would live in close contact to

nature, to wildlife and in accordance with the rhythms of creation. Not like our ancestors, but as modern people. We live again in alliance with the world that created us.

We have a lot of contact with each other we are in connection with many people from all over the world. We have as many love partners as we wish. We live in abundance. Therefore the communities are hospitable and open to receiving and sharing with everyone.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

My favourite way of living is in a community house which is always open. It gives us shelter, but does not disconnect us from the outside. The material should be local, like clay and straw for example, which creates a wonderful temperate climate inside the house. The housing area is attached to a green house where we can harvest our daily fresh food. It also has areas for wildlife - for birds like swallows and owls, or other animals that want to live close to us humans and are still independent.

What we do not need and can leave behind are thousands of single households which all need their own set of materials, instead we live again in community (by gaining more and more individuality) and can share all of this.

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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

Business as usual certainly will not do – and I think it is important to see that it already doesn't do for many people who don't think of themselves as 'utopians'. If we go back to the original play on word that Thomas More used to coin the term, it is just synonymous with the 'good place' (eu-topia). In a sense then, I think that everyone is waiting to embark on a journey to a better place. I like the image of a journey. We are all, by nature, on that journey to a better place.

Now it is true that, in this time and age, many people who think that things can get better, that they can be improved without postulating a final state of perfection as the end, are called naive meddlers or do-gooders. I find it literally hard to breathe in such cynical environments and I get the sense that cynics are the ones who will never get their act together and get ready to move (move as in move yourself, move others, and move somewhere else). You have to invest a little something to embark on that journey and the minimum contribution is a small amount of hope.

Hope in what? Actually, in progress - but progress as moving away from something, not toward something ideal in the wrong sense of the word. And yes, I do believe in reform, but I don't see why I can't acknowledge that leaving the limitations of this, or that wrong and narrow-minded policy, behind me actually is a move toward the horizon. I will give you an example: it certainly is tiring to debate changes in say animal welfare regulations, but I can debate them with the end to all animal exploitation in mind and by doing so, I will know which position to take on the more detailed, reformist issue. I am sure that similar examples can be found in the realm of sustainability more narrowly speaking (although I would like to think that the animal issues and issues involving sustainability are often linked). Think of banning plastic bags: of course,

in the long run, we want to abolish plastic as far as we can. Hence, it would be a good thing to ban plastic bags; as long as we don't have the political constellation to achieve that, let's price them at 5p. But it is important not to advertise them (as in "Would you like a plastic bag for only 5p?"). The goal of small reforms may be to lay huge stones in the ways that lead into wrong directions.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'.) How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

I hope to have made clear that I don't conceive of these as alternatives: either process or end-state. But if I had to opt for one, I'd probably opt for the process picture. Think of the journey again – maybe you would have to take a train to get moving. If you find the situation you are in really lacking in what you need, you might want to be on the train rather than remaining in the situation, thinking of where to go and seeing no way out.

I think, often when people don't get moving, they are too fixed on clear deals: what will I get if I do this instead of that? And when an outcome seems too vague, they lack the imagination and the sense of actually being in a position to decide on the turns and the direction the whole thing is going. People lack the idea that their actions matter. In that sense, the tracks in which that ecotopian train is running, are not fixed; and sometimes there will be the need to split the coaches, get another locomotive, and let some people experiment with a different set of tracks.

I think it is all about getting people 'on board'. To get everyone moving and thinking is the pre-condition needed to realise sustainable futures. I don't know what it would look like, but it means, as a process, education, nurturing all the sensibilities that we need to make better choices. The problem with end-states is also that as long as nothing in reality seems to live up to them, people will tend to live in a continuous disappointment: still not there. The journey must be rewarding. We need to create

situations in which people get a sense of achievement, in which they can see that what originated in their thought became reality. They add layers of meaning to reality every single step of the way just because they behave in some ways and not in others, and that it is, in many cases, up to them, to make sure that the landscape is not polluted completely by false aspirations, mass produced dreams that come in one size fits all etc. At the same time, I fear, we need to accept that there will always be some who will be satisfied rather easily. I have no clue what to do with them.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

These are huge questions that I couldn't pretend to be answering in earnest. I think we need much, much more education and one where the goal is not to fit people into this system, but to put them into a situation of shaping the system, with constraints that acknowledge the systemic capacities. This means that we need to teach people about the important structures of the system: they need to know the ins and outs of the locomotive, so to speak. I personally, am always amazed that never in my whole life did anyone teach me how to lead a life in the economic system that we have. Never did I hear a thing about social justice or pensions at school. We prepare our children to be quick at spotting free seats on the train, but not to understand the system.

Also, I don't think the imperative at caring more stops at future generations; in particular, given the non-identity problem, I do not think that they (whoever they are going to be) deserve more consideration than the extant generations of human beings AND all the vulnerable beings mankind affects. Thus speaking of systemic capacities, I don't mean to suggest that it is enough for us to regulate and reduce our activities and impact down just a little bit. I think, sadly, we have not proved to be the most promising species at sustainable and intelligent living; we should start thinking beyond ourselves, creating space

for more intelligent, or at any rate, less harmful life to move in.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

Again, it is not about that one grand vision, but about education. And by the way, let’s get real at some point, let’s start while we are seeking consent by means of persuasion, making some real laws, **let’s use law and politics as real drivers for change.**

I sometimes feel that democracy is misunderstood in these debates and that in particular, cultural agents of change feel that their focus should be on cultural politics in the name of democratic consensus seeking, because otherwise we cannot proceed. This, to me, is polite but wrongheaded: we need experts and elites, not in that old and boring avantgardist sense, but in a moral sense. I, personally, don’t want and I don’t need to be consulted when it comes to actually proving the material of the brakes on the train. I need to know what the brakes are for, but I don’t need to be the one to administer them. There are people who have studied that and we need their expertise because this train is actually a high-speed train. (Interestingly, I wonder whether we can make sense of the emergency brake here – maybe we need a discussion about what that could be and what it takes to pull it.)

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Yes: make the laws, implement change, and protect values even if not everyone is already on board. Govern, lead and, most importantly, **do lead by example!** Do something, for the public good (not for the manufactured ‘political will’). That is your job AND your sole justification for existing. And make way for other institutions if problems can be handled better at a different, more intelligent level.

What levels of organisation should societies have?

Local or centralised?

Both. I don't believe in complete devolution. I take it that there are certain problems that need to be administered centrally/globally and others that are best dealt with locally, and which problem fits what category will depend on the precise circumstances, which, in turn, can also change, so (going back to the train metaphor) it may be that at some point something (say the width of the sleepers) needs to be determined centrally (maybe because traffic increases), while it was perfectly fine to determine that locally 50 years ago. Stay away from blueprint answers; assuming that there was such a thing as an ideal blueprint was the most dramatic mistake utopians made (think of the early socialists for instance).

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Well, I guess trains are actually a good start to begin with. Most importantly: reduce, massively reduce, private cars. And don't teach children from a young age that what you do on trains is eat. We don't have to eat all the time. In general, I think that most solutions should involve public projects - not because I think that the state itself is justified or unavoidable, but now that we have them in most places of the world, we may as well start putting them to good use and re-invent public services. In general, and metaphorically speaking, abolish first and second class and class in general.

What sources of clean renewable energy do you envisage?

Whatever works locally. (Tongue in cheek, I am always amazed by the fact that, at least in industrialized countries, people spend so much time voluntarily burning off calories; if only we could harvest the energy produced on all the morning runs, in all the hot yoga lessons, and on all the spinning bikes.)

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

It involves a lot of thinking, training, erring, admitting of the errors, learning, etc. I also think it won't work without some limitations, honest limitations in place.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

To my mind, it is important to emphasize that, again, we abandon the projects that involve blueprints. Buildings in South London will probably look quite different from buildings in Sheffield, from buildings in Munich, from buildings in Lisbon, from buildings in Bujumbura and so on... We should, of course, use materials that are sustainable but more importantly, we should make sure that the planning and zoning is appropriate: that no buildings are built to waste, that there is a sense of at least dual use where possible, that neighbourhoods are developed in ways that prevent segregation along any cleavages in society (class, race, income, nationality), that we turn off the light for bird migration, that we offer shelter for hedgehogs and foxes as well as for bats, and family planning for pigeons, that we get used to sharing space in every sense of the word etc.

What would we leave behind?

Plastic. All the stuff that is harmful to animals. And locks, locked doors of all sorts - it would be nice to leave them behind as well.

“It is not about that one grand vision, but about education. And by the way, let’s get real at some point, let’s start while we are seeking consent by means of persuasion, making some real laws, let’s use law and politics as real drivers for change. Govern, lead and, most importantly, do lead by example!”

'I participate therefore I am'
Aiden Barefoot, Toby Downham, Melissa North,
Caitlin Parks and Roz Woodman



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[www.4cmr.group.cam.ac.uk/
directory/djc](http://www.4cmr.group.cam.ac.uk/directory/djc)

Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

The key phrase here is 'the proof is in the pudding'. Utopians will show the validity of their ideas when they create a stable, utopian society, and make it function over time. That has not yet been produced to date, so skeptics will continue to cite this failure as suggesting the ideas at the heart of utopianism are hollow, or at least fragile. Personally I think the division into 'utopians' and 'tinkerers' is a false one. There is a full spectrum between these extremes. The real issue is the speed of change and the scale of that change. I'm not convinced utopians are any better than tinkerers at producing the right speed and scale of change.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The Dispossessed'.) How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

It is of course both. An end state is reached through a process. The challenge of a process is lock-in: the investments (in infrastructure for example) that we make today lock us into material and energy systems in the future. Therefore, the process must be one that focuses on the transition and not on the end point, since we do not know which end point will emerge. It is a process of incremental change that is constantly monitored and re-assessed to determine how we are progressing (or not), and adjustments made.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be

brought about? What new political institutions will be required? What new attitudes will be required?

I'm not sure I agree that this transition in thinking will be needed. I can imagine the transition without thinking much beyond the current horizons we use, simply because there are problems already evident that need addressing. But I also am not convinced society will find a way to change the horizons used by individuals. So we need a way to bring about the transition without hoping for something that will never emerge (everyone caring much more about distant futures or places).

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

I would first say that not all of the change will come from 'persuading' people. Much of the change will come from institutions simply investing in post-carbon infrastructure, so people have essentially no choice in being lower carbon. But persuading requires a positive vision of what life will be like in a post-carbon society; showing that it will not be a dire and constrained life but rather one that is as pleasant, or perhaps even more pleasant, than one that is high carbon.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Governments are usually responsible for infrastructure provision, so they will play a critical role by having green/sustainable procurement policies. This requires that sustainability be a key performance criterion when selecting technologies and providers, which is not yet the case in many governments.

What levels of organisation should societies have? Local or centralised?

There is a need for both. Centralised governance brings efficiencies of scale and the ability to close material cycles. Local governance brings a closer understanding of

the needs and demands of individuals, which a sustainable society must meet. The key is to find a 'transmission' between these two levels of governance so they co-exist.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

I couldn't possibly answer this in a short essay. You might look at our thinking in:
www.cam.ac.uk/research/discussion/innovating-for-the-future-of-cities

What sources of clean renewable energy do you envisage?

First is not a source of energy, but rather reduction of energy demand through improved efficiency. But then there ultimately will be the global deployment of solar to meet whatever energy demand remains after efficiency improvements.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

It would be a world of high energy and material efficiency, reduced energy and material demand by individuals, and a modular construction/manufacturing system so materials can be recycled back into different products. I would envision a world built on nanotubes or similar, since these can be used, taken apart and re-assembled into an infinite variety of products.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Much greater use of wood, or of clay construction where wood is not available. Wood is ideal because it absorbs carbon dioxide during growth and then locks it into buildings. Once a building is at the end of life because the wood is no longer viable, it will be important to bury the wood so it doesn't just decompose back to carbon dioxide, or use it for energy production coupled to carbon capture and storage.

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I consider myself and my colleagues to be practactivistas. We are focused on working together with communities to build current solutions with existing resources. It is most definitely not idle dreaming, maybe more like operative dreaming.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'.) How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

It is not an end-state, it is an ever evolving process. To draw an image of utopia is a conceit, yet a necessary part of the process where we visualize, share, hybridize, synergize, and evolve our visions.

We represent it as a process, by making sure that all of the stakeholders are represented. I can't guarantee what technologies will be part of an ecotopian future, but I can tell you to get there we must utilize inclusive and transparent processes of diverse stakeholders.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

It is harder to create a long-term system because political, job, and even human life cycles are so short. Politically, in order to get there, I think we will need to find new ways to quantify short-term success that manifests long-term success. Examples of this include

the circular-economy and analyzing data and using sound Evaluation, Measurement and Verification processes. E.g. medical success based not upon sales of prescriptions, but based upon improved health of the population. The latter is a much harder metric to measure, but we have the ability to do it. Another example would be police metrics based not upon arrests, but upon harm reduction and community happiness.

The political will help the cultural, but ultimately it is up to the people to decide how to get to longer-term thinking.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

It is not that we need to be post-growth, it is more that we need to redefine growth. Continuing economic growth by ever increasing exploitation of natural resources most certainly will destroy us long-term. Redefining growth as about experience instead of things, and economics as about meeting needs as opposed to GDP, are steps in that direction.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

The role of the government should be directed by the people and play a critical role in the transition. Regulations for instance are critical to carving the path. That said, the path must be illuminated by the people. Specifically, diverse groups of people tackling real problems with available resources.

The government can start now by addressing how specific goals have been incentivized in an antiquated fashion that no longer serves us. For example, police should be incentivized based upon harm reduction and community trust not engagements, quotas, tickets, etc. Doctors should be incentivized based upon overall health, not visits, prescriptions, or surgeries. These are just a couple of examples, and more importantly an active and engaged populace should be directly part of the process.

What levels of organisation should societies have?
Local or centralised?

Each society should define, and redefine, this themselves.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

We build a more sustainable society together.

Transportation systems will be easy, safe, connected, and fun. We will soon look back upon our history of transportation agape at the willful, daily, risk we incurred personally and globally.

Community design will be collaborative and systemic, considering transportation, family, connectivity, inclusion, safety, and joy.

What sources of clean renewable energy do you envisage?

These will continue to evolve and to leverage the almost free energy falling on us from consistent natural processes. I also envision a population more connected to their resource use... knowing where it is coming from, its impacts, and our use.

Eventually we will work towards renewable energy systems that not only minimize impacts, but also seek to regenerate ecosystems.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

This will be different for each community. The main difference is that we will be better ancestors in each of those communities.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Future ecotopian architecture will be even more varied than current architecture in order to meet the differ-

ent flavours and needs of diverse populations. The most exciting built environments to me are ones that:

- * Combine ancestral and vernacular architecture with modern testing and systems of codification. Structures that speak to our deep knowledge of making space and our new precise knowledge of performance (e.g. seismic, thermal, etc).

