

The end of growth?

Evening debate w/ Federico Demaria, Graeme Maxton, Jørgen Randers and Kate Raworth

On Monday the 28th November 2016 we hosted Jørgen Randers, Kate Raworth, Graeme Maxton and Federico Demaria for an evening debate at the House of Commons. The discussion was chaired by Caroline Lucas and Tim Jackson.

Transcript

Note: [?/word] – denotes audio inaudible/unclear

Tim Jackson

...and one of the authors of that book, and indeed the stars of that film, is here tonight with us, so it's a great pleasure to welcome Jørgen, and the debate will also involve Federico Demaria], who is on Jørgen's left, Graeme Maxton, co-author with Jørgen, and Kate Raworth, who is packing up her stuff and getting in position ready for what I hope is going to be a very lively debate. Caroline is the chair of our APPG, may have to leave at certain points in the evening – it's not because she doesn't want to hear what we have to say, but she is asked to vote occasionally as an MP, which I think is something we should feel glad about. If that happens, I will just take over momentarily in any facilitating role if necessary. Caroline, over to you...

Caroline Lucas

Thanks everybody for coming to what I think will be a really stimulating and thought-provoking session. Apologies for those of you at the very back who look like you're struggling to find a seat – hopefully you might...if you want to squat on the floor, do, do whatever feels most comfortable, and I do apologise. We did try to –

[Interruption – inaudible]

We did tell them this was going to be highly oversubscribed and we needed a bigger room, but sadly, they were all taken. So, as Tim has said, this is a debate about the role of growth and achieving lasting and inclusive prosperity. We want to have this conversation because we think it's incredibly timely, incredibly important. Clearly, it's not uncontroversial, and our aim tonight is to tease out some of the differences between us, and also to really help develop some recommendations to guide the future of the all-party group on this issue, and I just wanted to say a few words about that all-party group on limits to growth, as a way of just contextualising this debate. This APPG is relatively new, it was launched earlier this year, and essentially does exist to create the political space to have this kind of conversation, and I think it's fair to say that the aims of the all-party group are quite ambitious. We want to take what is essentially a social and political taboo, in other words, questioning the wisdom and indeed the possibility and feasibility of endless economic growth, and turn it into an issue susceptible to challenge and rational debate. [Believe me, in this place], that is ambitious – I don't mean with you, I mean generally, Parliament. But the very fact that this all-party group exists I think shows that the political context is changing, and what we need to do with the all-party group is to engage MPs, businesses and civil society over the coming few years, really with the aim, as I say, of making this space for the conversation about

growth, and what fills that space is still to be debated. Tonight's discussion will feed directly into that.

But we're imagining a place where growth and degrowth advocates alike can sit down and thrash out the nuances of the arguments and challenge the assumptions underlying notions like green growth as well, a place to explore the policy implications of uncertainty in the arguments, and also saying that uncertainty isn't the same as saying impacts don't exist. We're not quite sure about the scale of the impacts and the precise kind of impacts, but that's not the same as saying they don't exist. And maybe a place as well to examine the details of specific resource or investment policies. I mean, there's been a lot of debate, for example, about some of the Keynesian ideas about a green new deal, a massive investment in energy efficiency infrastructure, for example, as a way of stabilising the economy, and we want to have maybe a bit of a debate about the opportunities and the risks of that Keynesian approach as well. Some of the questions we want to ask are also of course about how governments and businesses and civil societies themselves should respond to these challenges.

The pursuit of economic growth is a fundamental goal with policymaking. It's widely assumed that growth means progress and that prosperity depends on growth, but what if those assumptions are false? So, this is a fast-moving, international debate about re-thinking growth in an age of ecological risk, in an age of rising population, and in an age of growing competition for resources. So, the aim of our all-party group is to contribute to that debate, to challenge fixed assumptions, and to explore new approaches to sustainability prosperity

In that spirit, we are incredibly fortunate to have some really expert figures to debate some of these issues with us tonight. So, to my left, Jørgen Randers is a Professor of Climate Strategy at the Norwegian Business School, where he was President from 1981 to 1989. He is one of the co-authors of the original Club of Rome report on Limits to Growth, and has continued to work and write on these issues for over 40 years, and his latest book, co-authored with Graeme Maxton, is "Reinventing Prosperity – Managing Economic Growth to Reduce Unemployment, Inequality and Climate Change".

To the far left, geographically, is Federico Demaria, an ecological economist at the Autonomous University of Barcelona, a founding member of Research & Degrowth, an academic association dedicated to research and awareness of degrowth, and he is co-editor of "Degrowth, a Vocabulary for a New Era", which I'm reliably informed has now been translated into 10 different languages.

Kate Raworth, Visiting Senior Fellow and Lecturer at the University of Oxford's Environmental Change Institute. She is formally a campaigner at Oxfam, where she developed the concept of doughnut economics, achieving adequate social conditions for the good life within the safe operating space on the planet, and her book, "Doughnut Economics – 7 Ways to Think Like a 21st Century Economist", will be published next year by Random House

And finally, Graeme Maxton, in the middle there, Secretary-General of the Club of Rome and former Regional Director of the Economist Intelligence Unit in Asia. He's the author of "The End of Progress: How Modern Economics Has Failed Us". He was nominated for the Financial Times and Goldman Sachs Business Book of the Year Award, and co-author with Jørgen of "Reinventing Prosperity".

So, that is your amazing panel. I'm going to invite each of them to make some brief opening remarks regarding their own position on the role of growth in contributing to prosperity. We'll have a bit of a conversation amongst ourselves, and then open out to the floor.

Let me apologise again, for those people who've just come in, I'm so sorry, we did try and get a bigger room. If you want to come and sit here, whether that's more or less comfortable, I leave it to your own judgement, but I do apologise we don't have more seats for you, but it is a good sign that this is a debate that people want to be listening to, so that is wonderful.

So, let me hand the floor please to Jørgen Randers to kick us off tonight, thank you...

Jørgen Randers

Good evening. I speak in a funny language which is Norwegian-English, so I have to say something inconsequential initially for you to get used to the sing-song!

[Laughter]

And I stop once you laugh because then I understand that you've gotten the point. I have tried to change my language or dialect for [70] years, without any success. It just shows how difficult it is to actually change in modern society!

I have participated in the growth/no-growth debate since 1970 and what I'm going to tell you is something that has been known for roughly 20 years, but it does not seem to have any impact whatsoever on the continuation of the growth/no-growth debate: it is that that debate is a totally unnecessary debate, which was resolved at a time when people started understanding that what must be limited on the planet is the ecological footprint – it is not the GDP. You can produce as much value as you want on the planet. GDP is measured in dollars per year. It's the value of goods and services produced. You can do as much of this as you want to without running into planetary constraints. What is a problem is the resource use, measured in tons per year, and the emissions arising from this production and their use, measured in tons per year. So, what needs to be limited in the world is the tons per year. It is what is, in modern speak, called the ecological footprint, and all the discussion about the value, the GDP, can be postponed, and so this is my first point: if we are to talk about growth, we should be specific about what growth we're talking about. Growth in GDP is very different from growth in ecological footprint. The problems, the main problems, on a finite planet is growth in the footprint. It is resource use and it is the emissions arising from human activity.

As I said, this...it took humanity of the order of 25 years to get to this conclusion. The growth/no-growth debate started in 1970/71/72 with the Limits to Growth. The Brundtland Commission reported in 1987 and invented the very unfortunate word "sustainable development", which thoroughly confused the debate, until Mathis Wackernagel and his friend invented the ecological footprint concept in the 1990s. That's when it started to be possible to say, to market my position in this debate, I'm [for it] – or, I have no particular opinion on economic growth, the increase in the value of the GDP year after year, but I have a very, very, very strong view that we must reduce the ecological footprint, so that is what I see as the main task.

Moving then to the main task, which is to reduce the ecological footprint, this is something that is very easy to do. The main footprint at this day and age is...[call it] climate gas emissions. That's the most serious physical limitation that human beings is up against. We are emitting into the atmosphere twice as much CO₂ every year as is being absorbed by the oceans and the forests of the world. The remaining one-half remains in the atmosphere for thousands of years, and as we keep pumping, the concentration goes up, and the temperature goes up, and that's it, and it will continue going up until we not only stop emitting new CO₂ into the atmosphere but until we have sucked out quite a bit of the [30 gigatons] of carbon that we are entering into the atmosphere every year.