- * Consider long-term systemic health as well as the event based safety (e.g. earthquake) currently considered. At first you might not notice, but entering a modern ecotopian home would find you free of VOCs (volatile organic compounds), molds, and small particulate.

- * Regenerate their surroundings, e.g. through carbon sinking, providing ecosystems and creating micro-climates.

- * Be conducive to the needs of the habitants. For me, that would include spaces for creativity and collaborations. For others, that may include spaces for meditation and reflection. It is important to remember that it is for the habitants to decide.

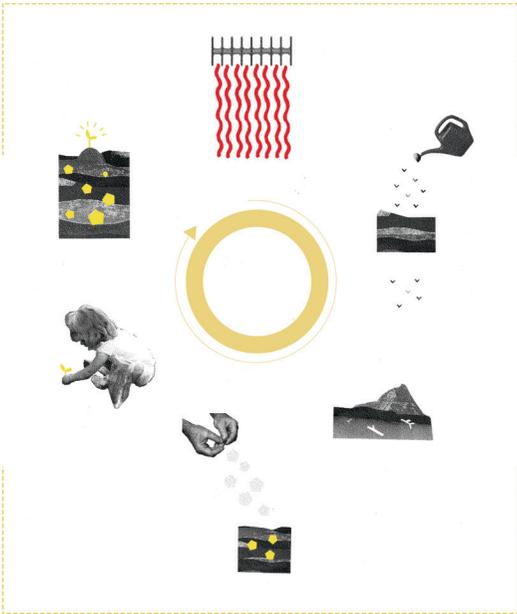
- * Bolster our process towards a better future, through inspiration and restoration of our health.

Another interesting aspect to consider will be how we tend to relate indelible architecture with civilization, yet which civilization is more advanced: one whose building last long past their use, or one whose building return to the earth when no longer needed. I don't think there is only one answer to this question.

“It is not that we need to be post-growth, it is more that we need to redefine growth. Continuing economic growth by ever increasing exploitation of natural resources most certainly will destroy us long-term. Redefining growth as about experience instead of things, and economics as about meeting needs as opposed to GDP, are steps in that direction.”

'Process'

Aiden Barefoot, Toby Downham, Melissa North,
Caitlin Parks and Roz Woodman



Habitable Spaces,
a sustainable farm
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dency in Texas (USA).

www.habitablespaces.org

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While Utopians/ecotopians are dreamers, I don't know a single one who knows the meaning of idle - in fact, all of the people working in our community and everyone trying to strive for an ecotopia in the central Texas area, seems to believe in the idea of honest hard work to achieve these goals. Utopia is an ideal, to be constantly worked towards. Systems are designed, and tinkered with until they are streamlined and work not only within the community of humans, but also with that of plants and animals. We are constantly altering and perfecting systems at Habitable Spaces to ensure that our entire community, human, animal, and plant, is thriving within the systems that we have built. This means, of course, constant hard work. It is a combination of dreaming and actual implementation that works to create an ecotopia. To be successful, an ecotopian system needs to be able to submit to self-analysis. Because we can never foresee the problems of the future, we need to be able to constantly adapt to new circumstances that arise.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'.) How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

We believe it is definitely a process. The word Utopia is an ideal, to be strived towards, it is the work towards it that makes the system what it is. It is dangerous to only plan for the "final State" of ecotopia, this idea disregards all of the uncomfortable practicalities that must be worked out as the system is implemented. There are also constant changes that must be worked around - if one creates a system that only has an end goal, there will be many flaws within the actual architecture of the system that are never acknowledged or resolved.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

It is possible that to truly achieve ecotopia, we will need a break down of the larger capitalist system that currently governs most of the world. This is a system that thinks in the immediate sense, and not in the long term - in fact, long term is a known detriment to capitalist goals. A reversion to a simpler share economy, and an emphasis on community, especially the immediate community around us, is what Habitable Spaces looks to as an ideal. We take care of the community within our ecovillage, and the surrounding community in our small town of Kingsbury. We have set up a kind of barter economy that works well for both people living at Habitable Spaces, and people in the larger community of Kingsbury. This kind of economy creates a community that looks out for each other - if someone's car breaks down, for instance, a neighbor is always willing to lend one until that car can be fixed. When someone needs help building a structure, or renovating their house, they receive it, and food is traded in shared in the form of homemade jams, pickles, fresh vegetables, fruits and eggs. Habitable Spaces encourages this kind of behavior, but rural people are no strangers to it. Country people are rich on skills and building knowledge, but not always on money, so a share economy fits in perfectly with this way of life. A share economy also creates a close-knit village, and when you have a village rather than a large urban sprawl, people know not only each other, but also their children and grandchildren, in this way the generations mingle and share experiences and community knowledge. It is actually an important way of keeping generations in touch with each other.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

On a practical level, each local village/community needs to be somewhat self sufficient, producing its own source

of food and the goods necessary for life. Each community needs to be able to regulate its own economy. There will always be things that people will desire from outside the community/village/farm - but people can be persuaded to buy or trade locally by creating a carbon tax system that creates a higher sales or trade tax on items that are brought in from outside the local community. The farther the distance the product has travelled, the higher the tax. On the other hand, the more local the product, the more affordable it becomes. Local products will also have the advantage of being fresher, and produced and only found locally, creating a pride in a certain kind of handicraft that can only be found in that area.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

By instating a carbon tax, and trade taxes that encourage and support local trade, the government can regulate these things in a sense - people can still buy coffee from Columbia, but a carbon tax will be levied on it that can go towards environmental preservation projects in that region for instance. Global industry needs to be regulated on a massive scale, and held to the same standards that are asked of each community. **The multi-national corporation model has failed us - they operate like rogue countries with no regard for international law or human rights. They need to be restricted and held to strict standards that enrich communities, rather than enslaving them.**

What levels of organisation should societies have?
Local or centralised?

Local organization is the only way to create utopian systems that are sensitive to the needs of a particular group of people. The organizations need to be community based or they become too overreaching, and don't know how to fit into every community.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Small towns would have everything they need at their center - they would produce their own food and provisions for

the large part - there would be no need for transportation except for walking and bicycles within these small towns. If a light rail system and bike paths connected these towns, people could have a great ease and ability to travel without using fossil fuels.

What sources of clean renewable energy do you envisage?

This will have to vary from region to region, depending on what makes the most sense for that area. For instance, in central Texas, we have plenty of sun, so solar energy makes the most sense here; although in West Texas we have a steady source of wind, so wind power seems more efficient. It will be necessary to adapt each areas needs to what they can most easily produce - overall, cutting down on use of energy through efficient housing, such as underground structures, and earth ships, and use of geothermal and passive solar techniques is essential.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

We would not have shops filled to the brim with throwaway plastic trinkets and items in fashion only for a moment. Artisans would make clothing, housewares, and furniture locally, food would come from small-scale local farmers using humane animal husbandry techniques and permaculture to create a landscape that thrives rather than is depleted with each harvest. Communities would be small, localized, with neighbours **working together to achieve common goals.**

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

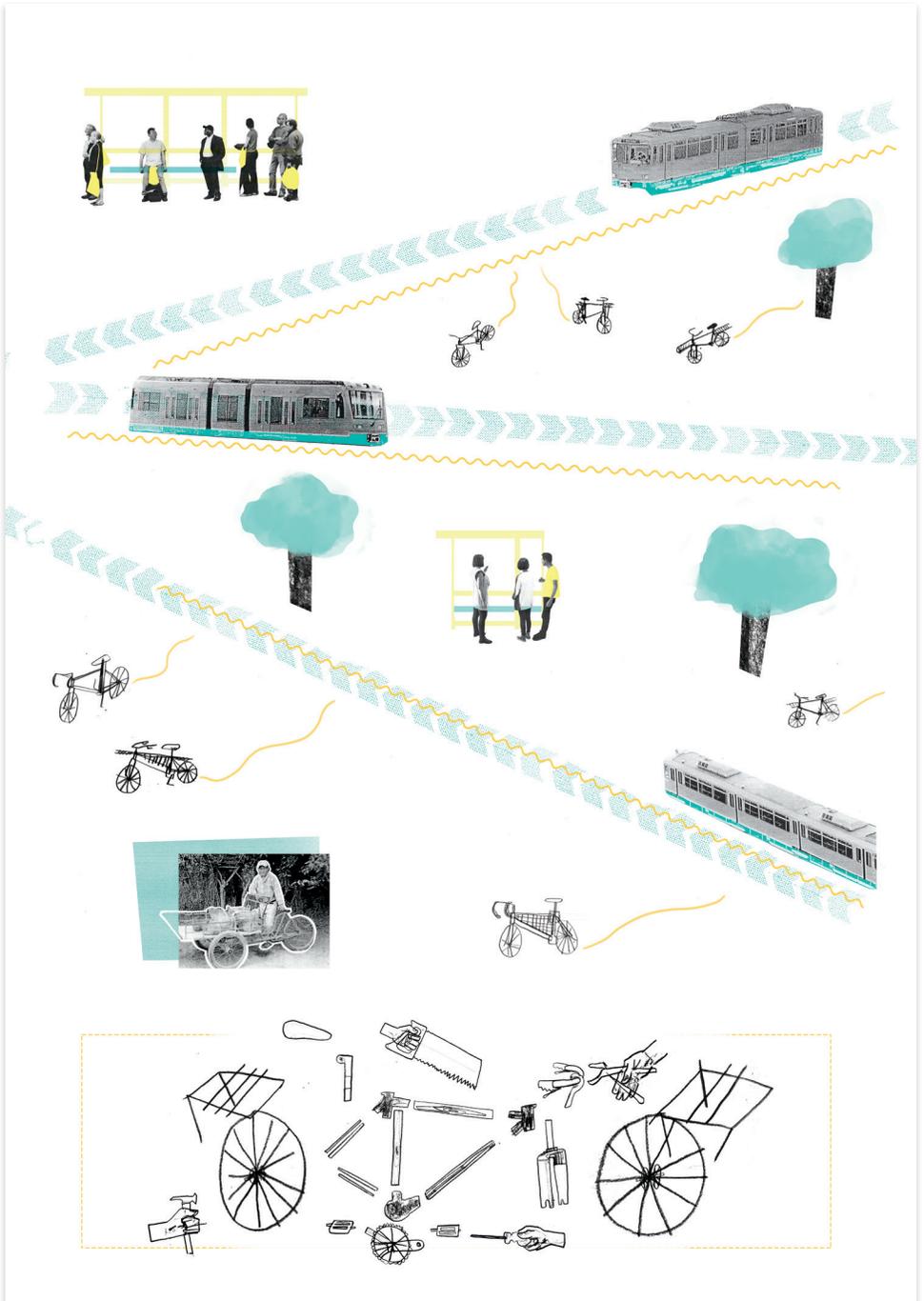
Again, this depends on the specific environment that the buildings are in. The materials used for buildings should be locally sourced as well. In desert regions, adobe dwellings that are dug into the earth might make the most sense, in areas with a bunch of rain; it might make more sense to use cordwood, stone, or straw bale. Houses must be overall, well insulated and well thought out to combat the challenges of their particular environment.

“A share economy also creates a close-knit village, and when you have a village rather than a large urban sprawl, people know not only each other, but also their children and grandchildren, in this way the generations mingle and share experiences and community knowledge.”

“Small towns would have everything they need at their center – they would produce their own food and provisions for the large part – there would be no need for transportation except for walking and bicycles within these small towns. If a light rail system and bike paths connected these towns, people could have a great ease and ability to travel without using fossil fuels.”

'Transport'

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Utopias are bound to culture of their origins, and to the failings of that culture. This is exemplified by slavery in Sir Thomas More's Utopia, and is a common thread in modern discourse and visions of utopias.

I believe that there is nothing but 'tinkerers.' Incremental change looks transformational only in retrospective narrative. Under deep scrutiny, transformational narratives will always fragment into their, often lengthy and complex, precursors and causal chains. Was the assassination of Franz Ferdinand the cause of WWI (transformational event), or was the entire preceding history of Europe (incremental change) more/equally important?

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The Dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Ecotopia as a process is skill based. Collaboration, stakeholder engagement, innovation in governance, rigorous experimentation, systemic thinking, serious consideration of uncertainty, and far more underutilized skills would be required. Forgo visual art for performance art that shows the transition from present modes of operation to more democratic, more evidence-based, more culturally aware skillsets.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

Humans are not biologically primed to think about the future and the long-term implications of their actions. Further, our reasoning, particularly the economic concept of "discount rate" makes the future far less salient than the present. Beyond that, the bureaucracies and governments we use to govern are extremely risk averse and conservative (not in the political sense), making concrete concerns in the present overvalued compared with more abstract risks in the future. Bioregional anarchism with trade between local markets is the political institution I could see in an Ecotopia. That model both ties human activity to environmental carrying capacity and restricts the extraction of the current global capitalist system. I'm not sure that attitudes necessary for ecotopia are so much new as they are non-western. Environmental problems are often common pool resource problems and the atomization of individuals in western culture promotes the conditions that drive resource depletion. In contrast, eastern and Asian attitudes are more communitarian, and more likely to support Ecotopian processes, but aren't "new."

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

I don't think an ecotopian vision gets us very far at all. Ecotopia requires dramatic changes to nearly all global systems, environmental, financial, social, etc. I think persuasion is most effective when tightly bounded and focused. Persuasion might not be the tool we need. Rather than persuade people to act differently, we should focus on understanding what people want and value. Then, we can create a future in line with Ecotopia, that's responsive to the wants and values of individuals, but that they choose on their own, without needing persuasion.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Government can subsidize long-term efforts in the short-term, and create the conditions for development of sustainable technologies. However, technology is insufficient for the task at hand. There can be no Ecotopia under

capitalism, which concentrates wealth, gained through destructive resource extraction, and thereby destabilizes society. Governments need to reduce globalization, increase protectionism in trade, and demilitarize to even begin to realize an Ectopian possibility.

What levels of organisation should societies have?
Local or centralised?

Local, probably even more local than you are thinking. Subsidiarity is the most democratic, and culturally based governance. However, nativism, othering outsiders, and xenophobia can quickly turn highly localized communities away from tolerance. Subsidiarity must be balanced with empathy and the acknowledgement that we are neurologically and culturally primed to find and stigmatize outsiders (see Haidt's Righteous Mind).

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

The simple answer here is generalities, a steady-state economy, using the Natural Step framework, and closing the loop on all production processes. The details are the hard part, though we have seen massive gains in solar energy efficiency and electric cars. Most importantly, the human details are hard. What does Ecotopia say about people? Earth without/before people is surely Ecotopia, but how do we have both Ecotopia and society?

What sources of clean renewable energy do you envisage?

Solar, geothermal, wind, tidal, riparian, wherever available.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Sustainability in practice means that individuals empathize with "others" and the values of "others," think systemically, consider the future their actions portend, and take strategic actions to create a sustainable future. That future would be different than our world today because wealth distribution would support rather than inhibit empathy. Ecosystem integrity would outweigh corporate profit. Long-term impacts would be factored into near-term decision-making.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Ecotopia would have the same buildings we have now. We would use extremely durable materials for construction, repair, and maintenance. New buildings would be notable, as latent space (2nd homes) would like be repurposed as primary housing. We would leave behind a functioning circular economy in harmony with the environment that provides a desirable life for generations to come.

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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

This is a leading question - but yes, of course. They call us unrealistic dreamers for attempting to imagine a world beyond capitalism. But they are the dreamers who believe we can continue with the status quo; they are the ones who are unrealistic. We know for a fact that business as usual has done nothing to alleviate mass poverty and hunger. We know it has done nothing to prevent recurring financial crises. We know it has done nothing to avert climate catastrophe. Business as usual is unacceptable. We need to set a different course, and quickly.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Another leading question - but yes, clearly utopia is only ever a process. For me the key point is that there is no single utopia to be realized. The problem with global capitalism is that it prescribes a single way of being in the world - one based on individualism, consumerism, corporatization, and urbanization. Today, virtually the whole world aspires to this single model as the apex of "development", and it is putting immense strain on our planet's ecology. In imagining our way out of this trap we need a diversity of utopias. We need to facilitate multiple ways of being human suitable to multiple different contexts. True sustainable living must be tailored to local ecological niches - there can be no single Grand Plan.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be

brought about? What new political institutions will be required? What new attitudes will be required?

The problem with our dominant culture of individualism is that it leads us to think with short time horizons coterminous with the self (or perhaps the nuclear family), which is all that really matters. This is in contrast to many indigenous cultures, which do not regard individual persons as definitively separate from other persons – both past and present – or indeed from other forms of life. If we are to chart our way into a sustainable future, we will need to abandon our ontology of individualism and relearn this ontology of connection. We will need to rediscover the basic truth that our existence as individuals is bound up with the existence of others, and that our fate as a species is bound up with that of the fish, the forests, the bees, and the oceans. Only then will we be able to think with longer time horizons.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

We need to do all we can to persuade our peers and policymakers that the present system of indefinite economic growth is untenable and dangerous. GDP growth has been sold to us as the only way to create a better world, but we now have robust evidence that it doesn’t make us any happier, it doesn’t reduce poverty, and its “externalities” produce all sorts of social ills: debt, overwork, inequality, and climate change. We need to abandon GDP growth as our primary measure of progress, and we need to do it quickly. There are many compelling alternatives out there that we might consider, including the Genuine Progress Indicator and the Happy Planet Index.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

As a matter of urgent priority, governments need to cease subsidizing the fossil fuel industry and direct subsidies instead toward developing clean energy alternatives. Only governments have the power to introduce policy that will

rapidly phase out fossil fuel use. In addition, governments will have to abandon the use of GDP growth as a measure of economic and social progress, and replace it instead with an alternative measure that accounts for pollution, resource depletion, and climate change, and work toward bringing us into a steady-state economy.

What levels of organisation should societies have?

Local or centralised?

We know that the forces of globalization are major drivers of climate change and ecological degradation. Reversing this trajectory means learning to make our societies more local, relying more on local food and local materials and local labor. As we relocalize production, politics too will become more local, and we will find ourselves with more influence over the decisions that affect our lives.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

No answer.

What sources of clean renewable energy do you envisage?

There has been a lot of hype about biofuels in the past, but we are learning now that biofuels are deeply problematic. They have spurred land grabs across the global South, they are redirecting land use away from basic food production, and they contribute immensely to CO2 emissions from land use change, deforestation, and soil depletion. Biofuels are not a solution – they are part of the problem. Instead, we need to prioritize the development of wind, solar, and wave energy technologies.

But of course getting off fossil fuels is not enough in and of itself, for fossil fuel use accounts for only 70% of greenhouse gas emissions. The rest come from deforestation, industrial agriculture, industrial animal farms, landfills, and the chemical reactions involved in the production of cement, iron, steel, and plastics. If we want to avoid climate catastrophe, we will have to address these other major sources of greenhouse gas emissions, which means **dramatically reducing our consumption.**

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Sustainability in practice can mean many things. People often start with little things like recycling and composting, but of course this is not enough. We all need to take the more important step of radically reducing our consumption, buying used, sharing what we have, and repairing our worn goods whenever possible instead of replacing them. We need to face up to the fact that our air travel is a major contributor to greenhouse gas emissions. We should do what we can to source our food from local farms that do not rely on intensive chemical pesticides and fertilizers. We will have to organize within our communities to create the conditions wherein these new behaviors are possible. Some will seek to take it a step further, shifting off the grid or creating local currencies so as to cease participating in debt-based money. We should begin with what is within our reach, and learn from others as we go.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

No answer.

“If we are to chart our way into a sustainable future, we will need to abandon our ontology of individualism and relearn this ontology of connection. We will need to rediscover the basic truth that our existence as individuals is bound up with the existence of others, and that our fate as a species is bound up with that of the fish, the forests, the bees, and the oceans. Only then will we be able to think with longer time horizons.”

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Fantasy is a fundamental aspect of human nature. We need to imagine how things could be different in order to be motivated to change them. Utopia is an explosion of our imagination: imagining not only how our personal lives, but how the world as a whole could be different. There is a role and time for reformers and tinkerers, and there is a time and a role for utopians.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

It is a process. In a novel it is not difficult to represent a process, and the Dispossessed is an excellent example. The society depicted in the novel is in turmoil and ridden with conflict. The utopian planet therefore is in process, not in an end state. The novel itself is about a process, the travel of a scientist from one planet to another. And the novel does not have a closure or an end, it is open-ended.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be

A utopia is never achieved, it is a fantasy of a different future that motivates to achieve things now. The "how" and "what type of institutions" questions are huge. In our book "Degrowth. A vocabulary for a new era" we scratch the surface of some of these questions. "Commons" is a keyword here; interesting that both in More's utopia or Ecotopia there is no private property and the commons are governed in common.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

First we need to persuade ourselves. We don’t need to persuade others of anything, this is utopianism of the wrong sort, assuming that we know what the future should be look like, and then seeing our role as that of enlightening others. The difficult point is not to realize the absurdity of capitalism and growth; most people do. The difficult point is to struggle to overcome it. We are all constrained within the structural constraints of the system and the need to secure our everyday survival and reproduction.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

I am leaving tomorrow for vacations. This question could take me a few years to answer.

What levels of organisation should societies have? Local or centralised?

Multi-level, interconnected.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Bikes, slow but reliable trains and party buses.

What sources of clean renewable energy do you envisage?

Decentralized solar and wind power at the community and household level. Bicycled washing machines.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Oh my, oh my. Guys these are huuuge questions!

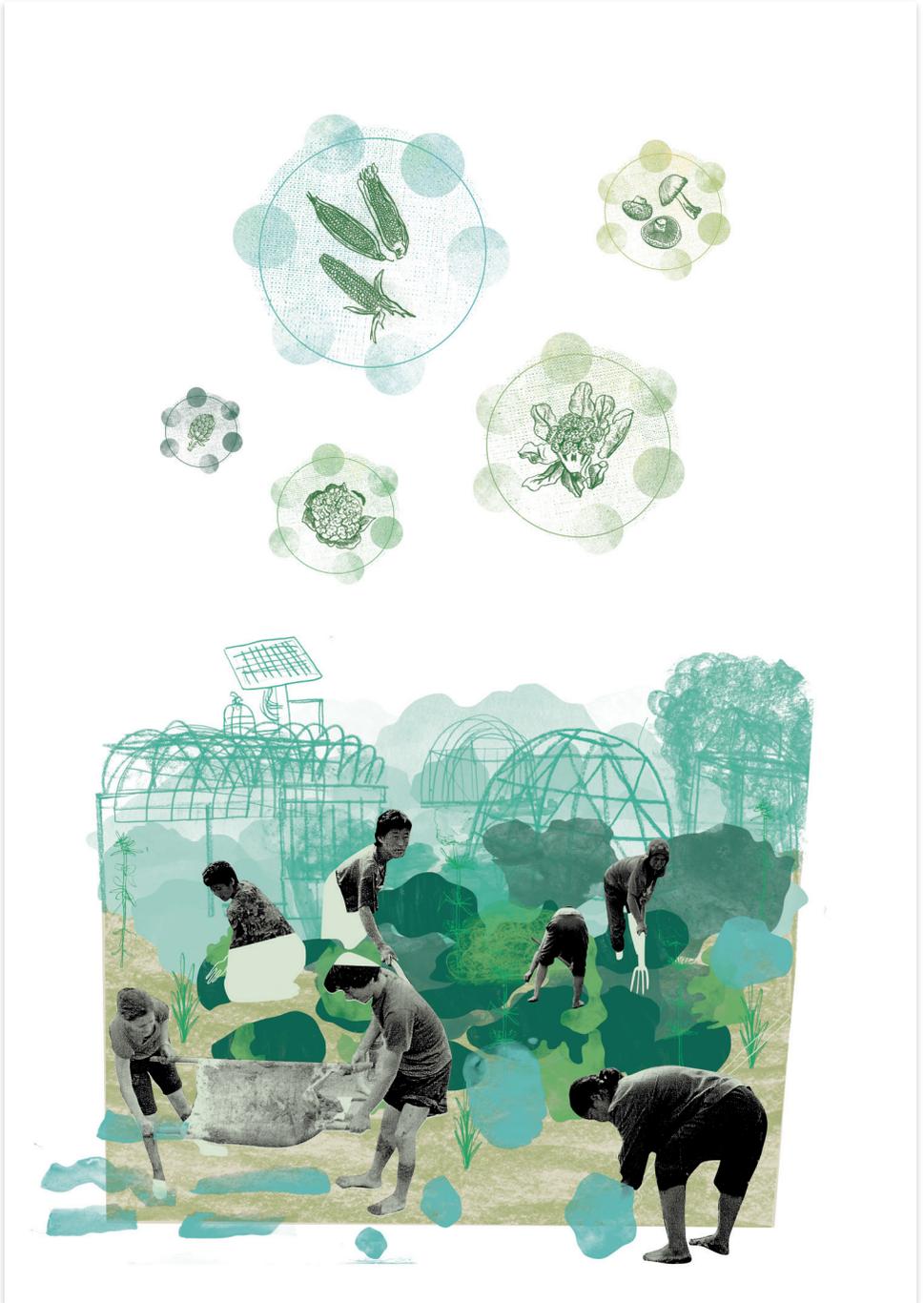
What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Not an expert on materials or buildings, just an ignorant user. I love the Truli of Puglia in South Italy, and the Cycladic architecture in the Greek islands. Imagine this at the level of a city.

““Commons” is a keyword here; interesting that both in More’s utopia or Ecotopia there is no private property and the commons are governed in common.”

'Grow Your Own'

Aiden Barefoot, Toby Downham, Melissa North,
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The idea of utopia has always been and remains a benchmark against which humans can gauge the relative successes and failures of their society. Utopian thinking is actually a form of criticism because it postulates that which has not been attained. While not necessarily a condemnation, utopianism is a challenge to each and every one of us to make a better world. By contrast, incrementalism is only looking ahead to the next corner on the road, never envisioning a destination beyond that which is just before us. The state of our global ecosystem has passed a tipping point where incrementalism cannot restore a healthy balance. Utopian/ecotopian "dreaming" is the only process by which a sustainable future can be envisioned, because that which cannot be envisioned cannot be attained. [*The Origins of Knowledge and Imagination* (1978), Jacob Bronowski]

Illustration: Infographic showing the glacial/incremental pace of greenhouse gas mitigation protocols (Kyoto, etc.) versus the rising rate of emissions and global temperatures.

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Utopia/ecotopia is a transitory meta-stable state that emerges from n-dimensional dialectic processes, but then continues to morph, adapt and evolve. The origins of life and the species of living flora and fauna are among the best examples of these unfolding processes. Even with mass species extinctions due to cataclysmic phenomena, so many other threads of life continued to flourish and this reveals the biological basis of utopia/ecotopia - diver-

sity, persistence and resilience. In this sense, utopia/ecotopia is all about enabling individuals and groups to self-determine their present and future aspirations.

Illustration: Animations are among the best ways to represent ecotopia whereby the relationship between sea, land and air and the flora and fauna that occupy these ecotopes are revealed through comparisons between our present dystopian model of exploitation/depletion/extinction versus the ecotopian model of diversity/symbiosis/equity where all species thrive. Imagine what the dolphins and whales would tell us about their idea of ecotopia.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

The collected wisdom of indigenous peoples points to a world view that is trans-generational and respects the carry capacity of the ecosystem. [*In every deliberation, we must consider the impact on the seventh generation... even if it requires having skin as thick as the bark of a pine.* Great Law of the Iroquois] Public education is the most critical means of developing an awareness about deep ecology and sustainability that generations of urban dwellers gradually discarded under the consumption based economic model underlying cities that commenced shortly after the advent of the Industrial Revolution. The disconnection from stewardship of the land and cultivation of crops eroded a fundamental awareness of the circle of life, thus eventually objectives became more important than processes.

Our current political institutions can remain, but the standards of care and duty must be realigned with the ecotopian world view. Short term programs and policies must be rejected in favour of trans-generational strategies. Evidence-based testing of proposed governance structures must displace trial and error expediency.

Illustration: Infographic comparing various time constants (geological, climatic {Ice Ages}, emergence of humans; recorded history, life span of a human, useful life of

buildings, cars, computers, etc. Great Lakes scientists estimated that one change of water in Lake Michigan requires some 150 years, suggesting that what we do to its water impacts over seven generations.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

The Idea of Progress* by J.B. Bury outlines how notions of progress and growth have become ingrained in our civilization. In 1920 when Bury advanced his perspective on progress, there were insufficient data and evidence to indicate the correspondence between progress and its negative impacts on social/cultural cohesion, economic equity, ecological degradation, biodiversity and general quality of life. The ecotopian vision must hold out evidence that human happiness and the life of the planet have not and can never improve under the current paradigm of growth. Balance and harmony are at the root of happiness and this can only come about under a return to natural cycles and rhythms.

* <http://www.gutenberg.org/files/4557/4557-h/4557-h.htm>

Illustration: A graphic comparing post-industrial lifestyle with ecotopian lifestyle. The poster would depict how much time the typical individual devotes to work, commuting, shopping, leisure, social interaction, etc. under the two paradigms and would reveal how much of time today is devoted to entropic processes that bring us no joy.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

The state (government) in our post-industrial society is an outdated institution that is often steered by wealthy individuals, myopic interest groups (including the media) and powerful corporations that control virtually all of the means which support life for the population at large. The role of government should be to first reform political structures such that the average citizen can gain equitable input to the governance process. Complex adaptive systems are often self-correcting if unconstrained by vested

interests and the transition must begin with empowering people to change their lives for the better. (Resilience research is indicating that the scale of the parish is optimal for support and recovery after traumatic events.)