How does one stop greenhouse gas emissions? It's exceedingly simple, and again this is something that people don't seem to be willing to accept. You stop 80% of man's greenhouse gas emissions into the atmosphere by stop using coal, stop using oil, and stop using gas, so you need to find substitutes for the use of coal, oil and gas. What do we use these fossil fuels for? We use them to produce electricity, we use them to produce transportation, and we use them to heat and cool our buildings. So, what we need to do to solve this solution is simply to stop using coal and gas to produce electricity and instead use wind, sun, hydro, biomass, and nuclear, for those guys who like nuclear. On the car side, you stop driving cars with fossil fuels. You shift to electric mobility with private cars and trucks and buses and [the whole spiel]. And finally, on the heating, where we currently use some oil and a little gas, you stop using oil and gas for heating buildings, and you use electricity and heat pumps, or you use solar direct heating if that is what is cheapest.

So, in my mind, the growth debate is very simple: it is a question of how do we stop growing the ecological footprint, and the answer to how do we stop growing the ecological footprint is also exceedingly simple. It is simply to ban the building of new coal, gas and oil-fired electricity plants from next year, it is to ban the purchase of new fossil cars from next year, and it is to ban the construction of buildings with thin walls and uninsulated windows, heated by gas and oil. It is to build really buildings that are heated with electricity or heat pumps, or, in most of the world, cooled with electricity and heat pump.

Thank you.

Caroline Lucas

Lovely! Thank you very much. Federico, your thoughts please...

Federico Demaria

Why not? So, my main point tonight is simple and it's only one and it's the following: we have to be brave, I think. Let me explain what I mean by being brave...

I think there is a mismatch between the reality that we see and our representations, so there is a mismatch between what is going on in the real life and what we can imagine. So, we are trapped in thinking that growth really is the panacea and will solve all the problems, again and again, and we sacrifice everything to growth - I come from Spain and from Italy, so we know a bit about austerity - while we should be doing something else. So, my proposal tonight is to open up our imagination, or as we say in degrowth, to open up our imaginary, and by that I mean the social representation, what we think is worth doing or not doing.

But if I have to go back from the beginning, I think we can systematise the debate in the relation between growth and prosperity in two ways: there is one issue which is the diagnosis and another is the prognosis. So, the diagnosis is to [do with] what are the social problems and who is responsible for them, and then, second, we have a prognosis - what do we do about it, how are we going to do it, who is going to do, and for whom are we going to do it?

So, in terms of the diagnosis, I think, I mean, Jørgen is here and he's here from the '70s, and degrowth was also used for [the first time] in the '70s by André Gorz, a political ecologist, so I think we can still work, but I think we have enough of work to see that there are limits to growth, there are ecological limits to growth, [one issue] with this green growth and so on. I come from a discipline called ecological economics. I think there are enough evidences to see that what has been called the decoupling, or the dematerialisation, the fact that you can keep economic growth growing while you are reducing the environmental impacts, there are enough evidences today that dematerialisation, the absolute one, is not happening. So, of course, I cannot prove it cannot happen

in the future, but I think the burden of proof should fall upon the others to prove why is it that it has not happened and how can it really happen in the future. So, in that sense, again, to talk about the ecological [means], the issue of improving efficiency, for instance, is problematic because you get effects, what is called like the rebound effect, no? So, cars are more and more efficient, but we still use more and more petrol. I see most people doing this, and these are the things we know, so let's go on.

Of course, there are social limits to growth, we know – inequality, unemployment, happiness [in economics]. We've seen that – I think Tim Jackson [has a school] in this sense in the UK. Of course, there are things we can debate. For instance, if you look at Piketty and the relation between inequality and growth, of course Piketty is saying that with slow growth, inequalities increase, but again, Jackson, Tim Jackson, which is here, with Peter Victor, have made a strong point that it depends upon the policies.

But maybe something I'm not sure we are all familiar with is that there are probably economic limits to growth. This is not myself saying it, it is the International Monetary Fund saying it, that in fact the General Director, Christine Lagarde, has been arguing for a while now that we have entered into a phase of what they call the “new mediocre”, or somebody calls it the [“new mediocre”], a phase of slow growth. You look around the world, you look at GDPs in different countries, even the BRICs, even if you look at Brazil and Russia, they are in recession. So, growth might have come to an end in itself. We want to debate and discuss how might that come about, but it something that we have to consider.

So, seeing all this, whether you think, like myself, that degrowth [sic] is ecologically undesirable and socially unsustainable, or whether you just take into account the fact that even the UK economy is not growing, [then it's worth]...we have enough to bring force and legitimacy to a debate of what do we do without growth, and here comes the second part, which has to do with the prognosis, and I hope this will be the focus of this commission and of the future of this debate also, because, otherwise, we end up talking always about growth and we never talk actually of what comes after growth, [unless I've talked too much about that already].

So, the point with degrowth, degrowth is all about this – degrowth means living well with less, and degrowth brings together a number of concerns, not only with ecology but within equality, with democracy, with the meaning of life, spirituality and so on. So, if growth is more of the same and recession is less of the same, degrowth is about something different. Degrowth is meant to be a provocation. When I say degrowth, I don't mean a decrease in the GDP. GDP is anyway a [monetary] indicator so it makes no sense [to] either it increases or it decreases. We can be neutral about it. We can be for [a-grow], like if we were [a-theist], no?

Then the questions come, okay, what can we do? I think there are different strategies that we can bring in. Of course, we have activists fighting for climate justice and for environmental justice. I think that's important. We can give support. There are people working on experiments, practitioners as they call them, no, [?] and so on, we have known them for a while. We have to think of some issues, like [how can we scale them up], for instance. There is a debate on policymaking. There is an emerging debate, of which Tim is also part, on ecological macroeconomics. Our group, Research & Degrowth, is working for the European Greens on a model on how to generate employment in an economy without growth, and we, the Research & Degrowth Group has also made a proposal of 10 policy proposals – I will not list them now, it takes too long, but you can look at them. So, I think...I would even say we are ready for policymaking. So, the point here again is that we have to take into account different actors and different strategies. This is a big challenge of course, but I think we can discuss tonight about the obstacles. But one of the first obstacles we have to work out is the limitation of our own imagination, so we have to come

out of that thing of thinking only of growth and we have to go beyond that, to [do what]? To envision and to enact a world without growth...

Tim Jackson

So, that means we can move to my right, to Kate Raworth, to give your initial thoughts, Kate...

Kate Raworth

Thank you. It's a real pleasure to be here, and I think the very fact that this discussion is taking place in here is a wonderful landmark change in the possibilities of debate, certainly in this country, but I think also part of a worldwide change.

So, I'm a growth agnostic, and by that, I don't mean that I'm against growth or for growth or that I don't know whether it's coming or not, but I believe that we need an economy that is agnostic about GDP growth. To put it simply, I think we have an economy that needs to grow, whether or not that makes us thrive, and what we need is an economy that makes us thrive whether or not it grows, and to me, that's what a growth agnostic economy would be, one that can allow us to thrive whether GDP is going up or down at any point in time. I imagine that, [in the transition that we need ahead], there will be some times where GDP needs to go up and there will be some times where it might need to go down. The trouble is our economy cannot possibly allow that at the moment, and I think the reason is very well, beautifully explained by a book that was written in 1960 by Walt Rostow, called "The Stages of Economic Growth" – "A Non-Communist Manifesto" was the subtitle – and I'm going to ask Tim to help me tell the story, because what I believe we have is an aeroplane economy. Tim, would you be my pilot because you've [got a runway right here] – would you step in...? So, Rostow described the five stages that occur in an economy moving into a growth phase. So, the first stage is the traditional society, it's not going anywhere, and agriculture and [artisan] techniques mean very low economic productivity, but then the first exciting stage is the preconditions for take-off, so the plane is...

[Laughter]

So, in the preconditions for take-off, this is what Rostow says, the idea spreads not merely that economic progress, meaning growth, is possible, but that economic progress is a necessary condition for some other purpose judged to be good, be it national dignity, private profit, general welfare, or a better life for the children. So, there's a transition, in what I think Federico calls the imaginary, that growth becomes the good. And then he says each of the major characteristics of the traditional society is altered in such ways as to permit regular growth, its politics, its social structure, and to degree its values, as well as its economy, and then we move in to the take-off. Let's take-off – here we go... The watershed in the life of modern society – there we go – in which growth becomes the normal condition. Compound interest becomes built, as it were –

[Inaudible comment - laughter]

...and both the basic structure of the economy and the social and political structure of society are transformed in such a way that a steady rate of growth can thereafter regularly be sustained, and as we go up, we go into the drive to maturity – don't turn into a space rocket quite yet – and then, at the end, the fifth stage, that's it, the age of high mass consumption, in which growth delivers enough service income that people can start buying consumer goods and gadgets and household things like bicycles and sewing machines – this is 1960. At the very end of his book, Rostow asks what he calls "the question beyond", where history offers us only fragments. What to do when the increase in real income itself loses its charm? Now hold it, hold it up...

[Laughter]

Tim Jackson: I was losing the charm...