What levels of organisation should societies have?

Local or centralised?

Building on the previous issue, all evidence points to the utter unsustainability of centralization. Ecology is an entirely localized phenomenon, albeit responding to climatic and geographical contexts, but operating at the level of the ecotope. For human settlements, the ability to navigate a sustainable future at the local and regional scales is far more critical than national and global interventions. This does not mean the two realms are mutually exclusive, but if regions, cities and communities become ecotopian, the rest of the world will follow accordingly. Engaged citizens that can steer a course at the local level and make decisions about their immediate environs will make better decisions than international committees who suffer no consequences for dysfunctional policies.

Illustration: Former centralized Soviet Union versus cantonized Switzerland.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Sustainable societies are much like plants and need to be rooted in fertile soil with access to fresh air, clean water and sunlight. Transportation of people and goods, primarily for commerce, has become a dominant contributor to greenhouse gas emissions under the growth model. The need for transportation can be significantly reduced and intelligently managed by investing in infrastructures that generate energy, food and water locally, in concert with ecological technologies like solar aquatic waste treatment and phytoremediation. Regional infrastructure and transportation systems based on renewable energy systems and environmental services operating at the local level (e.g., neighbourhood composting/bio-gas production coupled with combined heat and power plants) are feasible scales that can be better adapted and flexibly managed to accommodate changing needs. At the root of the ecotopian vision lay questions about the future of work and the distribution

of wealth. Our current systems of infrastructure and transportation reflect the economics of exploitation and consumption and are ill suited to supporting a culture of collaboration and cultivation.

What sources of clean renewable energy do you envisage?

Everything we have today and more will converge into regional smart grids of clean renewable energy. This will come about simply because the economics of energy production have so dramatically shifted in favour of cleantech. More important than energy, notwithstanding the need to bring clean renewable energy to developing nations, is the stewardship of water.* It is a finite resource that along with fresh air and sunlight are essential to human existence and all living things. The ecotopian ethos should not stray far away from conserving and protecting vital resources for future generation otherwise it risks becoming an over intellectualized and elitist concept that is not rooted in ecological reality. Equitable access to air, water, food, clothing, shelter, education, health care and political self-determination are the foundations of utopian/ecotopian ideals - once every world citizen has obtained these basic needs, only then can we engage in higher levels of discourse.

* www.programme.worldwaterweek.org/sites/default/files/martin-nagle_swww_presentation_v3.pdf

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Sustainability was once commonly witnessed in many regions of the world up to the point where the ecological footprint of these societies exceeded their carrying capacities and/or they were conquered and subjugated by cultures driven by notions of unbridled growth and progress. All sustainable societies are actually knowledge based and transfer this acquired wisdom to successive generations. Hence, sustainability looks like a cross between indigenous and agrarian cultures with a careful balance between the hinterland (ecological buffer), cultivation (food production) and urban settlements (exchange of goods, services and knowledge). Ecotopia would require the redistribution of wealth, land and real estate so that what has been commoditized could return to its former state of a col-

lective resource or commons. As long as individuals can isolate themselves from the suffering of others, inequity will remain the dominant outcome. Guaranteed annual income, right to healthy housing, employment opportunity and access to health care and education are the primary instruments for transitioning to an ecotopian future. What would be so different from the world we live in today? The great divide between the haves and the have nots would be bridged and people would not live in fear of poverty, disease, homelessness, ignorance and social irrelevance.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Almost every building typology needed to shelter ecotopian societies exists today. There would likely be a number of interesting hybrid typologies that would emerge under emerging contexts, but nothing that would be unrecognizable in terms of form and function. However, the architecture would be focused on regenerative technologies integrated within buildings so that they become net contributors rather than consumers of resources. Buildings would be highly passive, harvest water, make their own energy and food, and fully internalize their waste streams. The carbon footprint of buildings would also be greatly reduced.

To accomplish this objective, buildings would be constructed from a combination of local, naturally occurring and abundant bio-materials (soil, straw, wood, etc.) and reclaimed/recycled materials. Materials that could not be reused or recycled, as well as materials that involve toxic processes that cannot be responsibly managed/mitigated, would be banned. This does not mean an end to concrete, steel and glass, but these materials along with bituminous compounds for roofing, plastics for piping, etc. would become highly regulated and adhere to a zero emissions/waste stream protocol. They would become rightfully precious and responsibly managed.

The long-term trends for world population growth indicate an eventual decline in the world population and a return to a more sustainable ecological footprint exerted by humans. Buildings will become a m lrange of found, reclaimed, recycled, repurposed, old and new materials. As entire urban settlements are abandoned due to factors

such as climate change (rising sea levels) and their inherent unsustainability (Fort McMurray, Alberta), they will become the building material warehouses of the future from which solar powered dirigibles will transport the resources afforded by the deconstruction of the obsolete and bring these to where they are needed. Nano technology and bio-based materials will introduce new building fabrics that are responsive and adaptive to changing environmental conditions, such that buildings will become highly passive in terms of external energy inputs, but intelligently active like flowers that open and close according to sunlight conditions. Buildings of the future will become prosthetic devices emulating the behaviour of the ecosystem (bio-mimicry) and provide total life support to their inhabitants.

What we will leave behind if we choose to undo all of the damage we have done to the planet is a legacy of remediation, rehabilitation and reconciliation. The idea that we had the courage and conviction to abandon centuries old economic and political models of exploitation is noble and inspiring. We would live in a world without style and that would be a good thing because style was an invention to accelerate consumption. [I am working on an essay entitled "The End of Style" that explores this concept architecturally.]

Humanity must collectively realize that ecotopia may ultimately be part of a natural state in the evolution of life on earth that requires the extinction of humans. Mass extinctions of species are a testament to the self-correcting behaviour of complex adaptive systems, such as the global ecosystem. The sustainability of humanity ultimately depends on how well civilization can harmonize with all planetary life forms, going beyond intergenerational equity to achieve inter-species equity and a considerate sharing of natural resources.

“Almost every building typology needed to shelter ecotopian societies exists today. There would likely be a number of interesting hybrid typologies that would emerge, under emerging contexts, but nothing that would be unrecognizable in terms of form and function.”

'Make Use Of What We Have'
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[katalog.uu.se/
empinfo/?id=N5-1293](http://katalog.uu.se/empinfo/?id=N5-1293)

Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

I believe that humanity is in peril. Whether we soon join the many extinct species who once had this planet as their home, or merge with our own creations in the singularity of a futurist's dream - our humanity, rooted in the humus of the earth, is wavering, flickering, disappearing. Our dominant extractive human culture and its many institutions and faces, may need soft reform, hard reform - or perhaps many are beyond reform. A person who manages to open their senses to the more-than-human world, and listening to what they still have to say, may have a better, or perhaps the only, chance of dreaming a more convivial world into existence. To take experience seriously, seeing that things may be hopeless, yet determined to make them otherwise. These are the dreamers I am interested in, yet to some they may well seem dangerous.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Can it ever be either one of the two? If Ecotopia is to be seen only as a process, must it then not be rooted in improvisation, a state of immersion and reaction, stepping backwards into the future, carefully and humbly laying down images of any Eden that falls into our hands? On the other hand, if it is seen as an end-state, what we must avoid at all costs is the one-sided, single-faceted, incredibly strange, yet common, idea that lightness could exist without darkness, control without disorder, life without death - creating scape-goats and more others than you can count.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

It seems as if the human species has the innate capacity to think long-term, over many, many generations, and that many land-based cultures throughout history have done so. At the moment, I believe most of us are just choosing to not do so - individually and collectively. Or perhaps we are being so abstracted and immersed in the world of pokemon-go, internet-dating and cyber-confirmation that even the-end-of-the-world-as-we-know-it will not make us look up from our personal screens of distraction. This is as much about culture, cosmologies, ontologies as it is about politics, if not more. As long as we keep culture aloof, detached and far from our wild fermenting roots in the natural world, we will keep creating political institutions that remain short-sighted, anthropocentric and ultimately suicidal.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

I think we need to show, very practically and quickly, that human activity can be regenerative. In contrast with many destructive practices throughout human history, we have also done good - built top-soil, increased biodiversity and been stewards and care-takers on mother earth, for Pachamama. The fossil fuel injected, carbon-intensive, growth-obsessed societies many people live in today is an exception. And it is only a very, very short period of time in the history of the homo-sapiens species that we have accepted, and come to think of this as normal and necessary for living a good life. So yes, it is a great transition for many of us, but it is also the last few hundred years that is the exception, not the norm.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Providing regulations, rule of law, integrity and trust that can provide a growing ground for a more just, safe and humble trajectory for its citizens and other co-inhabitants of the land.

What levels of organisation should societies have? Local or centralised?

As resource-constraints and the effects of climate change kick in, I believe we will see an increased localization, a decreased need for specialists and increased demand for individuals and organizations that directly can deal with more multi-faceted and interconnected social and ecological challenges. I also believe this can be something to strive for, with the major caveat that we must counteract myopic and fear-based mindsets that may result with the above trends as a backdrop.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

I believe speed in our societies and lives is one of the biggest problems that is maintaining and driving the unsustainability of our current growth-fixated development paths. Long-term sustainability requires a complete overhaul of the current built environment and our expectations of being able to jet-set across the globe at speeds unhealthy for our sanity as well as the health of the planet.

What sources of clean renewable energy do you envisage?

First and foremost I think we need to look at the demand-side when it comes to energy. Our current use of energy and everything that this drives, is unsustainable in the long run. Replacing fossil fuel based energy systems with renewable, decentralized and distributed ones is of course important. The problem is that it is not happening. We are not decreasing the use of fossil fuels as we increase the use of renewable energy. Rather we are increasing the total amount of energy consumed and wrecking the planet while we are at it. Fossil fuels need to be quickly phased out and most of what is left need to stay in the ground. I do see promising solutions within renewable energy technology

emerging, but they need to be coupled with a deep questioning of the wealthier parts of humanity's current level of using energy and associated short and long-term costs.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Fortunately there are still indigenous people here on earth that actively and consciously are practicing a sustainable way of living on the land, and daring resistance against those threatening their livelihoods and land. There are also many promising seeds to a more sustainable world being planted in all sorts of different contexts, organizations, cultures. Ecotopia would be nothing like what most of us, at least in the West now experience as the world - it would be the end of the world as we know it, but that might not be so bad. In fact, it might even be the best of all possible worlds.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

What I think we may need is an un-industrialization. A more convivial culture where making is as natural and common as eating or sleeping. Many of the technologies and processes that our use of fossil fuels have resulted in, must not be maintained by simply replacing fossil fuels with bio fuels - a potentially very dangerous path. What I do think, is that we should make use of that which we have already created - upcycle and find new uses for old infrastructure, buildings and artefacts. And I hope we may find the humbleness to not leave too much behind.

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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

Society needs dreamers and visionaries, people who are prepared to live outside of the mainstream to provide images and stories that are 'unthinkable'. They are the change-makers who show the rest what 'could be'. However, dreamers are not the best people to deliver such visions.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Ecotopia is neither. **It is a context, that evolves as we interact with it.** Our understanding of it changes over time, sometimes simple, sometimes complex but never fixed. It means something different to each.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

Societal transformations only take hold if there are sufficient people who understand the issues and agree on a given process or final destination. It cannot be driven through political power on its own, it requires actors from all aspects of civil society, business and governance to actively lead.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

See answer to (3)

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Supportive, long term, considered transformation, holding equity central to change.

What levels of organisation should societies have? Local or centralised?

Both, some organisations are better centralized (e.g. specialist health provision), other aspects work better at local level (e.g. local transport, care for the elderly).

1) How do we build a more sustainable society? What sort of infrastructures and transport systems should we have? 2) What sources of clean renewable energy do you envisage? 3) What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today? 4) What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

These last 4 questions are huge and cannot easily be answered. Some are technical in nature (energy, buildings, transport .etc), but technology needs to be underpinned, accepted and utilised by civil society. In addition, what works for one place is unlikely to work in an identical fashion in another (different cultures, climates, functional requirements). To ask what these are like in ecotopia is to try to remove its complexity, and what you will end up with is a mishmash of people preferences depending on where they are, how old they are, and what has made them the person they are. If you try to generalise, you will end up with a picture that does not match the anyones vision. Whatever is chosen needs to be selected on a systems level perspective, minimising the transfer

of sustainability burdens (or costs) to other people, places or times. This might mean that 'natural' materials are not always the best solution, and that sometimes high tech can meet the needs of a burgeoning population better than 'natural' alternatives.

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We find ourselves in the early phase of a paradigm shift on all levels. It is a fact that politicians, scientists, entrepreneurs, etc. can all now demonstrate. A turbulent time of change with constant junctures permeating the era. Whether we will be able to save what we have built during the industrial era in the old paradigm remains to be seen. But it remains the case that we must act and seek solutions out of the dilemma we created. Ecotopia is one of the choices which the movie *The Planet* discusses. See our website www.ecotopia.se/en/about-ecotopia/the-film-the-planet/. Ernest Callenbach wrote before he died about the concern he felt for the future.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Ecotopia is of course a process. Everything in the new paradigm consists of processes and, above all, the transition from one paradigm to another. In this time we require an infinite number of solutions to the countless problems that humans have created on the planet. The new ideas in this time are solution-oriented rather than, as in the past, problem-oriented. We are moving from linear to circular thinking. Thus, we leave the Utopia of the final state in a patriarchal system and transfer to process-oriented thinking and particularly acting in constant evolution, without any claim of finality. The universe is infinite and we are part of the same.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations

as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

To the new paradigm, i.e. the post-industrial re-use society / holistic-relations society belong long-term rather than short-term profit-oriented and goal-oriented thinking. Selfishness, competition, separation, environmental degradation, etc. arising from a purely profit interest belong to industrialism. If we want to survive, this must be replaced by self-fulfillment, collaboration, inclusion, environmental reconstruction, etc. on the basis of nature and man's human and social rights. I do not believe that there are politicians and institutions saving us, but rather that salvation can only be based on ownership at the grassroots level. Yes, it requires changes in attitudes and related new patterns of action from each of us.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

All of us are already in the period of change. We do not need to persuade anyone. Nature is much stronger than we humans. One fine day, economic bubbles burst. And so on. We do not have the power, but rather the transition with its changes is occurring whether we want to or not. That which resists will wind up in crisis or become sick. Bureaucratic, static and top-down organizations are forced to change in order to become mobile, flexible, flat and customer-oriented. One need only observe the unexpected changes that occur daily, at a rate never seen before. We will not convince unless we, as Gandhi said, "Live the life you want others to live."

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

I do not believe in governments as creators of a sustainable future but rather as role models and leaders elected by the citizens of the local community.

What levels of organisation should societies have?
Local or centralised?

Strong local communities constitute the backbone of the new paradigm.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

That speaks for itself: No infrastructure and systems that require fossil fuels and which are as self-sustaining as they can be.

What sources of clean renewable energy do you envisage?

All those which do not constitute threats to the environment and are finite; instead, those which help to re-establish a balanced environment: algae, wave energy, small-scale wind turbines, etc. but especially solar energy.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Will refer here to Ernest Callenbach's books, otherwise this answer will be too exhaustive.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Materials such as clay, stone, hemp, flax, etc. The materials at the site and in the area local to where we are building. We will leave fossil-based building materials and those which nature cannot break down within a life cycle, as well as those we cannot repurpose, behind.

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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

A famous line attributed to Oscar Wilde suggests "A map without Utopia marked upon it does not deserve to be glanced at". Tinkerers look at maps of no import; tending to maps of mere fantasy. It's those that strive for utopia that are the realists in this age of eco-catastrophe.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

From a philosophical point of view, the 'Utopia as Process' idea is inherent in any stated endpoint—since more often than not those proposing an endpoint prompt questions about how to get there. For many, utopians an endpoint scenario is just a snapshot in time, a suggestive chapter in the story of utopia. I know some people are scared of the ossifying and totalitarian effect of endpoint scenarios but in art, from a practical communicative point of view, the novel and the movie film, maybe, can represent this idea of utopia as a 'process' better than a painting or a still photograph. However, a bunch of many paintings, or stills, thrown together—has the same effect—if the viewer has the time and inspiration to view them all.

From wider social point of view, it doesn't matter too much if Utopia is regarded as an 'end-state' or a 'process', for it's been represented as both/either quite successfully in ages past (by painters and photographers and by movie-makers and novelists). As long as Utopian Visions prompt an imagination that propels people to believe that there is a better way to organize the socio-political world—then it serves society well.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

Climate Change and the global environmental crises force people to think of the future every time they read about these topics in the newspapers or watch eco-disasters unfolding on the TV. I think many people do care about the future, they do hope that there are people around to remember them, that their grandchildren will be happy, rather than living in a desolate and broken-down world.

And every day, the amount of people who learn and know about future challenges and the impact of global climate change grows. At the same, though, we hurtle towards ecological collapse. It's going to be interesting to see which arrives first; genuine environmental awareness; or a world of total environmental chaos.

Alas—I think any form of Utopia, or something akin to it, is improbable but that's okay though since it's still a useful idea. Without utopian ideals; without a sense of the best of possible worlds, and we should debate what the 'best possible world' means, we all lose a potent tool to define what paths humanity can possibly take in the future.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

I wish I could be positive about this. I wish I could say that progressive politics (along with environmental awareness and green technology) IS enough to save the world. Alas, I cannot say this with any confidence. Maybe, it is going to take a HUGE environmental calamity, where Miami is wiped off the map forever by a super storm, for example, or where Tokyo is irradiated by a huge nuclear catastrophe, for instance. Only then, after such a massive calamity, will governments start listening to ordinary people's calls for change and begin a process of the necessary socio-political alterations—and start a 'war

on environmental decay' on the scale of the 'war on terrorism'. If there is no such calamitous event, then the environmental crises will go on slowly -- year by year -- and it's probable that the rich will just buy their way out of trouble -- and go on living as they do now, leaving the poor to adjust as best they can to a hot, storm-battered, dried-up, disaster-ridden future. This sounds pessimistic, even though I hope it's not going to happen, but that is why utopianism is so important to me -- for it encourages me to explore better alternative futures.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

The state government has to have faith that they will not be voted out if they pursue environmental goals. They will only have such faith when the public show them the way.

What levels of organisation should societies have?
Local or centralised?

Maybe the best government is NO government. Maybe anarchy is the best thing. For most anarchists, the big anti-authoritarian projects the are to peacefully (and without the use of arms) rid the world of a) *corporate power*, b) *central government*, and c) *national armies*. Only then, the 'eco-anarchists' say, would both humanity and nature be peaceful and free. This freedom would give space for communities to make their own decisions, and these, would generally favour the long-term preservation of the natural environment rather than its destruction for short-term gains of power. It would also reassert the local quirky differences of a place over the rampant uniformity imposed by corporations and government. The tasks the local/central government once performed are then dispersed out to groups of enthusiastic people who enjoy mastering them and then teaching others about them. Other tasks are dished out to various small businesses vetted at public assemblies for their trustworthiness.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Pedestrianism. With lots of cafes on the route to work and back home again. Convert all the motorways to tree-lined

eco-corridors with bars and music cafes and creches on the way. Stage 1 of this process is to ridicule Jeremy Clarkson. That's already started and soon I foresee the M1 being planted with oaks.

What sources of clean renewable energy do you envisage?

When the new Chinese nuclear power plant at Hinkley mysteriously breaks down only a few months into service, finally the UK will put its money into making every house and home self-contained with its own solar roof and wind-turbine. The Chinese, as well as terrorists, will find it much harder to disrupt the UKs economy if the energy supply is so dispersed.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

The Olympic Games would add tree-planting and worm-farming into their retinue of sports.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Camel-shit mixed with dried straw, aloe vera fibre and the recycled windshields of Jaguars and Aston Martins. As a starter, I think several truckloads of camel-shit from the London zoo should be dumped on the lawns near Westminster for passersby to hurl at the parliament buildings. The parliamentarians are always moaning about how their workplace is due for a refurbishing -- so this will get the process started.

For those Britons near the coast, the Triton submarines can be refurbished into underwater homes to adapt to rising sea-levels.

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I think that it depends on what you are talking about. The idea of deleting everything and starting again can be very exciting, but I think that much of where we have got to has been developed gradually over the years through considerable intelligence and iteration based on evidence - 'standing on the shoulders of giants', all that. However, the 'tinkerers' are also those who believe inherently in the status quo. There is also Thomas Kuhn's idea of 'paradigm shifts' in scientific understanding. Sometimes things need radical reassessment in the light of new information or new ideas. Sometimes we should take a step back and look at what we are doing, and consider whether something completely different would be better. I think this is one role of the arts - not just to reflect 'what is', but to suggest 'what could be'.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Ecotopia as a process makes more sense to me. I believe that as individuals and as a whole, humanity is born to strive and continually develop. The idea of 'achieving' an idealistic end state is, in itself, non-ideal.

How do you draw it? I'm not sure. It relates to what I am researching in terms of the built environment and the circular economy. We can see the start as mining raw materials from the ground, or cutting down trees; then we manufacture these materials into building components; we transport the components to site; we assemble and construct them; during the life of the building we maintain, refurbish and replace individual parts, each of which has it's own miniature life cycle starting from raw materials

again; at the end of life, we demolish the building; we transport the demolished materials away; finally we process them again - perhaps into landfill, perhaps burning them for energy to feed another manufacturing process, perhaps recycling them (via a manufacturing process), perhaps reusing them as they are. We can assess this whole process, add up the environmental impacts of a single building, and produce a single number. The number, of course, isn't accurate - partly because we don't (ever) have a complete list of these components and processes, nor do we really know everything about an individual component or process, nor do we know what has happened - or will happen, even less - over the lifetime of the building, or at the end of life. There are too many people and too much diversity in all of the processes. The number is also huge. The environmental impact of construction is devastating. And this is already ignoring all of the additional impacts of the industries which support the process of constructing a building - the design firms and construction firms, the workers and their journeys to work, the banks which finance the developers, the impacts of their financial dealings around the world. The current industrial model is too distributed. This could be compared with a favela - an informal settlement, in which the materials and labour are all local, easily counted. The argument against these settlements is often environmental - the impact of lack of proper sewage treatment on local water courses, for instance. However the numbers suggest that the impacts are far lower than that of the commercial, technological, global construction process. As buildings become more sophisticated, their environmental footprint increases exponentially (I haven't checked the mathematical relationship - it's a hunch).

So how would we move towards ecotopia? Do we need to move progressively backwards, to individuals building their own home from local materials? Or are we still moving forwards, using our increasing technology and knowledge towards developing new bio-based materials (chemically altered bamboo, photovoltaic algae in facades) which enable us to develop ecosystems as we build rather than destroy them?

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be

brought about? What new political institutions will be required? What new attitudes will be required?

After the Brexit vote has shown how very myopic many people's views are of the world around them, let alone their views backwards to history or forwards to their children's future, it isn't at all clear. Working in a university though, I would say that bringing disparate people together into a growing and learning environment changes them forever. How can this be 'imposed' through a political system? Perhaps through enshrining the right for the time and space to think within the UN human rights. This was very much the understanding of Virginia Woolf in requiring that we have a room to think in, and of George Orwell who wrote of the impossibility of developing ideas if you are exhausted by your daily work. State education on the whole allows little of this, instead forcing everyone together to learn the same facts. So perhaps a school is the place to start, where the adults of the next generation can learn how to think for themselves and for their futures.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

The most successful visionary building of recent times was Wolfgang Feist's Passivhaus. Based on the idea that the building and its occupants were self-regulating in their need for heating energy, it has had a huge impact on the house building industry across the world. It is now a popular concept (although successfully passiv buildings are still very few) across not just Europe but also the rest of the world. How were people persuaded is a complex mixture of vision, argument, demonstration, and belief. The next revolution in the buildings industry is a truly zero-carbon building, in which the construction materials as well as the operation of the building is carbon-neutral, and this is the discussion which is happening throughout green building councils and academic establishments around the world. A vision for this will be a hugely powerful part of the story; as with all architecture, the numbers and concepts are developed as well as illustrated through drawings, models, and finally construction. The BRE innovation park in the UK shows

just how important the physical manifestation of an idea is for people to believe it.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Where we live in a governed society, there is clearly a role for state government in all change.

What levels of organisation should societies have? Local or centralised?

Both - I would say rather, all - just as happens in nature.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Ones which enable increasing social equality, not reinforce existing inequalities. So rather than spend taxes on upgrading roads in the commercially successful areas, or building high speed rail links to London (for example), use them to support local bus services in rural areas so that people can get to work cheaply and without losing childcare and leisure time.

What sources of clean renewable energy do you envisage?

Many. I'm particularly interested in using urban structures as energy farms; I'm currently looking at the viability of using photovoltaic systems integrated into long-span roofs, for structures such as supermarkets, warehouses and even airport terminals; using foundation structures to tap shallow ground source heat to heat the buildings above; and using the stack effect of ventilated facades to cool buildings in hot climates.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Both more and less technology - more where the technology is working to make life cleaner and less environmentally damaging, but I would like to think less where the purpose is to show off your wealth with the latest gadget. Less consumption, more though.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

As explained above, buildings can be used effectively as energy sources with some careful design. However the environmental impact of building materials is huge. Everything should be rethought in terms of carbon:cost effectiveness. I think this will encourage us to return to low-tech materials in many cases, including timber, clay and even thatch. For the developed world however we already have most of the buildings we need, and we should focus on retaining these and retrofitting them for future climates. If ecotopia is a place in the UK, it might look very similar to today, making the most of the built resources we already have.

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Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

One cannot imagine an alternative (and progressive) future without dreaming it up first. It remains utopian if it is confined only within the realms of imagination... for the vision to find expression, it must be shared with like-minded creative thinkers with the intent of implementation in the real world. My functional ethos for the realisation of 'ecotopianism' is: "I participate, therefore I am"... It is not enough to have goodwill for a bold new initiative; one must participate robustly within their community of practice.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Ecotopia is in my humble opinion a dynamic and continuous process of evolution towards a higher and more progressive state of being for our human family. My visual representation would be a helix or spiral in which an iterative, cyclic and yet continuously evolving process occurs...

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

Design advocacy must be coupled with design activism for such goals to be attained. As the proverb goes: "we did not inherit the earth from our ancestors; we have borrowed it from our children [and our children's children]"... A sense of social responsibility, urgency and agency is required wherein a new breed of design thinkers and allied creative

problem solvers take on 'political' leadership. The world desperately needs fresh ways of thinking as we collectively grapple with myriad 'wicked' problems that characterise 21st century living. The world's problems cannot be solved with the same logic that co-created them in the first place...

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

As Ivan Illich argues in his 1973 classic text entitled "Tools for Conviviality", there must be limits to growth as defined in neo-liberal capitalism. The wanton resource waste and expansive industrialisation that has resulted from unbridled consumption needs to be checked. There's no 'Planet B' - Earth is all we've got to sustain us as a human race. We must act now whilst we can to usher in an eco-friendly and sustainable global agenda! Ecotopianism can help advance social innovation and promote social equity and cohesion...

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

The state can offer tax incentives and rebates for research, policy formulation, implementation strategies, and advancements in eco-friendly interventions such as the quest for carbon-neutrality; the green [and blue] economy; deployment of distributed renewable energy systems; strategies for mitigating climate change; and support for collaborative consumption [and the sharing economy] to spur growth and sustainable development of these sectors...

What levels of organisation should societies have?
Local or centralised?

In my view, a 'glocal', decentralized and yet networked strategy that incorporates social media and the Internet of Things. The said strategy would allow for autonomy in organisation by local or regional chapters that are networked on a discursive sharing platform to exchange information, case studies and best practices across the world...

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

“I am because we are” – we need to first of all [re]build the sense of community and pride of place before we tackle the complex global challenges that face humanity. We need to spur local action and activate communal spirit that reminds us of what it means to belong to a vibrant, empathic and inclusive community. Only then should we attempt to [re]connect at a global scale to maximise social impact. In this progressive vision, the infrastructural and transport provisions would prioritise pedestrianisation, mass transit, non-motorised mobility modes, and sustainable eco-friendly solutions...

What sources of clean renewable energy do you envisage?

Solar/photovoltaic, hydro, geothermal, wind and ocean wave sources appeal to me. They must however be generated and consumed via efficient distributed renewable energy systems – not the current centralized and highly inefficient electricity grid system...