No, don't lose the charm. This is 1960 and Rostow was about to become a presidential advisor to President Kennedy, who got himself elected on the promise of a 5% growth rate – we've got echoes of that coming back now with Trump, promising a 4% growth rate in the US. So, Kennedy was elected on promising a 5% growth rate, and as soon as Kennedy was elected, the first thing he did was he went to his presidential advisors, his economic advisors, and said "Do you think we can do it, that 5% growth rate?" This is an economy that was locked into growth. Now, the reason why Tim can't put that aeroplane down is because we don't know how to bring that aeroplane down. As Rostow described so beautifully [laughter], the social, political and value structures have been transformed such that growth becomes the regular condition – an economy can enjoy the blessings and choices opened up by the march of compound interest. The only way we know to bring this plane down is what we call a recession. So, we are stuck with flying [the plane] – okay, you can bring it down now. What we need actually is what I call a skateboard economy. Here's a little skateboard, right? So, why we need a skateboard economy is because a skateboard doesn't always go up and it doesn't always go down. This is actually brilliant – skateboarders go up and down, as what's required for the tricks that they're doing. They move around. The skateboard is agile, it's responsive, it's versatile, and it's just the kind of GDP we want. Sometimes it might just go up, if we're investing in green transitions; sometimes it might even need to go down. We need to move from this aeroplane economy to the skateboard economy. The trouble is, as Rostow described, and as the economy we know, we are locked in with political, financial, business and social structures that have come to depend, demand and expect continual GDP growth, whether it's the fiduciary duty of companies always to turn a profit to keep that share price high, or whether it's governments wanting to raise more tax revenue without raising the tax rate. You need a growing economy if you want tax revenues to rise at a constant tax rate, or whether, as a consumer society, we've been convinced that a better life for the children means more income, more stuff next year.

So, I think the 21st Century challenge is to write the missing chapters of Rostow's flight manual, and I believe if he was here with us now, on the economic plane that we are travelling on, and realising that it doesn't just lose the charm of having more income but that we actually face extraordinary ecological limits, that we need to transform this economy, bring this aeroplane down so that it turns into a little skateboard. We need to write the rest of that flight manual, and no economist of a previous generation even attempted to write that part of the flight manual. It's wonderful that we're starting to talk about it in this House. I think Caroline is one of the only MPs who even begins to broach this subject, but we need an economy that is a skateboard economy, agnostic about growth, it goes up, it goes down, depending on where you're trying to go. It's a great transformation from where we're at now.

Tim Jackso

Thank you very much. Caroline is going to be so disappointed that she [missed that moment] – some of us had real responsibilities!

[Laughter]

Thank you for involving me in that – I enjoyed that. So, skateboard versus airplane economy...

We come to you last, Graeme. You are currently Secretary of the Club of Rome, which in some sense set all this off. Where is your perspective on this growth issue at the moment?

Graeme Maxton

Okay. I'm going to do it without any props, I'm sorry to say, so it won't be nearly so interesting, and for those of you who were here this afternoon, I'm going to do a compressed seven-minute talk of what I said this afternoon.

What I want to say firstly, one, what's wrong with economic growth? Why is economic growth a problem? Obviously, economic growth is the cause of climate change. Because we increase the amount of resources we use every year, because we increase the throughput of raw materials, it requires us to increase the amount of energy we use and that causes CO₂, other greenhouse gases, and therefore is the cause of climate change. So, as long as we keep pushing down the economic accelerator, the worse the climate will get, unless we change the way we're doing it.

Second, we believe a number of things about economic growth which are fundamentally wrong. Economic growth does not always create jobs. We think that economic growth is required to reflate the economy, to create jobs, and if you look over the last 25 years, we've had some of the fastest growth in the world, in the rich world, and unemployment has gone up. So, economic growth is about improving efficiency, which often means that it reduces the number of people employed. So, when politicians tell you that we need economic growth to create jobs, don't believe them!

Third, we believe that economic growth reduces inequality. Economists tell us that economic growth will allow the wealth from the rich to filter down, through some magical process, into the pockets of the poor to fortify society. As Thomas Piketty has made clear in his book, that is not what happens. What happens in the economic system is that wealth moves from the poor to the rich, and it moves from the poor world to the rich world. The level of inequality in Europe today is higher than it was before the First World War, and the gap between the rich world and the poor world is higher today than it was in 1820, before the Industrial Revolution took off. So, economic growth does not reduce inequality.

We're also told that it reduces poverty, and that is also untrue. Economic growth is forcing a lot of countries in the third world to remain in poverty, and part of that is because we tell them they have to have free trade, and free trade means that they cannot compete with the developed manufacturing world where economies of scale for big corporations make it impossible for countries like Indonesia or Brazil or Sub-Saharan Africa to ever compete with the industrialised West. It keeps the system as it is. The entire system is like a giant casino stacked in favour of the rich.

Part one

Two. Why don't we do something about it? Firstly, because the politicians and the economists don't understand the problem. They don't understand that we're going in the wrong direction or why. A number of them do, in Germany, in the European Union, in parts of Central Europe, the Chinese appear to understand, but a lot of politicians don't understand the problem, and a lot of economists don't understand that what they're saying is toxic.

Second, there are vested interests. There are a lot of people, who are the 1% who are extremely rich, who are resisting change.

Third, people are short-termist. They're frightened of change. And politicians, to make the transition that's necessary, have to make a number of changes, particularly to the energy sector, but in many other sectors, which will be difficult and expensive. As Jørgen said, they won't be that expensive, but they will appear to be expensive and they will go through a difficult period, and that will create uncertainty. So, politicians will do all that, if they make the right decisions, and we will still end up with a climate problem which will get worse – that's a difficult sell.

Next is timing – we have to get the timing of the decisions right. Despite domestic growth coming out of 1972, the timing then was too early, but we're getting to a position now where more and more people understand that we need to change, and so the timing is getting closer.

Finally, we have to understand that the cost of change means that we have to pay more for a lot of things than we do today, and that's also difficult for people to understand.

What do we not need? One of the things that is always said is that we need innovation and technology - we need to invent some new system of delivering energy that can solve all our problems. We do not need any new technology. We have all the technology we need. We have all the technology we need to stay within two degrees, and we could make the transition – it just costs a bit more. So, we have to make the political decision, the social decision, to move to a higher cost electricity system.

Okay, finally, fourth point: what do we need to move forward? We need to make the starting position better than today, and then we can begin to get off this economic treadmill, or land this aircraft that Kate has shown us. We need to create a society where there is less inequality, where there is less unemployment, and that can be done reasonably easily, by simply changing our policies to focus on those problems and not economic growth. We need to share work and wealth and incomes more evenly across society until enough people have a sufficient standard of living that we can then gradually shift to a more sustainable system. That doesn't have to happen quickly – we have about 10 or 20 years to make that transition, but we need to have policies which are unconventional and which redistribute, and then we can make the transition to a sustainable, healthy [economy]. Thank you.

Tim Jackson

Graeme, thank you very much. Thank you to all our speakers.

[Applause]

Before we open it to the floor, I just want to...I want to challenge the speakers a little bit because there's a...there is a point, as I was listening to all your talks, where you could almost say that you all agreed with each other, that we don't have to worry too much about the GDP or we can park that question. In fact, Jørgen, you absolutely started with that point, that we should park the question of GDP, and yet, it seems to me that, in some sense, both Federico and Kate were challenging that assumption because, although you wanted to talk about yourselves as being [agrowthist], and, Federico, you made very clearly the point that the degrowth lobby makes, that our degrowth is not their recession, which is a nice catchphrase that I like. To what extent can we get away with... without challenging the question of the GDP itself? Perhaps I could ask you first, Jørgen, in response to Federico's movement, which is quite specifically about challenging the GDP measure...

Jørgen Randers

I think that, instead of doing what you ably asked me to do, I will continue to argue for what we need to do instead of arguing, you know, the words we use to describe this. I solidly agree with what I have heard the other speakers say, you know, that the goal is to increase wellbeing. The goal is not to increase the GDP. We have had this confusion for 70 years. You know, while we were poor, increasing the annual production of goods and services, increasing the GDP, was the right policy. This was what removed poverty. This is what created employment. This is what made the pensions safe. So...but that's no longer the case. At this point in time, the goal should be to increase wellbeing, and increasing wellbeing is not the same as increasing income. It is not the same as increasing GDP. So, that's what I give on this discussion.

So, what...how can this be done? Because you're so brainwashed, most people, you know, believe that the only way to increase happiness is to increase income. Well, the way you do increase wellbeing, and at the same time you reduce the footprint, is to do the following: you take those people that currently build coal-fired utilities and you instruct them to build windmills instead. You take those people and those owners that currently build fossil cars and you instruct them to build electric cars instead. And you take those people that currently build shitty, uninsulated buildings and ask them to build slightly smaller buildings with thicker walls. This is what we need to do, and it is all we need to do, is to shift, of the order of 1% to 2% of all the labour and capital in the world, from producing dirt, you know, to being clean. The remaining 98% to 99% of that activity, you can just leave as is. It is exactly these things you need to do.

How can this be achieved? You know, when an electric car is more expensive than a fossil car, you know, this doesn't work in a free market economy because we capitalists would like to leave our money, you know, where the returns are the highest, and the returns are highest in producing fossil cars. So, you need a ban, basically, you know, saying that there's no – turn this around. You ban the production of this and you use the labour and capital and produce the lasting thing.

Can this be done? Is it being done at scale? Yes. There is one application of this thinking that I ask you to at least remember until tomorrow, and think about in the peace and calm of your own toilet or someplace where, you know, no one is disturbing you. The Chinese decided, one and a half years ago, to clean the air in China, and of course most commentators from Wall Street and from the Western press said "Good luck, you idiots, you know, you can't do this"! Well, of course you can clean the air in China if you decide to. How do you do this? You take – and this is what they decided to do – they decided to allocate \$700 billion to the task over 10 years. This is to take seven million under-employed people from Western China, you send them to vocational school, where you teach them for three years how to clean the air from smoke stacks and how to dig down sewers basically to pick up [deposit]. Then you pay them for another seven years while they're doing the job, and in the process, you also need to build the factories where you produce the cleaning [scrubbers] and the [PVC target]. This is easily done.

How do you pay for this? You know, so, in the Western world, you would have to increase taxes, you know, in order to be able to pay for the [seven billion], but you, who have your own currency, and we, the Norwegians, who also have our own currency, we can do this in a much, much simpler way. We just print the money. And that's what the Chinese do – they just print 100 [Renminbi] notes, which they pay to the under-employed guy from the Western...when he starts going to vocational school, and he turns around the same evening, uses this money to buy rice, booze and flat-screen TVs. This is stimulating the economy from the bottom instead of giving the money, like the European Central Bank and your Central Bank, print it, give it to me and other capitalists, who are then looking for an investment opportunity which does not exist because there is no purchasing power out there! But this is what we have been pushing the Greeks to do for, you know, the last several times.

So, all I'm saying is that...start doing something! We know exactly what needs to be done. We know exactly how to do it. It's just to agree. Who will lose? The elite will lose. The financial elite will lose – that's true, but this will be good for the vast majority of people.

Tim Jackson

Jørgen, thank you. Kate, you were making an impassioned case for a different kind of economy. Do we need that different kind of economy before we can do what Jørgen is asking to be done?

Kate Raworth

Mm, that's a great question. I think...I think that the longer you can go working within the main frame of the current economy, and I think that's exactly what Jørgen and Graeme's book is doing, trying to say what are the policies that make sense now in the economy that we have. I like to think of it as sort of a long string. When I listen to people speaking in this debate, I try to think where are they standing on this string. Are they standing facing policymakers and trying to transform policy right now, which was what I think Jørgen and Graeme's book is doing, or are they standing sort of at the back and taking the long vision, which I know both of them have also done and they've just chosen, on this particular occasion, to stand right in front of the policymaker, so it's a different position. I think we need both of those debates going on at the same time. Sometimes, they seem like they're fighting with each other, but actually, I think it's people looking at transformation from within the system we have and transformation over the longer range. I've chosen to stand at the back and talk about the longer vision of transformation because I am not as confident I think as Jørgen about the feasibility of decoupling GDP growth from resource impacts, because if you're saying it doesn't matter what's happening to GDP, then I would think you believe it could be sufficiently absolutely decoupled. The data I see, I mean, I've got some data here from 2000-2013, consumption-based carbon emissions, so not...taking into account the carbon emissions that are embedded in imports, the UK carbon emissions, consumption-based carbon emissions fell 9%, so a fall in emissions, while GDP grew 27%. That sounds like green growth, like this is evidence of green growth. The US, carbon emissions fell 6%, while GDP rose 28%. In Germany, carbon emissions fell 12%, while GDP grew 16%. It seems like green growth. But then you have to ask, is this green enough growth, because, actually, if you look at the work of someone like Kevin Anderson and Alice [Bows], they say, if we are going to bring ourselves back within a 1.5 or 2 degree target, if high-income countries are going to do enough of an effort, we need to see around 8% to 10% reduction in carbon emissions year on year on year, whereas what this is delivering is around 1% emissions reduction. So, you've got a real gap between the paltry little levels of green growth that are going on and the scale that we need. Some people say it's too soon to rule out the possibility that sufficient absolute decoupling could happen. Others would say it's too late to rely on it happening. I suppose, sometimes, we fall...maybe where we choose to stand on this debate, some people say it's too soon to rule it out and I believe if you push forward with these kinds of reforms, we will get the sufficient absolute decoupling that's required - we can have a growing GDP and falling carbon emissions. And of course, it's not just carbon emissions, it's land footprint and water footprint and biodiversity and ocean simplification. It's a whole range and we can't just look at carbon. I'm leaning towards the side of thinking I think it's too late to rely on the idea that this is just going to happen, that we can continually have a rising GDP and [that emissions] and other things will fall, so I do believe we need to undo the transformation that Rostow so beautifully described in his book, and I think it's a much harder debate to talk about. It's a much harder thing to take to policymakers. But I think I feel like we're working as a team, even though we might be at different places along that line.

Tim Jackson

Yeah. Thanks, Kate. Graeme, to some extent, paradoxically perhaps, you were articulating the most growth political position because you were basically making the case that growth, economic growth, you were saying, explicitly, has failed us - it hasn't alleviated poverty, it hasn't reduced inequality, and it certainly hasn't reduced carbon emissions in the global sense. Do you think, as Kate, for example, is suggesting, that we have to have a different kind of economy before we can implement your 13 proposals?

Graeme Maxton

The reason that Jørgen and I did this book was, and it took us about three or four years, it started off with a conversation where we had - and it was on a train from Amsterdam to Maastricht, and he

was telling me about his new book, and I was telling him about my new book, and he was telling me about how he'd been working in this area for so many years, and we've failed, I mean, the Club of Rome has failed – we've failed to get the message across. And we started talking about why, in effect, and the Club of Rome has traditionally spoken to politicians and those in power and those that influence to try and help shift the needle in terms of influencing policy, and we realised that one of the reasons we've failed is because we're speaking perhaps to the wrong audience, that if we want to create change, there needs to be a much broader understanding among a much wider public about the need for change, and that the second thing we were doing was we were trying to offer long-term solutions. We were looking way ahead in the future and saying, look, this is what you can do for your grandchildren. It doesn't cost you a lot now. It just needs a small change of direction, and your grandchildren will be reasonably okay. And people, although they talk about caring for their grandchildren, don't. They care more about themselves. And so, we decided that we would focus our message on the here and now because people listen to the here and now, and that we would come up with policy proposals and ideas which would gradually shift the system. So, it's not a question of do we need a better system, what we're trying to do is say here's how to shift the system. Of course, defining the problem that we've got today is not that difficult. Defining where we need to go, what sort of system we need, is not that difficult. I mean, we can argue about some of the details, but we have to live within the planetary boundaries and we have to have a society where most people are reasonably okay. But it's moving from here that's the difficult bit, and that's where we've all failed for the last 40 years: how do you shift the position from here without making things worse? So, that's what we're trying to do with this, we're trying to find a way to gradually shift the system, and that's the thing. It's not a question that you need a different system, it's how do you shift the existing system.

Tim Jackson

Federico, just finally, before we open up – Jørgen, I'll certainly give you a chance to respond. I mean, the degrowth movement has explicitly set out its stall by attacking growth itself, the growth paradigm, in this language of a new imaginary, which is a very...potentially a very creative language, and it's often, I've noted, that it's populated by many younger people who have an enthusiasm and motivation for change that perhaps has been difficult to sustain for those who've worked in the area a little bit longer. Do you think you face a charge of naivety, this idea of thinking in this creative long-term way simply will always fall foul of where the existing politics is, or do you see, as a movement, do you see a way through that,

Federico Demaria

You have good questions, Tim, which I'm sure you've asked yourself to yourself, no, the same questions, in toilet probably when you are alone...

[Laughter]

I think one issue is, because we like to talk about the '70s, I think, in the '70s, there was such a strong [?] growth debate that [this was] the way, intentionally I think, with this idea of sustainable development, which is like we can make compatible sustainability and growth and so on, and this [stays around] for decades I think, and what today I think we could ask: was sustainable development a success or a failure? Well, I think it depends for whom. For those who wanted to remove, to wash away the debate [?], it was successful, and for all the others, who genuinely believed in the promises of sustainable development, I think it was a failure. So, in this sense, degrowth comes out of that. It comes as a critique of sustainable development, it comes as a critique of development itself because development is always understood as economic growth, but it's not only a critique, it's also a proposal, no, a proposal for a downscaling of society which would be

democratic, which would be equal, and so on. So, one could ask, okay, are we too radical, so to say, even in the term, which is meant to be provocative of course – everybody's in favour of growth, and you say "I'm for degrowth!" In fact, the word "degrowth" did not even exist. And then it's difficult to co-opt. I think this is a good part of our slogan. I don't think any capitalist will take "degrowth" but they will take other words, "new economy" and so on, and they might easily get co-opted.