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

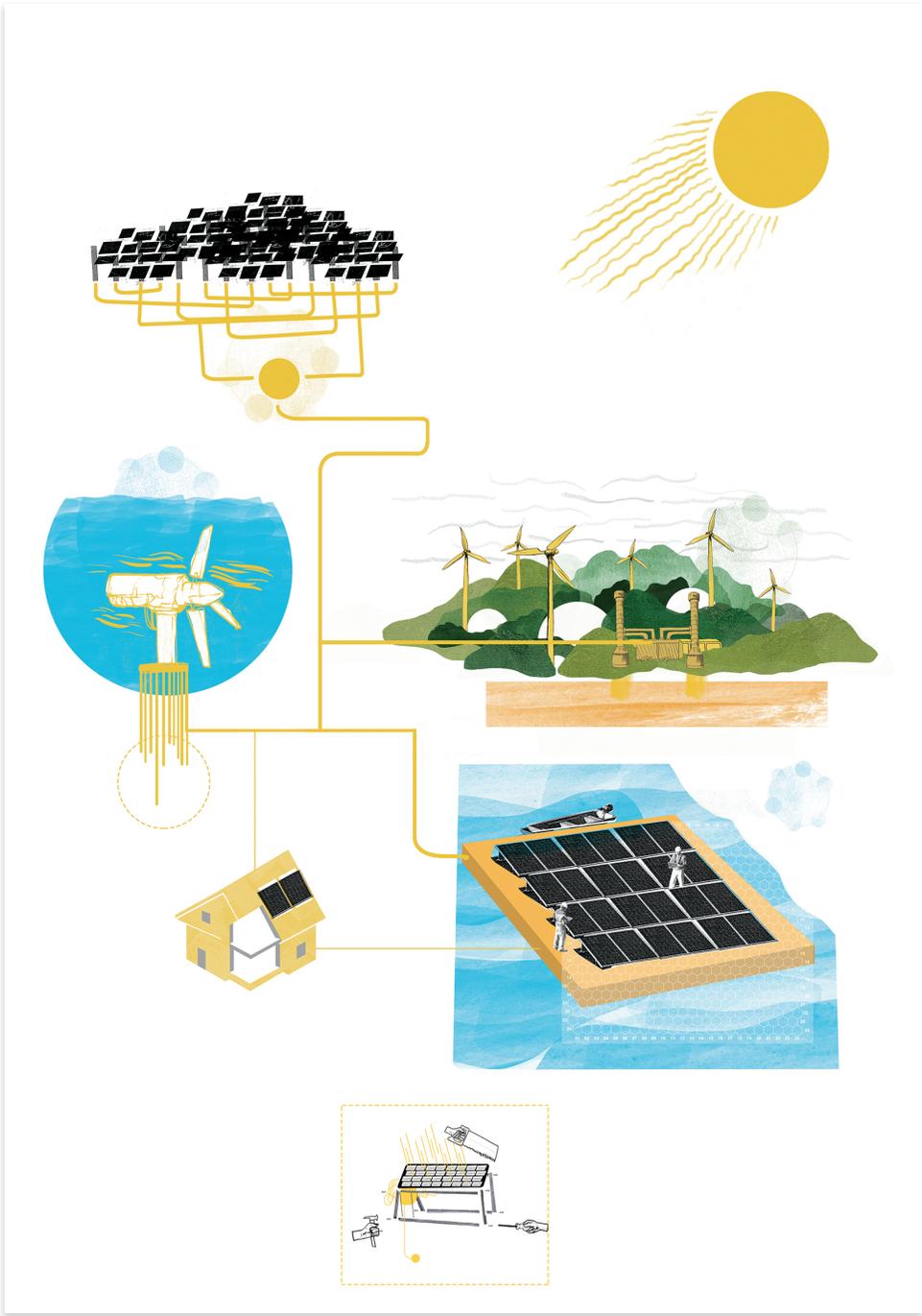
My vision of sustainability in action is one of vibrant and convivial communities sharing resources and co-producing energy, food and other requirements as close to the point of consumption as possible. In my ecotopian vision, renewable energy has become the norm as people use efficient public transport. As well as non-motorised transport options where feasible. Additionally, communities demonstrate a participative, inclusive and empathic ethos in their engagement with each other. They are socially conscious and responsible as well as globally aware and connected...

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

The buildings would use eco-friendly and biodegradable materials, be carbon-neutral in energy consumption, produce food and/or electricity from roofs and windows, and use state-of-the-art technologies to humanise their interior environments. Wastefulness would be left behind...

“solar/photovoltaic, hydro, geothermal, wind and ocean wave sources appeal to me. They must however be generated and consumed via efficient distributed renewable energy systems – not the current centralized and highly inefficient electricity grid system.”

'Use Natural Energy Sources'
Aiden Barefoot, Toby Downham, Melissa North,
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Utopia is, by it's nature, unreachable, but creating visions of it allows us to direct our resources towards attaining as much of it as possible. As a set of attitudes, it is also constantly evolving and hence new visions are needed to represent those attitudes. Those who dismiss utopia are not dreamers - they are unable to see the power of dreams to change our reality.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Visions can show how movement towards ecotopia would evolve, and what the stages of that evolution are. Just as science fiction films range from near future, where much remains the same, to far future where the environment has been transformed, we should be able to envision the stages of ecotopia.

In terms of showing process it is also a matter of getting on with that process ourselves. Designers should be the role models for new ways of living and they can document this process in order to encourage others.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

Currently we are so distracted by the short term continuous turnover of tragedy our only distraction capabilities are to react to Kardasian news. We blatantly ignore all

climate change doomsday news articles. We are so immersed into the present and bombarded by the fear mongering of a dystopic future as depicted in the media that we can not fathom what one can do to focus on global life threatening environmental problem.

To think more long-term and imagine a future we cannot yet see is by its nature a complex mental challenge for our imaginations. According to a study conducted by psychologists Dr. Daniel Gilbert and collaborators, published in the journal *Science* in 2013, they asked participants about their personality traits and preferences in years past and present, and then asked to make predictions for the future. When asked to predict what their personalities and tastes would be like in ten years, people of all ages consistently played down the potential changes ahead. People seemed to be much better at recalling their former selves than at imagining how much they would change in the future.

"The end-of-history effect may represent a failure in personal imagination," as quoted by Dan P. McAdams, a psychologist at Northwestern who has conducted similar research into the stories people construct about their past and future lives. He has often heard people tell complex, dynamic stories about the past but then make vague, prosaic projections of a future in which things stay the same.

A utopia is a reflection of one's own circumstances hence can be extremely subjective. Thomas Moore's utopia was a sign of his own current situation, he was married twice after his first wife died leaving him with four children. He describes a fictional island society in the Atlantic Ocean where there is no poverty nor idle rich and voluntary euthanasia. Everyone wears the same outfits, lives in the same types of houses and everyone goes to bed before 8pm. In his Utopia, surplus children are sent to less fertile families and prospective brides are exhibited stark naked to prospective bridegrooms. Back in 1516, to Moore this was a highly desirable, perfect society but also a reflection on the social fabric of his time- famine, ill health and poverty.

A utopia can be a reflection of our embedded current attitudes and a dream of how life could be different - something to test out and experiment. An ethical spectacle

as Stephen Duncombe mentions in *"Dream: Reimagining Progressive Politics in an Age of Fantasy"* - "The ethical spectacle is a dream put on display. It is a dream we can watch, think about, act within, try on for size, yet necessarily not realize. [] it is a means, like the dreams it performs, to imagine new ends.

However, changing attitudes, behaviours and values can be done over time with storytelling, knowledge sharing and social change. With the use of scenarios, visions, narratives, fictional folktales and tangible experiences, we can intervene by introducing subtle changes into our everyday lives illustrating what life might be like in such a way as to jolt our brains.

Maybe if there was an innovative, ingenious, influential climate orientated political institution that never mentioned climate or change but had as much influence on individuals as Apple's global campaigns have done in the past, then maybe we might get somewhere. This political institution could go as far as handing out free Oculus Rift headsets in the hope of initiating a shared group dream - a sort of public health campaign referencing the group think of Orwell's 1984!

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-'growth'. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

Persuasion has to come at all levels, including culture. The Dark Mountain Project's manifesto talks about how culture needs to reflect the reality of our environmental circumstances so as to embed awareness and understanding. This means design, art, literature and film all need to be addressing the issue alongside governments and business.

A multi-faceted approach will be needed - visions also need to address how the constituents can work together more effectively. It is clear that government and big business as they are currently organized are not able to make the kind of sweeping changes that are needed to avert climate catastrophe.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Governments should take a much more strident role in regulating behavior that affects climate change, on the level of the individual as well as business scale. Even the simple matter of charging for plastic bags has an effect (there was an 85% drop in plastic bag use after the charge was introduced). The major problem is how to enact effective global regulation. Governments are not willing to introduce measures that will make their economies less successful compared to others, and hence the global climate summits have set targets that are lower than what is really required and without sufficient penalties for non-compliance.

What levels of organisation should societies have? Local or centralised?

Both

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Everything needs to shift to renewables. If we can fly a solar plane around the world we can move to renewable energy for our transport systems.

What sources of clean renewable energy do you envisage?

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

What kind of buildings would ecotopia have? What materials would be used for their construction?

What would we leave behind?

[These final questions are too big to address here! A whole project is needed. It's not appropriate to give off-the-cuff answers as they will not reflect the level of research needed to do the subject justice.]

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To become an ecotopian, first of all you need to be a realist. A realist in the sense that you acknowledge that we have a problem and what the extent of the problem is. If not allowing oneself to be beaten by a problem means being an idle dreamer, then that is what ecotopians are.

But I see this very differently. The ecotopian is the person who despite understanding the nature and extent of the problem the planet faces is still sufficiently optimistic and pragmatic to look for solutions and brave enough to help create a new way of living that will ultimately be better for all.

The person who takes the time to understand a problem is in a better position to propose ways out of the problem than the one who ignores the signs or makes light of it and hopes that it will go away. People with this approach are a big part of the problem.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Ecotopia, effectively achieving sustainability, is a goal and a vision of an ideal. But it is also an attitude of mind characterised by a sense of equity, sufficiency, and collaboration whereby all living species can flourish.

Interpreting that ideal in a single physical form with our current understanding in itself limits the vision. All our physical interpretations must be understood as explorations and we will need multiple and diverse interpretations of what 9 billion people living well on a

finite planet in harmony with their supporting ecosystems and fellow creatures might look like.

Ecotopia as an interpretation of this vision can never be an end state because it is not static. The process of achieving this vision involves a continuous cycle of learning through action and reflection that saves it from the problem of all static visions. You can only ever experience the journey, so that is what we must focus on.

We talk about transition as the active journey out of our state of unsustainability towards ecotopia. Together with the multiple interpretations, for a transition to be successful we will also need multiple debates and experiments in the way of truly resilient systems or organisms. The notion of transition also breaks down the journey towards Ecotopia into smaller and achievable steps and goals while still being able to see these as part of the bigger vision.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

(see above for what characterises the attitude.)

Like all great movements it will require inspired leaders brave enough to challenge the status quo. But more importantly, it will need a groundswell of people from the bottom up who understand that the current systems is on an unnecessary course of self-destruction and are willing to try alternatives.

Awakening people to the problem and bringing them on board towards a feasible solution is the most crucial step in moving this project forward. I believe that the deep shift of understanding and attitude needed will never be achieved through rationality alone, if at all. It will be embraced when it touches people emotionally and personally. It is about reconnecting every citizen of the world with their fellow human beings and fellow creatures intuitively and emotionally. And then offering visions of fairer and better lives that are possible in a steady state or degrowth economy.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

See 3 above and to add to it:

You could say that you need to share the problem first. This is the difficult part with so many vested interested and entrenched views. Everyone needs to see the advantage for themselves as well as the greater good.

In order to do this we need to construct new narratives that people will intuitively connect with and appreciate as necessary and positive new ways of living. This also implies that we should communicate why and what the new rules of the game of ‘living’ need to be and how these can be a force for good. (see Juliet Schor - Visualising a Plenitude Economy)

These include scenarios where we move from time poor to time rich. Where the prime objective is no longer to accumulate financial wealth but social capital and well being. Where we can develop ourselves, share our skills and see the direct benefit of our work and contributions.

We also need multiple interpretations of what this future could be so that people can see which new scenarios they intuitively connect with. It is in the tangible interpretations of these possible and multiple new scenarios that designers have an important role to play.

Finally, as this is a fundamental shift in values and developing an intuitive understanding of sustainability then we need to START YOUNG.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future? What levels of organisation should societies have? Local or centralised?

An Ecotopian vision will necessarily bring into question many of our current forms of governance and organisation. Because society will be based on a new set of values and goals, its organisation and rules will need to change to reflect these values. While there are many different visions

of ecotopia, I will focus on the common ground and highlight a few aspects.

There seems to be general agreement that in order to transition to a sustainable way of living across the planet, we need a whole new set of economic rules and objectives. The economy needs to be brought back under control to fulfil its primary role, that is, an agreed system for the exploitation, distribution and exchange of resources and services that supports our social and environmental aims. Not the reverse as we seem to have at present.

In keeping with the plurality of views and approaches, there is not a singular interpretation of how the new economic system would work between steady state, no-growth and degrowth proponents, but there is plenty of common ground.

The common ground for transition is a general acceptance of the need firstly to stabilise growth and then move to stopping or even decreasing growth globally while at the same time redistributing wealth. This means degrowth in the wealthy industrialised regions and sustainable growth in the under resourced regions. Generally, this calls for self-imposed limitations of resource-use in the agreed regional degrowth or controlled growth scenarios. But these limitations will also spark a creative revolution.

Over and above the limitations on resource use, human activity will move to being more in tune with the regional biocapacity. In this framework, the extent and nature of human activity is connected to the nature and capacity of geographical and ecological areas or bioregions rather than existing artificial political boundaries.

All of this will necessitate a much more cooperative and less competitive approach to how we reach decisions, organise ourselves, and do business. The common thrust is a move away from highly centralised structures run by technocrats to more local and direct forms of governance that will naturally limit the size of social units. Altogether these social units will be highly interconnected.

Finally, the organisation and the rules should take a dose of wisdom and knowledge from Daniela Meadows and be based on systems thinking and systems feeling' to use John Thackara's term. Ecotopia should be modelled on the proven complex systems that we find all around us in the natural

and biological world. This will form the basis to create new ground rules and networks for communities to interpret in ways appropriate to their region and cultural ways. We will create natural abundance and resilience by not treating symptoms but getting to root causes, by building in feedback systems and constant learning, allowing redundancy and failure, and operating in fast and slow cycles. The transition to Ecotopia is in fact a very large biomimicry exercise, which by its very nature is constantly evolving.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

Thanks to intensive energy sources namely fossil fuels, mass mobility has been one of the most socially and economically transforming phenomena of the 20th century. Now in the 21st it is taken as a given. Yet it is also one of our most environmentally impactful activities.

We have built our trading models around shipping material and goods all around the world because it makes monetary sense. We commute long distances to work and the internet has widened our curiosity and cultural horizons so we think nothing of flying long distances for weekend 'breaks'. Because we can. The world has truly shrunk and not just virtually. It will be a major challenge to change this behaviour if that is what is needed.

But infrastructure and transport systems, like the economy are there to serve our social and environmental objectives. If we can agree on these and set a framework, then working out what the role of transportation is will not be so difficult.

We need to begin by asking ourselves, what services do transport systems provide? Mobility of goods and people yes, but to what end? Mobility will be important for cooperation and collaboration to thrive, but with a limited carbon and resource 'budget' we will need to sit down and decide on our priorities. Once we have reassessed what forms of transportation fit our new biocentric model there will be a surge to find the most efficient means to do this. Limitation is the fuel of creativity and ingenuity.