But then the question is always, well, the central question here I think is: how does change happen? And I think none of us, at least I don't have any idea of how it happens in itself, but it's true that degrowth has been able to motivate. We organise international conferences every two years, and in Leipzig, we had 3000 people. We had some MIT Professors and Oxford and Harvard and so on, and we had lots of young people. So, I think, in this sense, it's true, degrowth is motivating because it is clear and it is explicit, and it attempts at least to be brave, as I said at the beginning.

And let me make a point from economics, although I think we should move on if we want a new system, a new economy, beyond economics itself, but even in the debate in economics, we talk about rationality, and I think that the position that Graeme and Jørgen have taken, it would go along what is called the instrumental, consequentialist rationality, no, that you still think that people are rational and therefore you propose some proposal that seems, so to say, reasonable, and we expect that they will support that. I'm not so sure that I share this view of the anthropology, of the anthropological [?] in our society or in our economies. That's meant to be a friendly critique and a constructive debate... Because there is something that even the economists recognise, which is called expressive rationalities, in the sense that people might even vote or support something which is, even in the short-term, has negative effects for them because what is important for them is what motivates them. So, I think what should be – when I say we have to be brave, what I mean is that we should be looking for something that motivates people, and I think we should be brave in the sense we should go radical. Enough of just wanting to have a little bit less [?] about our policies. This is what the left has done in the last decades, and the time is right I think to go and say what we want to say, clearly, and [do not] think that people don't understand and do not think that people will not follow and so on. We have to say what needs to be said. And I think degrowth – I'm not saying it has done that, I'm saying it has attempted to do so, and despite many people say, oh, negative framing, doesn't work, and degrowth is a bad slogan and so on, I think it has been rather successful. There are quite big debates, especially in Continental Europe, so I'm happy that the UK [is taking over], thanks of course to Tim Jackson and others, and yes, we could be called naïve, but I'm not so sure that the [more] reformists have been more successful because that is what sustainable development has attempted to do for so long. I'm not against the [exact point] proposal that you are proposing – I think they are good, and you have a good [point in the starting point] and you can build upon that. I would be all in favour of that.

And last, to conclude, I think, even today, the debate is not anymore between green growth and degrowth. I can make a stronger case later, if needed, against materialisation and so on. Today, it's sad to say, but the debate is again between dirty growth, a la Donald Trump, and degrowth. That's the choice. Because what is Donald Trump proposing in terms of economic policies is very conservative, [social wide] policies and so on and so forth, and on the economic policies, is a kind of a [Keynesian] proposal of spending – spending on the wrong things. Of course, we could do spending on the right things, and I would be in favour of that. So, I think that, politically speaking, in the institutional politics I mean, we have to be ready [not to face] green growth – I would be happy to debate the green growth. We have to face, more and more, again and again, a kind of a reincarnation of [dirty brown] growth, and I think that will be a big challenge for us.

Tim Jackson

Thank you, Federico. Jørgen, before we go to the audience...

Jørgen Randers

Just to be positive, which I always ask to be, it is possible to have, you know, [I think positive implication] of Trump and Brexit. These are two movements where wellbeing wins over GDP and growth. The people, in both cases, the way I see it, as a Norwegian, have voted that they're more interested in the wellbeing of the white angry man, and whoever votes for Brexit in this country, so... And then the second thing, which is even more interesting, which Federico touched upon, look at what Trump is now proposing to do in the United States of America. If I go to talk to him, he might be so smart that he copies the Communist Party of China and uses the huge job creation programme not to build highways but to build the windmills and electric cars and the solar panels in the prairie. This was the plan that Al Gore made [nine] years ago, the detailed plan for how to create employment in the central rust belt, you know, by introducing the windmills and by ordering the trade to producing the electric cars, and this is a 10-year plan in order to convert all the United States from fossil cars and fossil energy to renewable application. So, if someone could just talk to Trump and tell him that the job employment creation, spending his one trillion dollars on this will be as fine as the effect of building highways, he might actually be the guy who saves the United States from climate [?].

Tim Jackson

Jørgen, that's fantastic. I just wondered if you were putting yourself forward for that...

[Laughter]

We had a big discussion about who was the right person to represent the UK's interest in...

[Laughter]

I think we've turned down one of the obviously...

[Laughter]

...might be a good point for you to volunteer.

I think it's time to open up conversation. We've got a lot of people from a lot of different backgrounds here. Let me take two or three questions and then we'll come back to the speakers. Yes, one, two, and three...

Geoff Beacon

Geoff Beacon from the Pollution Tax Association. If you take the IPCC's remaining carbon budget, I just don't see how we can not have degrowth because we just cannot de-carbonise in time, and that means, if we're going to have degrowth, in other words, consume less, produce less, it means, if we're going to have full employment, people have got to be less productive, and their wages have got to fall, so we've got to have some way of supplementing their income. I did some work with Professor Swales for the European Commission in the '90s, who had an interesting solution which was something to do with re-ordering VAT so it's much cheaper to employ people at the bottom of the market, and that can give you a macro-prudential policy which keeps full employment even under degrowth. But I think even Kevin Anderson is a bit soft-core.

[Laughter]

You know, it's...it's...you know, you can't have electric cars at the moment. In 20 or 30 years, they may be of some use because you may be able to build them without the enormous embodied carbon they've got. They've got much bigger embodied carbon when you build one than you have a petrol car, and if you're talking about bricked tall buildings like we have in...or well-insulated ones, the embodied carbon in that is just not counted. You know, it's really, often, very large indeed.

Rupert Read

Rupert Read, Greenhouse. Greenhouse helped set up this APPG – it's wonderful to see it flourishing. My question is: you're all four of you growth agnostics, more or less, and that's fine and who would get hung up on GDP – it's this arbitrary figure that contains good things and bad things all thrown in together. But would you all accept that it is extremely important not to allow that growth agnosticism to bleed into any kind of softness on any programme that says that there should be a target for GDP increase, however small, because any such target means that the job of trying to keep our ecological footprints within any kind of One Planet level is harder – in other words, any economic growth at all makes that job harder. So, isn't it potentially irresponsible even to say, for example, we should have 1% economic growth?

Marit Hammond

Marit Hammond from Keele University. I wanted to [remind you to the fact] that I don't think we can speak about the economics alone but we need to think about some of the political implications of what you've been saying, but also the political preconditions for the kind of change you're advocating, and I find it very, very dangerous to suggest something like, em, we know exactly what needs doing and we just can push it through by whatever means necessary, following the Chinese model, because, really, the situation is not one where there's one isolated crisis that needs to be overcome or survived and then we're fine, and we just push it through and then we rebuild our society afterwards. But we live in a world where, generally, there's ecological constraints, and there's always going to be ecological constraints to our societies, you know, forever more. So, the situation really isn't one of just surviving the one crisis by whatever means it takes, but it's about how to build a prosperous future in an ongoing manner, and so, if that requires reimagining prosperity and it requires, you know, how Federico said, something that motivates people, that takes people along in that, it must be democratic and inclusive.

Tim Jackson

Thank you very much. So, the broad thrust of actually all of those three comments was the limits of growth agnosticism. Who would like to pick that up? Graeme...

Graeme Maxton

The first one?

Tim Jackson

Any of those...

Graeme Maxton

Any. Okay. I'm going to just...quickly, on all three of them.

First of all, on the energy transition, as well as [the energy transition], and I take what you say, Kevin Anderson does make some broad points that [may be viewed as being] optimistic. We also

have [the wave of] robotics that is coming, which is going to also increase unemployment dramatically, even if the numbers from Oxford are overstating the case. This comes back to our point: the only way we can handle that is by sharing the burden. We have to share the burden of work and the cost of the transition across society, and that is the role of government. I mean, I know we live in an imperfect democratic society, but we live in a democratic society and that's the only mechanism we have, outside China, and so we have to find a way of changing people's mindset to share the burden around, and sharing work and wealth is the only way to do it. It's about redistribution.

Secondly, 1% is not enough... I mean, the [?] 1% is enough. What we're trying to do is manage expectations. I can add a zero to every price in Britain and increase the GDP by tenfold, so the number is actually not the issue, as I think everybody has been trying to say. It's about the ecological footprint.

Rupert Read

That's what my point was: if you have a number, even if it's 1%, that's still making it harder to achieve-

Graeme Maxton

I agree, I agree with that, but what we're trying to do is manage expectations at this first stage, to make people realise that the [rate of curve] actually doesn't matter – and I take your point.

Third one...is there one crisis? There is one crisis. There is one crisis which we have to solve, otherwise nothing else [we do], and that's the climate problem, and we've got about 20 years to do it. All the other things come afterwards. But if we don't solve that problem, there's no point in talking about anything else at all.

Kate Raworth

I think being growth agnostic is a very radical position. It can sound like you're sitting on the fence, or sometimes people are growth agnostic as in, well, I'm not going to look at GDP or I don't think we should measure GDP. I think it's much more radical than that. How do you create an economy that thrives whether or not GDP is going up or down? As I said earlier, we are so locked into that aeroplane ride, we are on auto-pilot, in a plane with no landing gear, and we need to get out of that plane and onto the skateboard.

On Rupert's point, I don't think – I think if have a 1%, no growth target, I think, you know, skateboards don't always go uphill, right? A good skateboard does tricks and goes around. So, I wouldn't lock into any particular growth rate, but, again, I think Graeme's answer was precisely because he's saying I'm facing the policymaker, I'm trying to take something to policymakers that they can start to listen to, and so it's where are you choosing to stand in this debate. So, I think being growth agnostic actually is, to me, the most radical position to take.

Jørgen Randers

Very briefly, the slower we react [to cutting] greenhouse gases, the warmer it will be. There is no precipice in this. It just gets...you know... So, if we're continually emitting more, the temperature will just get higher, and, luckily, there does not seem to be any thresholds over which, you know, the whole thing suddenly explodes. The tipping point theories are, as far as I know, not correct. So, yes, okay, so we will [shoot to the budget] and the effect will be that generations and generations will live under very much less pleasant conditions than they would otherwise have lived.

The second thing, on the target on GDP, I strongly and with all my convincing power, which is very [little/weakly left], putting targets on GDP is wrong. That's what we have learned from the 40 years. What you should do is put targets on footprint. It's the footprint-

Other Speaker (male)

Why does the cover of your book have a GDP target on it? That's a question...

[Talking at once]

Jørgen Randers

This is how much you have to shift. You have to shift 1% of the GDP total-

Other Speaker (male)

You need to talk to your book designers then...

Jørgen Randers

No, that's not what the book cover says.

[Talking at once]

So, my view, and the original source of the 1% is [enough], is like 50 talks or 100 talks that I've given on that title, and the point is mainly to shift 1% of the labour force and 1% of the capital of the world from dirty production to clean production. That all it takes. The UN Climate Economy Report, three or four years ago, five years ago, was the one that first did the calculation, and it has been repeated in many, many different settings. If you take – okay, so that's it...

Then, I apologise for being such a...well, what do you call a person like...an old fart...

[Laughter]

[You know, I'm assuming] that we have not spent the last 40 years discussing this issue, in all conceivable environments, that these are ideas that Graeme and I suddenly came up with in our [sole tiny room] over the last one or two years. Jesus Christ, I mean, what do you think we have been doing for 40 years?! It is to collect the information. It is to hear the wisdom of people. It is to go everywhere. And the answer is loud and clear: it's totally simple what needs to be done! It is to stop using coal, oil and gas, and that's the only thing which is important. Once you have done this, then you can start solving all the other problems.

[Talking at once]

Yes. Do it linearly from now until 2050 and you have a world which peaks at plus 2.5 degrees Centigrade.

[Talking at once]

Other Speaker (male)

...believe that there's a good chance of that. I don't necessarily believe there's a good chance.

[Talking at once]

Tim Jackson

With respect, that's not something we can immediately settle tonight, so let's move on a little bit with the discussion. Marit's point, which hasn't entirely been answered, of course there's a recognition amongst people like yourself that these are complicated things and you have to engage with policy. Nobody is impugning that at all. But the point about the engagement with policy that Marit raised is incredibly important, and perhaps equally important, for you, Federico, and for the degrowth movement, what is the democratisation of degrowth – where does that happen and what does it look like?

Federico Demaria

Well, this is what I said before, no? When I say degrowth, I mean different things and different concerns, and that's...that's part of it. When you look at the movement, when you look at the people at the conferences, some people come from ecology, but other people come from spirituality and the meaning of life, and some people come from democracy. So, when I'm asked, and I've argued this, to define degrowth, I think that you need to define degrowth mobilising all these concerns together and that's the important part of it. Otherwise, if you only take into account, for instance, the ecology, you can end up with a monster of course, which is an ecological dictatorship, or even with the debate on happiness and economics, with which I'm a bit familiar, it's an interesting debate that I use myself to make my arguments, but it's dangerous also because, if you go – some of the authors claim that by measuring subjective wellbeing and so on, they conclude people don't know what makes them happy or unhappy. So, if you move a step forward, you can say then a dictator, or a technocrat, could actually decide to do the policies that will make people happier. So, it's not only with ecology, you can go from other sides. So, for me, the democracy is not compromised. I would prefer, in fact, that democratically we decide to go against the [world] – I am fine with it. The only point is that we decide it democratically.

And, in fact, there is an issue here, which is discussed in our book, and it's the point of when we say that we are in what we call a post-political debate, okay? What do I mean by that? If you think of Al Gore and the movie "An Uncomfortable Truth", I am against the position of Al Gore when he says we are all in the same boat and we are fighting against climate change. No, Al Gore, you are wrong, because there is an issue of, of course, of shared responsibility, but of different responsibility, a point which has not been taken into account in Paris and all the climate [organisations] because the US were actually against it of course because they had the huge historical responsibility, because of that. So, if you recognise that there is a different [shade to] responsibility, then it means that those who are responsible are not bearing the cost and so on, so then climate justice, or what we call environmental justice, that is [?], that again is mainly an issue of justice, comes into the picture and is key.

And there are many other urgent issues – for instance, why don't we talk about gender inequalities, or whatever you call it in English? Is it not like key and urgent and whatever? It has been on the table since the '70s too. So, that is what we are trying to do in Degrowth. We want to incorporate that also. We want to say that either the change is feminist, otherwise it's not change at all. So, in that sense, I go along with your point that there are different dimensions and democracy is key.

Tim Jackson

Let's take another round of questions. So, I have Richard, Mike, Becky... I'll come to others.

Richard Murphy

Thank you, Tim. I find the panel's agenda extremely interesting and fascinating, but there are other agenda out there and other ways or pathways that are being proposed to sort of address some of our central problems, and I'd like to know how the panel see, for example, the circular economy agenda – is it part of what you offer or do you see it as possibly subverting your position?

Mike Clark

I'd like to ask the panel an application question. I work with pension funds and asset owners. I could probably be persuaded to be agnostic about growth, but my world is very interested in investment returns, returns on capital. So, if my responsible investment advisory firm was wealthy enough to employ the speakers as my advisory panel, how would you begin to apply your thoughts on this to the advice that asset owners, pension funds, around the world need to begin to take their route? We're having a very sort of political growth argument. There are other important actors, I would argue. So, how would you choose to begin to apply these to pension funds, who devise strategies where prospective returns on capital, which actually are your savings, is at the centre of their role?

Rebecca Willis

Yeah, I want to come back to the politics because I think maybe that was skated over, and given where we are, I'd really like to ask you, Caroline, as well, if that isn't putting you on the spot, but I just... something that I think all panellists, possibly with the exception of Federico, did was to say "we" and to use "we" in a very undifferentiated sense. So, it was basically "we" need to ban fossil fuels, you know, with no articulation of who that "we" is, and that's really difficult for me because unless you do become a benign dictator, there's, you know, saying "It's simple, we need to ban fossil fuels" is...is... You know, it's a very seductive statement, but if you think what's packed within that "We need to ban fossil fuels" statement...

So, I have a challenge for you and a question. My challenge is – and this is to all of us, including myself – I think we should actually only say "we" when we have a sort of reasonable confidence that we have the backing and that we don't have to persuade before we use the "we". So, you know, we have to have an idea of who we mean by "we". So, that's a challenge, maybe to all of us, but to the panel. And the second thing is just I would really like your articulation of who you do actually mean by "we". I think we've heard, you know, it's politicians, it's kind of the general public, but, actually, what does that coalition look like for you? That's where I think maybe Federico came closest to that because, you know, he was talking about degrowth as a movement, so, when you're talking about "we", maybe you are referring to, you know, your colleagues within the movement, so there is an articulation of it. But for the rest of the panel, what is your articulation of that "we"? And for Caroline, do you think, you know, can you see that coalition there? You know, what's the "we" like for you – who do you think we can bring with us on this?

Tim Jackson

That's an absolutely fascinating question and I want to – let's take the first two questions first, responses to that, and then come back to Becky's challenge.