Certainly at a local level, human and self-powering transportation networks will be fundamental. Starting with humble pedal power, these will be further refined to blend

in with with daily needs. Distances will be manageable and speeds appropriate and we will all be healthier for it.

For the medium distances, fully integrating the most efficient modes of travel and movement of goods with the greatest enjoyment and least disruption will be challenging but rewarding. And for longer distances, will we finally have solar airships, wind turbine driven ships and...? Altogether travel and transportation will be more about efficiency, appropriateness and conviviality than speed.

What sources of clean renewable energy do you envisage?

No one knows what new adaptations of renewable technologies we may have in the future - that is the exciting thing about invention and ingenuity. What we do know is that harnessing the energy of the sun, the only 'free' and inexhaustible input we have on the planet, is the only sustainable way to power our activities now and in the future. The sun powers the wind, the waves, the tides, the rain, biomass growth and of course provides us with direct radiation. So working with all these elements will lead to sources of renewable and plentiful power.

Another great asset of renewable energy is its flexibility. It lends itself to big installations but also to decentralised, distributed and even autonomous or off-grid energy production. This gives scope for much more local but networked production and use and greater resilience.

Ultimately though, for Ecotopia, it is the levels of energy intensity required or desired as well as how these will be achieved that will be the important points of collective discussion as we construct new social priorities and relationships.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

In the transition period, the journey to sustainability will be different for different people depending on which part of the world and society they are born into. But in practice they will share the notions of sufficiency, responsibility, equity and collaboration that are central to sustainability in practice.

For people in developing countries born into poverty and limited access to health, education and resources, it will be a time of improved access to all of these with better living conditions and less uncertainty.

For people currently living beyond their biocapacity, it will be a time of great change based on reduced consumption of resources and a shift in values from quantity to quality. As our personal objectives will no longer be to accumulate wealth, we will have more time and energy for personal and collective development, more community and collaborative activities and more understanding of our work contribution, making it more valued and meaningful.

For the other species and ecosystems of the world it will be a time of great relief as they gradually recover from the sustained assault they have been under for the last century. Embedded in the new system of bioregional activity there will be a deeper understanding and appreciation of the regions eco-system services and energy will be put into supporting and restoring these for mutual benefit.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Like transportation and other services, our buildings should respond to our needs and reflect our values. Given that we currently spend an average of 90% of our time indoors, their design is very important through both the psychological effect they have on us and the social activities that they facilitate.

Our building practices would emulate living systems by being adaptable to changing uses, built from local materials, and repairable. All buildings would be their own energy providers, a natural limiter of size. Equally, buildings will be appropriate to their purpose - whether short life, temporary use or longer term social anchors.

For the longer lived building, they should be like mighty trees with a fundamental and stable structure and adaptable and repairable limbs and tissue that can cope with being cut back or pruned or continue to grow in the direction that is most opportune.

But buildings in Ecotopia would not only be a product of their local materials. Communities would invest in developing local knowledge and skills and share best practice across communities. Perhaps more importantly, buildings would create strong cultural connections and become a celebration of the resourcefulness, creativity and skills of their designers and makers.

“...buildings would create strong cultural connections and become a celebration of the resourcefulness, creativity and skills of their designers and makers.”

'Build From Natural Materials'
Aiden Barefoot, Toby Downham, Melissa North,
Caitlin Parks and Roz Woodman



Dr Rupert Read,
Reader in Philosophy
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Chair of the Green
House think tank.

Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

Absolutely. It's becoming increasingly clear that minor reforms in environmental policy and tweaks to regulations are doing little to avert the increasingly severe climate crisis that we are experiencing, for example. Instead, we need to be brave enough to imagine sweeping reforms to our legal system, political system, and fundamentally to our cultural valuation of nature. People sometimes call radical approaches naive, yet this is somewhat ironic given that the pragmatism that they champion as an alternative has completely failed to halt the progress of environmental collapse.

In short: the only viable option now is to be utopian. Anything less merely guarantees a dystopian outcome.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

It is a mistake to envisage utopia/ecotopia as an end goal, instead it must be a continual process. The problem with envisaging any type of Utopia, is that one can end up developing an idealized version of a future that often becomes rigid and blind to practical concerns and new conflicting evidence. Instead of focusing too much on end-goals, I believe that time is often better spend on developing a new paradigm of holistic decision-making processes that can help us rebalance our relationship with the environment. For instance, much of my own recent work has been done on exploring the philosophy and policy role of the Precautionary Principle. This principle is a part of EU law, and states that we should be ultra conservative when confronted with new technologies or practices that pose an uncertain risk to the environment. It shifts the

burden of proof away from proof of harm, and onto proof of safety. It is these sort of processes that we desperately need to adopt if we are to be resilient in the face of the twenty-first century's threats.

I am a huge fan of THE DISPOSSESSED. I think that, as the question suggests, it succeeds brilliantly in replacing the widespread understanding of utopia as an end-state with a far more processual understanding of it. So, le Guin has overcome this problem, and so could filmic representations. It is slightly harder to see how an installation or static artwork could rise to this challenge. It will be interesting to see if/how the Ecotopia exhibition addresses the challenge! Perhaps by including text, like this...

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

As a culture we are incredibly - dangerously - present-focussed. We discount benefits and costs not only across generations, but also even across our own lifetimes. Such an approach is profoundly dangerous, and ultimately, as the present environmental crisis is showing, it is also self-defeating and desperately dangerous. It is, in short, reckless. Profoundly unprecautious. To combat this cultural problem we need to be looking at serious reforms to both our legal and political structure. As I previously mentioned, some of my recent work has been on the Precautionary Principle. I believe that by incorporating a strong version of it into our law, we can prevent some types of future catastrophe from occurring. But we have to go beyond the Precautionary Principle, and look at reforming our political structures to account for future generations. I published a report in 2014 entitled 'Guardians of the Future' that suggests what such a structure could look like. This is based on giving future generations representation within our democratic framework by having appointed individuals overseeing policy choices with a view to critically evaluating their impact upon future generations.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

In terms of convincing people to adopt these radical reforms, I think that we are in a reasonably good position, historically-speaking, to do so. The promise of continuing economic growth increasing people’s wellbeing has been thoroughly debunked. Furthermore, we are already beginning to see the effects of catastrophic climate change globally, with recent floods in Britain as well as more devastating droughts in the global south.

The challenge now is to communicate that many of the reforms we need to protect the environment, are exactly the reforms needed to improve people’s quality of life. Wealth redistribution will have to play a part in this. Furthermore, by linking environmental problems to tangible health risks, such as those posed from air pollution, we will be better able to communicate an ecological version of the future. The think tank that I chair, Green House, has been working on post-growth research and outreach in Britain. Our assembled writings on this can be found online here.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

Localised to the lowest level possible. One of the big failures with traditional socialism is that it places too much emphasis on centralization. Radical ecology must instead recognize that a resilient society is one that localizes production and democracy as far as is possible. My recent co-authored article in the Ecologist on the problems of the European Union explores this issue further. I bet that many of those participating in this exhibition feel very negative about the Brexit vote. While I didn’t welcome the vote, I think that such negativity is a mistake. The Brexit vote is an opportunity, as well as a crisis - an opportunity to create a more local future. In rejecting the gigantism of the EU, British citizens may have given us a great unexpected opportunity.

What levels of organisation should societies have?
Local or centralised?

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How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

In regards to transport, our current policies are a mess. We have a privatized rail system that makes rail travel often more expensive as car or plane. This is unacceptable, as instead of financially incentivizing people to travel in a more ecological way, we are instead incentivizing them to use more carbon intensive methods. Having a strong railway system, run for the public good and not private profit would be a good start at reforming our transport policy.

However, ultimately, we need to go further than that and also look at reducing the need for travel across the country. This means more devolution of industry and resources to the North of England, instead of having the economy 'anchored' in London.

Basically, the future is more local. There should be LESS transport, LESS mobility. More resilience. The kind of infrastructure required by nuclear power is a classic example of an 'unconvivial', necessarily centralised and authoritarian technology.

What sources of clean renewable energy do you envisage?

Solar and wind are of course much better than fossil fuel or nuclear alternatives. However, greening our energy supply can only be part of the answer. The other side - AND THIS

IS ACTUALLY MUCH MORE IMPORTANT - has to be reduction in consumption. Plus less waste / higher efficiency.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

We are so far away from a sustainable world that a complete vision of what it would look like is impossible and unproductive. I would say however, that in order to reach sustainability this means confronting and rejecting the growth-paradigm. A sustainable society will necessarily be one that no longer seeks to grow the economy, but instead looks towards enriching people's lives through growing our culture and communities.

This will necessitate reining in the corporations that at present dominate our economies and indeed our minds. We can get a hint of what this future ecotopia might look like, by looking back at best of the past. Helena Norberg-Hodge's book ANCIENT FUTURES offers a brilliant sketch.

How would a sustainable future actually look?

A localized steady-state economy. A society that is determined to live for the long term, and to be conscious.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

I'm not an architect! But I can tell you one thing: Ecotopia would/will make much more use of natural materials: I mean, straw, wood, stone etc. . If what we would leave behind would be wood etc., then this would have the great advantage that we wouldn't be leaving anything behind that our descendants couldn't recycle. (Whereas, plenty of plastic, never mind radioactive materials, can't be recycled...)

*Stephanie
Ristig-Bressers,*
New Economy expert,
Economy for the
Common Good (Germany).

Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

The way I see it utopians are somehow very risky people. They dare to dream and they dare to act in order to fulfill their dreams. In addition they have to be resilient, persistent, brave, self-loving and full of love for the whole world. Utopians love and believe in their dreams, and will give a lot to make them come true. If we had no dreams, the world would not change, it would be boring and - indeed - business as usual. To be a utopian is to be a hero in an unwritten adventure fighting against dragons nobody has described before. Stories of former heroes can help a little bit, but in the end (or in the process?) the hero is alone and has to fight against his or her individual dragons.

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Although fairy tales often end with the sentence: "And they lived happily ever after." and although our stories seem to have a good end, (unless the "end" is not good it is not the end) it is in my opinion indeed true: Utopia and ecotopia are a continuous process not an end state. For me a wave or a "spiral dynamic" in four dimensions could symbolize and visualize somehow this "utopian process state". By thinking over this "process state" of utopia it also could be made visible by an image that seems to "pulse" - sometimes you can evoke this effect by an optical illusion.

From wider social point of view, it doesn't matter too much if Utopia is regarded as an 'end-state' or a 'process', for it's been represented as both/either quite successfully in ages past (by painters and photographers and by

movie-makers and novelists). As long as Utopian Visions prompt an imagination that propels people to believe that there is a better way to organize the socio-political world—then it serves society well.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be brought about? What new political institutions will be required? What new attitudes will be required?

There once was a time when we were indigenous people and lived in balance with nature and its resources. In former days it was essential for your survival that you respected this balance. Following the industrial revolution, we forgot to respect the importance of this balance. But some disciplines remind us of this attitude – for instance permaculture and deep ecology. If we integrate those principles back into our daily lives – everybody’s lives, not only politicians but also everybody- then we will be able to really care about future generations.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

I am very convinced we should not persuade people! The strategy is to make them see, to make them experience that the world is getting richer by focusing on individual growth and awakening one’s potentials, not by economic growth. To open the people to their inner richness and the “biodiversity” of life itself is the key to making an ecotopian society possible. If one discovers this, a consumer lifestyle is not necessary any more because you experience the values of life and your own dignity. To develop a “Transition lifestyle” is the greatest adventure you can have. So an ecotopian activist is somehow a hero that has to set off on the adventure a few moments before and makes people so curious that they start their own journey.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

The state should have the role as a “frame worker”. It provides the heroes with the artefacts and the travel provisions they need in order to increase the likelihood that the adventure is successful. Besides, the state should allow as much freedom as possible. People should be empowered and find constructive and cooperative solutions. The Economy for the Common Good suggests establishing economic convents where people decide about the frame structures of their communities.

What levels of organisation should societies have? Local or centralised?

On one hand it should have a focus on the local level. People empower themselves by developing neighbourhood communities, ecotopian villages. In addition, by focusing on the local level you can save resources and strengthen relationships.

On the other hand we should be aware of our global connection, our connection to everyone, with our planet Earth and our whole universe, our “multiverse oneness”. Things like deep ecology, meditation practice and of course, the internet can help us to become aware of our unity.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

The infrastructure would be more personal, more human, not anonymous and not only functional anymore. Transport systems are more local and designed so that you can use fuels from renewable, raw materials or if possible no fuels at all (e.g. bicycle or delivery bicycle).

What sources of clean renewable energy do you envisage?

Our energy system should be designed as a “caring energy system” in order to enable a balance, In this sense, we should only consume the amount of energy that our planet is able to regenerate and as such we will have enough resources for all of the following generations. We should not produce energy by coal or carbon but by sun, water and wind.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Sustainability in practice is a harmonic balanced lifestyle - you are in harmony with yourself and your environment. Such a lifestyle would be very different from our fast paced lives today. Our world would become much calmer and slower. By this it also would become more human, more dignified, more focused on what a good, simple and fulfilled life really makes up. Sustainability in practice also makes it easier to find out what your purpose? Today's loudness distracts you so your inner voice often becomes too quiet to be heard.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

The buildings of ecotopia are beautiful and naturally colourful. They remind me of the architectonic work of Hundertwasser and of the architectural work of the anthroposophers? We would use more organic material and leave behind everything that is artificially engineered.

Dr. Fátima Vieira,
University of Porto, Coordinator of the research project ALIMENTOPIA / Utopian Foodways; Coordinator of the outreach project PAN-Utopia 2100: Fighting Food Waste; Director of the electronic periodicals E-topia and Spaces of Utopia; Book Review Editor of Utopian Studies (published by Penn State); Director of the book series Biblioteca das Utopias (published by Afrontamento); former Chair of the Utopian Studies Society / Europe (Jul. 2006 – Jul. 2016).

www.utopiar500.net

Utopians/ecotopians are often accused of being idle dreamers. The word 'utopian' is often used in fact as a term of criticism, even abuse. How do you respond to this? Do you think that actually it is the mere tinkerers, those who think a little reform at the edges - or even just business as usual - will be enough to deliver us a good future who are the real idle and dangerous dreamers?

We utopians are dreamers, but not at all idle or divorced from reality. Utopian thinking is always motivated by an awareness of real problems and by the ambition to solve them by trying new forms of organization. It is born out of a constant questioning of the real historical locus, out of a reflexive and critical examination of the present; in spite of its prospective dimension, it is to be applied to this moment where we imagine alternative futures for humanity.

Utopian thinking has changed over the centuries. In the Renaissance, utopian thinkers believed in the power of law to impose social order: although Humanism entailed a belief in human agency, it was marked by the Christian distrust in the possibility of human redemption from the Fall.

In the Enlightenment, the utopian strategy implied an investment in education: progress was regarded as an attribute of the human beings and would be reflected in their ability to change social and political institutions.