Federico Demaria

Can I kill the circular economy issue if I...? I mean, it is a...it's like a...a sexy slogan, a very attractive slogan. For me, it's...for an ecological economist, it makes no sense at all. So, okay, so let me – and this relates with the dematerialisation and so on. Okay, we have mentioned the carbon [?] and so on. So, what ecological economists do, many things, but one of the things is we look at the metabolism of society, okay? So, I have a metabolism – I drink water and so on, and then I go

to the toilet, etc. So, societies do the same thing, okay? So, if you do [?] so it relates to the ecological footprint, and in fact I think it's an even better indicator, if we – some people have looked at the world economy and the metabolism of it, okay, in terms of [terms], okay. It is reductionist, simplistic, whatever you want, you can debate it. When you look at it, half of it is actually fossil fuel, for instance, okay. So then, if you want to have a circular economy and, okay, you will know that material we can recycle, up to a certain extent, but energy, fossil fuels, we cannot recycle. So, 50% of the material economy which is actually fossil fuel, once you burn it, you cannot recycle it – it's gone. So, people arguing in favour of a circular economy, please explain how you want to have a circular economy with the same material standard of living for Western society plus people coming out of unemployment, poverty and so on? So, can we have a circular economy? I'm all in favour of it, but what it means is that we have to downscale, at least in developed countries, significantly, the level of our production and consumption. Then we can have a circular economy. Nicholas Georgescu-Roegen, one of the founders of ecological economics, was in favour of this. But what does it mean? It means a solar economy, but solar economies is something that we cannot even imagine because even renewable energy, when you look at what is called the EROI, which is the energy return on the energy invested, it is very, very low, so you cannot do the things you did with fossil fuels when you are using renewable energy. So, circular economies, yes, but not like the European Commission understand it.

And that is the same thing with the dematerialisation debate, and here I'll finish, but the point is that I'm not saying that we should decrease GDP. I don't care about – GDP is an arbitrary indicator. You need a matrix of indicators for equality, for wellbeing, for gender equality, and so on, because society is complex and it cannot be simplified into a single unit of measurement, to a single method. That, I think, is so basic everyone can understand it. But the point is, if we start to implement the policies we are mentioning here, related to the growth and so on, then I think GDP will...will collapse or will start to decrease.

And I can go even further, to complexify it, I can say that we have looked at time series of GDP and carbon emission. We wanted basically to prove that, if GDP stops, the growth, you have lots of gains in terms of emission. That's true, but not as significant as we expected. So, what is GDP? GDP is an indicator. Even Kuznets, Simon Kuznets, one of the people that designed it, recognises it is an indicator of how fast the economy grows, which of course is not an indicator of progress. So, it's not only a matter of GDP 1%, minus 1% and so on. Our economy, I'm sorry, they have to shrink, and the impression I have is that they are anyway shrinking, so it's better to manage it than just to let it go in chaos, even for pension funds.

Tim Jackson

Okay. We'll move on to the pension funds. Anybody on the panel would like to pick up and defend a little bit the circular economy...?

Graeme Maxton

Walter Stahel, who is father of the circular economy, is a member of the Club of Rome, and we have a number of experts in this – Ellen MacArthur, she is very much advocating this. The circular economy has a wonderful role to play as a bridge. If we can persuade companies to recycle, redesign and use products in the way which uses fewer resources, that's great because it takes us into the position of moving towards a lower ecological footprint. Right now, the focus is on doing that profitably, and it is profitable for some companies to do things in a circular economy way and still be within the existing system, but it has limits, and the limits come that, as soon as you start doing it in a circular economy way, and you begin to affect the overall size of the market, and the traditional players begin to get upset about that, then the system begins to break down. The only

way you can have a circular economy working at a broader level is with government intervention to make it possible. It can't happen by itself because the market requires growth and the circular economy doesn't. So, it's a bridge, but it needs intervention if it's to work in the broad scale.

Jørgen Randers

Very quickly, in my mind, the circular economy is what I call a 5% solution. It's...like biofuel, you know, it's something which will not solve the whole problem, but certainly is an element in a solution.

On investment – or that's later on?

Tim Jackson

Yeah, let's move to that one. That's the pensions' question, yeah.

Jørgen Randers

Okay. So, again, [that advice] is very simple. If you want it detailed, read my book, "2052", written five years ago, which [predicts] in great detail what people ought to do, but the simple answer is: get out of the losing sectors. It's not easy to indicate what are the winning sectors, but to get out of coal, oil and gas before the values collapse is the obvious – so you should do this while there's still an idiot out there who's willing to buy it.

[Laughter]

On who are "we", I apologise profusely for having not stated who are "we"! We have spent – read our book... We have removed all "we"s in this book, except when we talk about Prince Graeme and King Jørgen.

[Laughter]

We are "we". But when I use "we" in a debate like this, this is a discussion about the majority of the voters in a rich nation – that's what I use as "we". So, I use that when I say "we ought to do" something – it is the majority of the voters in Norway, which I'm trying to cajole into doing something.

Kate Raworth

I think circular economies are a fantastic idea. I can't imagine an economy that I would want to live in that didn't run on the principles of regenerating itself. I mean "circular" is the wrong word because nothing is circular. There is no perpetual motion machine. It's a cyclical economy and it runs through cycles of reuse and regeneration. But I believe that we, and "we", I use "we" as in we who live in high-income economies, I'm not saying what we ought to do. I believe...I believe that we live in an economy that is degenerative by design, and we need to live in an economy that is regenerative by design – that's my belief. I believe that it applies to all of us who live in this economy, so I'm quite happy to use the word "we". I'm very worried about not using the word "we", because we, as a species, need to think about who we are in relation to the Earth. So, I take the point that you need to think about how you're using it, but I'm very happy to use it. I believe we live in economies that are divisive actually in terms of creating inequality and degenerative, and we need to creative economies that are distributive and regenerative by design, and that they are cyclical in terms of drawing on [Earth's resources] and putting [it out into Earth's sinks] within the

regenerative capacity of the Earth. I can't imagine an economy that was a successful one that didn't have the principles of regenerative design at the heart of them. So, I'm a big fan of this idea of the circular economy. I quite agree with Graeme though, the way it's being formulated at the moment is very much selling it to big business, that this is profit-driven and you can turn your waste into wealth. That's a very narrow overlap of current profitable interests and the potential of circular design. If you actually take the full potential of regenerative design, I find the people who are doing the most interesting work here are a group called the Open Source Circular Economy. They say, actually, if you take the principles of regenerative design, we want this to be open source so that anybody who, you know, like an iPhone, the material that ends up in somebody's hands, it's clear, inside that material, how it's made, what it's made from, how to disassemble it and how to reuse it, like Lego pieces, but at the moment, companies are vying for the circular economy in a very proprietary way. They want you to send back their products to them and they will remanufacture it, so it's a very closed control over that. That is never going to take us to the full potential of a circular economy design. We need to go open source. I think it's...this is where it's radical, it's transformative.

On the pension funds question, I like what Jørgen said. I wouldn't stand in front of your pension fund advisor because I feel like I'm standing at the back looking for the long vision and asking why is it that we believe that compound interest is the normal relationship, normal nature of money – why do we believe that everything in the world deteriorates, you know, melts, rusts, breaks down, and money is the one thing that continually grows, and it's an anomaly in relation to the natural world. So, I think that is a really profound question about the structure of money, that we've chosen to give money the structure, and that we now have pension funds and we, in our lifecycle of expecting income, we depend upon that structure to give us an income when we're old. That locks us in, but I think we should profoundly question whether that's the only and desirable structure of money that our society should live with.

Tim Jackson

Thanks, Kate. Caroline, Becky's question was partly about the sort of personal politics of the word "we" but it was also about the institutional politics of the agenda as a whole – what are your thoughts about where this sits?

Caroline Lucas

I feel so reluctant to answer because Jørgen was doing such a good job of being positive tonight and I don't want to kind of push us all into a [sluff of despond], but I feel I would because, you know, it's easy enough to say stop using fossil fuels. You know, when we try even just to get governments to stop subsidising fossil fuels, that is difficult enough, so it just really, I mean, absolutely, the big question has to be how do we generate the political will to move on this agenda, and I think it is incredibly difficult. I think, when it comes to talking about efficiency, notwithstanding what Federico was saying about the dangers of rebound effects and so forth, I think we can get people to come with us on efficiency because there are economic benefits on that that are very simple to see. I think once you start going to sufficiency, how much is enough, that is a much bigger question, and I think most governments are terrified of it. You know, how do they sell that to the public? You don't imagine people marching through the streets with a poster that says "What do we want? Fewer, more expensive flights. When do we want it? Now!" You know, no! People are very attached to these things, and so, you know, even in the debate about aviation – and I haven't heard us talk about aviation yet tonight, might have been while I was out, but...