In the 19th century, Marxist utopians regarded the future as a promise of history and believed that only the Revolution would bring about social and political order.

Although the 20th century was marked by dystopian thought, glimpses of hope were offered by utopians of the late 1960s and the 70s (amongst which Ernest Callenbach). The utopian formula that was then suggested is still relevant to our days: since modernity has made the individual the centre of everything, the answer to the problems of our times lies in a possible change of the human being. Education is thus the motto of contemporary utopian thinking.

Contemporary utopian thinking, informed by an anthropological optimism, is inherently creative and experimental: it is in fact "pragmatic." What the detractors of utopian

thinking call a dream, I would call vision and ambition; what they call unreasonable optimism, I would call courage to take risks. And the result: effective social change

Is utopia/ecotopia an end-state? Or is it a process? (Suggesting that it can only ever be the latter is the great achievement of Ursula le Guin in her 'The dispossessed'). How do we represent ecotopia as a process? It is far easier to draw images of an end-state, an imagined achievement, than of a process: how do we overcome this problem?

Utopia/ecotopia is a process. The Argentinian film director Fernando Birri offered one of the best representations of this idea: utopia is on the horizon; we know that we will never reach it; that if we walk ten steps, it will walk ten steps away from us; that if we walk ten steps more, it will walk away ten steps further. Utopia is nevertheless essential to our lives, as it forces us to walk.

Utopia is the vision of alternative futures we need to decide the direction towards which we want to walk, but it is a vision that results from the transformative dialectic movement that our imagination establishes with reality. Being confronted with a thesis (the real world, the initial proposition), we formulate an antithesis (an alternative vision reacting to the proposition), thus reaching a synthesis reconciling the truths of both the thesis and the antithesis. But then this synthesis reaches the status of a new thesis, which is to be contradicted by a new antithesis, in the framework of an endless process. The "truths" that are offered by utopian thinking are thus always transitory and dynamic. We stop every ten steps to consider new factors and new options; and we go on with the awareness of the existence of several alternatives, several possible futures we may want to explore.

There is another factor that ensures the permanence and dynamics of utopia: utopian visions are often inflated by a "surplus of desire" (to use Ernst Bloch's words) which engenders a notion of incompleteness which asserts itself as a vital propeller for the development of societies.

If ecotopia is ever to be achieved, it will require us to think far more long-term than we presently do. It will require us to care about future generations as we currently care about ourselves. How can this be

brought about? What new political institutions will be required? What new attitudes will be required?

Ecotopia is a process that will only be achieved through utopian thinking.

Utopian thinking comprises four modes of thinking that make it unique in its capacity to provide the individuals with a mindset that promotes social change.

1. Prospective thinking is the exploratory device of long-term thinking alternatives. First of all, it forces you to define a clear vision of the direction towards which you want to walk ("what do I want my society to be?"). It is similar, in this process, to what Michel Godet described, in the mid-20th century, as *la prospective*, a state of mind which entails imagination and anticipation that inspire hope and lead to will, and which looks at the future as the object of desire. Utopian thought, too, moves from the future to the present, as it reflects on the present in the light of what it may become in the future. Utopian thought differs from *la prospective*, though, in that it relies on a hypothesis approach, formulating the exploratory question "what if"? This exploratory question leads you to think about the future not as something that is bound to happen, but as a network of possibilities, and to reflect on the strategies, i.e. the paths that will have to be followed to reach them.

2. Critical thinking is crucial for the decision-making process of the paths to take for six reasons. First, it ensures the accuracy, credibility, impartiality, relevance and substantiality of the data that will be used to validate your choice after being submitted to a process of interpretation, analysis, evaluation, inference, explanation and self-regulation. Second, it provides you with a sense of consequence and the capacity to revise views when necessary and thus redefines the horizons you are aiming at. Third, it makes you include, in the definition of your interests, the interests of other people (and reformulate the utopian prospective question phrasing it as "What do we want for our society?"). Fourth, it provides you with strategies to resist the influence of preconceived ideas. Fifth, it forces you to look for new ideas, for new solutions. Finally, it offers not only tools for the evaluation of possible paths, but also for the analysis of the expected results.

3. Holistic thinking provides you with an awareness that societies work as systems, and that each aspect - economic, social, political, religious, ecological - is interconnected with the other; it is truly ecological in its understanding of the world: in the same way that ecology studies the relationships between organisms and the environment, holistic utopian thinking takes into consideration all the aspects, and it highlights the global dimension of problems even if they seem to have local origins. Holistic thinking enables true understanding of societal problems as it regards ideas and thoughts as complex, relating simultaneously to each other by relationships of complementarity and antagonism. It is essential to Utopian thinking, as it incorporates the principles of multidimensional analysis and promotes attentiveness to the possible consequences of the paths you may opt to take. It also provides you with the conviction that utopian paths are to be created collaboratively, as they demand multidisciplinary and multi-professional approaches. Holistic thinking is the means that we have at our disposal to try to understand and deal with the complex realities of the current ecological crisis.

4. Creative thinking results from the exploratory question "What if...?". By forcing you to envision new possibilities, creative thinking broadens your horizons and trains you to imagine things that are not familiar to your eyes, thus fostering the creation of new knowledge, i.e., new forms of organization. This new knowledge is not to be radically new, though, but to be born out of the combination of what already exists in new ways and new scales.

Provided it is broadly promoted, utopian thinking will equip the individuals with a mindset that will enable them to formulate desirable futures, reflect on possible strategies to reach them, understand their context and evaluate the side and long-term effects of the new possibilities they may envision. This process will require a substantial investment in education, namely through the Arts and the Humanities, as integral ecological visions demand a new world vision informed by the progress of human values. We do not need to create new political institutions now, but rather to invest in education reform. The new political institutions will eventually be imagined and created afterwards as a result of the utopian thinking process; they will be committed to the

promotion of common good and the construction of inclusive societies.

A society that can last long-term needs to be largely post-carbon and (almost certainly) post-‘growth’. How will we persuade enough people to undergo the enormous transition that this involves? (How) Can an ecotopian vision act as such a successful means of persuasion?

William Morris, the author of the celebrated utopian novel *News from Nowhere*, stood for the idea that the function of utopia is to educate for desire. Once people are equipped with a utopian mindset, the ecotopian visions will be naturally adopted as horizons towards which we all have to walk. The offer of these horizons of hope is indispensable, and it is, in my view, the most efficient way of resisting the dominant pessimistic representations of the Anthropocene. It is important to make people aware that, among other things, we are exhausting the planet’s resources with our consumerism and that the concept of economic growth does not necessarily equate with sustainability, but that there is still a chance provided we accept that we are not independent of each other and from our environment, that we abandon our consumeristic-capitalistic mentality, change our consumption patterns, fight waste, and collaboratively create a trans-generational strategy, a strong vision to share, capable of engaging other people in the process.

Outside school, there are many strategies that may be followed to promote utopian thinking as a particular mode of looking at reality and interacting with it. Literature and the Arts (namely installations) may be instrumental in this process, as they may present horizons of hope and offer the readers / the viewers tools that will enable them to participate in the dialectical exploration of future possibilities. An investment in the creation of the so-called serious games may also prove to be important, especially if the games are interactive and incite the players to real action or to think of new possibilities of ensuring the balance between the human beings and the environment. The creation of virtual communities on the Internet may also be an engaging way of testing new ideas and possibilities. What is important, in the process, is that the individuals are not offered ready-made solutions but are instead engaged in the process of searching for new possibilities, i.e., transitory truths.

It should be noted, though, that the investment in the education for utopian thinking should not be an end in itself; the four modes of thinking that it entails are not doubt essential for the process of engaging the individuals in the dialectical movement that will highlight new possibilities to be born out of the real, but it should always be aided by the presentation of concrete examples of horizons. Ecotopia should be promoted as the horizon we all are to be aiming at, on pain of being lost amongst other ideals that may eventually emerge.

What should be the role of the state (government) in setting the conditions for the transition to a more sustainable future?

As I said above, the answer to the problems of our times lies in a possible change of the human being. The state will thus have to invest in the creation of a curriculum that enables training in prospective, critical, holistic and creative utopian thinking and offers practical strategies for overcoming the current crisis. These may include, for instance, in the framework of practical strategies to combat global warming, simple actions that may be taken by all the individuals, ranging from growing a tree to saving water or printing documents only when needed.

Although I trust that the big, significant change will result from a bottom-up movement and that the meaningful answers will emerge at a local level, it is mandatory that meanwhile advocates of an ecologically sound future put pressure on the governments to demand global action, namely national and international regulation on behalf of the environment.

There are many things governments adopting an Earth-friendly agenda may do, always having in mind the solidarity between the environmental, the social and the economic aspects: to promote zero-tolerance pollution control and implement strategies to fight waste; to create special funding programmes for research aiming at the development of renewable energy systems; to promote collaborative and trans-generational forms of consumption, just to give a few examples.

This may initially be achieved through the establishment of incentives (of a fiscal nature, for instance) offered to companies and individuals and/or the establishment of

finances and other penalties for transgressive attitudes, but the mere satisfaction of contributing to the sustainable development of the community will eventually be enough in the medium term, when utopian thinking becomes the predominant mindset.

What levels of organisation should societies have?
Local or centralised?

I suggest we replace the concept of level, which entails the notion of a hierarchy, by the idea of networks, on which my utopian vision relies.

In the future, a participatory post-national democracy (or something beyond that) will prevail. Nations may subsist, but they will mainly work as a cultural memory archive, an anchor for the definition of individual and collective identities. Every village or city will network with villages and towns with similar profiles and concerns, many of them from other countries. The quest for solutions to common problems will engage the population of these villages and cities in a transnational discussion that will hopefully result in the production of relevant knowledge for the construction of a sustainable common future. This global approach will not prevent the existence of a local approach to deal with specific problems. Members of the communities, committed to working for the common good and politically empowered by an integral ecological education, will be attentive participants in the daily construction of the community.

The transition to this new form of organization will be gradual and natural, largely due to the efficiency of networks sprouting on the Internet.

There will be a variety of experimentation regarding ways of ensuring that every individual makes meaningful contributions to the process of decision making, namely in the framework of the gradual implementation of an e-democracy, which in the future will acquire unexpected forms. The investment in the education of the citizens, made decades before, will enhance the social and political capacities of the human beings and will enable them to see things that our untrained eyes are not capable of discerning now.

To make sure that all the villages and cities will be walking towards the same horizon of hope, a Charter of

Rights granting the rights to education, to gender equality, or the rights of the animals and of nature, among other things, will be agreed upon globally.

How do we build a more sustainable society? What sort of infrastructures and transport systems should we have?

The construction of a more sustainable society starts with the critical analysis of ecotopian visions for self-contained communities, although the discussion may be held through the establishment of networks with communities with a similar profile, thus benefiting from experiences that have already succeeded elsewhere. The negotiation process of those visions entails the participation of citizens equipped with a utopian mindset, ready for creative, collaborative thinking. The infrastructures that will be needed for the development of the utopian visions have to be ensured by the committee administering the village or city: if the bicycle, for example, is to be the principal transport within the boundaries of the community, a transit system must be secured, and bicycles need to be placed in different areas so that people may use them in an efficient way; pedestrian zones have to be created, as well as local, regional, national and transnational systems granting easy access to buses and trains, and resorting to shared cars when needed. As ecotopian visions are to benefit from the development of science and technology provided they are at the service of the human being, they may include other forms of transport that cannot be predicted now.

Other infrastructures need to be created as well to enable intensive recycling, waste reduction strategies, and sustainable agriculture, among other things.

What sources of clean renewable energy do you envisage?

The answer that we have to offer so far is solar, wind, geothermal, hydroelectric and biomass energy (systematic use of wood as a renewable source of energy may also be envisaged), but an investment in research and the adoption of creative utopian thinking will eventually bring about new forms of energy production that go beyond the green and blue ones.

What does sustainability look like in practice? How would Ecotopia actually work? What would be different from the world we live in today?

Utopian visions with ecological concerns are tested in ecotopias, a subgenre of utopian literature that has been widely explored from the 1970s onwards, although an awareness of the environmental implications of the Industrial Revolution had already been looked into by William Morris in *News from Nowhere* in 1890.

Ernest Callenbach tested the validity of de-centralised and anti-authoritarian ideas within the framework of a nation with an intentionally weak government and flexible local organization, where sophisticated technology is combined with concerns for sustainability, namely strategies for avoiding waste and for promoting clean energy efficiency, and where the concept of economic growth is questioned. Also in the 70s, Marge Piercy combined ecological with feminist concerns, offering a model for eco-feminist critical visions.

Utopian literature is an efficient way of testing the implications of possible strategies to promote ecologically sustainable futures since the holistic mode of thinking entails the awareness that societies work as systems, and that if we change one aspect, all the other aspects will be affected.

An investment in science-fiction writing based on ecological strategies that have recently gained ground, and resulting from the collaborative work of writers and scientists, for instance, may provide us with a vision of how Ecotopia would actually work and how different the world would be from the one we live in today.

What kind of buildings would ecotopia have? What materials would be used for their construction? What would we leave behind?

Utopian visions, because they are informed by an awareness that societies work as systems, are consistent with the central idea or principle they are testing. Ecotopian visions test strategies for overcoming the longstanding separation of humans from nature in the Anthropocene, and propose a global ecological conversion that embraces house building as well.

Ecotopian visions propose a variety of possibilities to reduce the environmental impact of buildings by bringing together techniques, materials and technologies that enhance their environmental performance, guaranteeing the efficient use of energy (integrating, e.g., bio-climate principles), water and other resources, and reducing waste and pollution. What it implies leaving behind is architectural design and polluting synthetic products that harm nature; instead, ecotopian visions propose the adaptation of the architecture to the landscape and the use of natural materials, namely the replacement of concrete foundations by wood foundations, and the use of terracotta bricks and cellular concrete for the erection of the buildings.

Although ecotopias frequently offer visions of small, cooperative communities repopulating forgotten rural areas, we must face what futurists describe as an inevitability: the fact that in a not so far future the majority of the world population will be living in the cities.

Ecotopian big cities are thus to be envisaged as a working hypothesis for our future; buildings will have to incorporate the principles outlined above, and will additionally have to bring the rural element to the urban life. The vision of enormous garden-buildings, strange though it may seem to ecotopians, may well be the reality we will have to deal with in the future. Let's just hope that its inhabitants will be equipped with a utopian mindset that makes the cities of the future a generous place, in social, economic and environmental terms, for the coming generations.

“Contemporary utopian thinking, informed by an anthropological optimism, is inherently creative and experimental: it is in fact ‘pragmatic’. What the detractors of utopian thinking call a dream, I would call vision and ambition; what they call unreasonable optimism, I would call courage to take risks. And the result: effective social change.”

'The Importance Of Utopian Thinking'
Aiden Barefoot, Toby Downham, Melissa North,
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