[Inaudible comment – laughter]

When there was the debate, Heathrow versus Gatwick, to try to get the question to the table, that is the wrong question. Is any aviation expansion compatible with our climate change commitments? Answer, a big fat no. It was incredibly hard to get that on the table.

So, I think it is hard. I think, you know, we have lost something as well. It's not even that – sorry to be depressing! Jørgen, you can come back in a minute and make us all happy again! But it's not even as if, you know, that we're not moving as fast as we should be. We're going backwards! 2008, we had a consensus in this place around the Climate Change Act. I think there were only three MPs who voted against it. Now, there is terror about the Climate Change Act. No one dares go back to try to update the figures in it for fear that the whole thing would disintegrate in our hands. The Autumn Statement, not one word about climate! The word "climate" was not mentioned in the Autumn Statement. So, that is on the one side.

On the other side, if I was to try to be hopeful, I mean, I think just the one place where maybe we can try to push is that when the Department for Energy & Climate Change was scrapped – not a great move in one sense, I mean the publicity around it wasn't great – but when it was scrapped, you could make an argument, and to be fair, Greg Clark has tried to make the argument, that that was about mainstreaming climate concerns, energy concerns, sustainability concerns across government. Now, we can have our doubts as to how much they mean that, but I think Greg Clark, to be fair, is pretty serious about this agenda, so maybe that whole debate about the green industrial strategy, about using the infrastructure budget for energy efficiency, to say, for god's sake, energy efficiency ought to be an infrastructure priority, which right now it's not there on the list of what they think infrastructure is, to try to push on that agenda is perhaps an area where we can get a little bit of purchase. But overall, I mean, and Becky was saying, you know, is there a nice big fat "we" in this place behind this agenda...? This group exists, it is all-party – you know, from small beginnings. But, right now, it doesn't feel that there's a big surge coming behind it. Sorry...

Tim Jackson

But body language suggests that you really wish there was, Caroline...

[Talking at once]

Graeme Maxton

I just want to come in on this issue because I think it's a very, very important question about who the "we" is. We, as the Club of Rome, as I said earlier on, try to influence politicians, and I think to put all the responsibility on politicians now is not actually reasonable. We need a coalition of the willing. We need to involve people like the church – we had the Church of England this afternoon. The Vatican, the Vatican gets – we're working with the Vatican and they really understand the problem. The unions... Sarah [?] in Brussels. And some politicians – I mean, some politicians really get it. But it needs to be a coalition of a broad range of people who can begin to shift the voice of the population so that we can begin to understand, as a collective group of people, that we need to change. One of the initiatives we've started in the last 18 months is something called Reclaim Economics, and we're bringing together lots of young activists, who are often already active in the process of trying to change the way we teach economics in schools and universities – Kate has been absolutely fundamental in this programme. We're trying to bring them together, across Europe, and say, look, we can help you understand why the economic system is so toxic – go and tell your lecturers, go and persuade them to change, and then tell your parents and everybody else that we need to change the system. So, it's trying to be activists, to promote young people to

join this group as well, but it needs a coalition of activists if we're going to make this change, not just a few politicians.

Tim Jackson

Thank you, Graeme. I'm going to take another round of questions, and I have a lady here, yes, in the back, and, yeah, one, two, three...

Other Speaker (female)

So, coalition of the willing, and I was just wondering what you thought the role of businesses might be as part of that, potentially them thinking more long-term [about] sustainability, about business models, and also, potentially, differentiation between the growth of services versus the growth of material goods and how they might be two, actually, two separate things and two different conversations...

Other Speaker (female)

I'm just wondering whether or not [if you think] it's possible [inaudible].

Tim Jackson

So degrowth in a growing population is the question there, is that possible? And the gentleman here...

Other Speaker (male)

Yes, I just wanted to [add], I'm from the Church of England [and deal with it]. I won't make any substantive points because I agree with some points that have been made more than others, but we are on this agenda and...and moving, though not as fast as we'd like to, but moving in the direction that we would like to see.

Tim Jackson

Thank you – so a comment rather than a question...

Other Speaker (male)

Yeah.

Tim Jackson

To the first two questions, Jørgen...

Jørgen Randers

Concerning the role of business, the way I see it is illustrated best by what Philips, the company, the lightbulb company, did in the late 1980s, and this was to collaborate with the EU Commission to get their main product banned during the 1990s. The situation was the following: Philips of course made a fortune on making the old-fashioned lightbulbs in their labs, and then, in the late-1980s, they developed the low-watt bulbs and they discovered that this is of course a very, very good idea for society at large. The only problem was of course that the low-watt bulbs were very much more expensive than the old-fashioned bulbs, and consequently, there was no way in which they could introduce them into the market because people insisted on buying the old ones. Philips did what I

recommend any thoughtful corporation that is currently introducing something which is [obviously damaging]: they went to the EU Commission and said “Why don’t we pass a ban on our main product, gradually, over a 10-year period, while we further develop the ecological solution and, you know, then, in the end, once all those are banned, you know, our product is finished?” Unbelievably, the EU Commission agreed to do this. This was [while, what I like very much], a democratic vacuum still existed around the Commission, so the Commission could pass-

[Laughter]

And the [company], Philips, moved to, from cheap and dirty bulbs to more expensive but much lower footprint [bulbs], with their margin intact, with the workforce intact, with everything intact, which is the way business should operate. You know, all corporate social responsibility and [?] like this, fine, it’s another part of the 5% solution, this is not going to solve the world. It’s very helpful that companies do these things, but that’s not going to change capitalism. It’s not going to put in place the regulations that are necessary in order to make this new transition from [?].

Tim Jackson

Federico, the question of population growth, where does the Degrowth movement stand on that?

Federico Demaria

I mean, to make it even more difficult, [inaudible]. The first thing is, again, is related to the issue of “we”. So, if you want to differentiate the “we”, I think the banker or artisan fisher in Mumbai do not consume the same amount of resources, so, in the first place, I am personally, and I would say the degrowth debate, in general, has not been obsessed by the issue of population. We are open to discuss about it, but for the moment, I don’t think, for the moment, it’s an issue of population. It’s an issue of level of consumption of a percentage of that population. But one could say, if you really wanted to reduce population, then of course start reducing the ones consuming the most – that would be a very [good idea]. I’m trying to be provocative... So, in that sense then, I’m not...I’m not stupid of course and I understand that, if we are trying, on the one hand, to have a decent life for everyone, and if there are limited resources, and then there are an increasing number of people, well, I understand that if there were less people, then it would be good news of course. In the debate, I think no one disagrees with that, but then the debate turns on how you would do that, where, one, you can enforce policy, top-down, [?] and so on, and the other is what the [?] Malthusian says, and the [?], I can refer to feminist anarchist activist in South Europe, like Spain, Italy and France and so on, who are actually saying, how do you say, like the strike of the [?], how do you say, of the [?], like a [?] strike. In the sense, we are not going to produce more children [that will just go and die] in the factories and [in the war], so we are going on strike – we don’t want to have more children. So, of course, this is an issue of...we have to suggest, we have to promote the policies that reduce the population. We should stop at least subsidising population growth, which is again what the government are doing, stronger and stronger, [this continues in] Italy and so on of course, and the policy there, for instance, is do we – we know we need young people in Europe. I mean, the aging population is a big issue. So, do you accept the refugees and the immigrants or do you increase your population? Of course, [?] is to say let’s increase the population. We should be against that. We should be very careful on how we do this, and again we should not put the burden on women. It’s not just a matter of well-educated women have less children. Well, it’s not just the decision of the women to have children or not to have children. It is shared, of course, between woman and men, and society and modern society is [imposing on women].

Kate Raworth

I'll pick up on the question about business and the possibility of transforming. Somebody asked, you know, would it work if you just shifted from goods [to] services, and of course shifting from producing goods to producing services, from people owning cars to renting cars or leasing cars, is part of a shift, but I think... Jørgen said, you know, we can't...we're not changing capitalism. Again, I'm going to stand at the other end of that spectrum and I say, actually, I do want to change capitalism and transform not just what businesses sell but the structure of business, so that it enables them to be part of a much more profound solution. So, I've been looking at examples of companies that seem to be doing the right things, that I would say [are bringing us] within social and planetary boundaries, that are meeting the human rights of all within and the needs of the planet, or are on the journey towards that, and although I really like Jørgen's example of Philips, as a company doing it within the mainstream profit motive, I've found so many companies that are transforming themselves in order to be able to do this, transforming themselves in terms of their financing, so taking themselves off the stock market and realising that they are beholden to the share price, beholden to short-term financial interests, where Paul Polman is saying I'm not going to put out quarterly share price reports anymore because I don't want to be driven by quarterly investors, I'm going to go long-term, [and saying] I'm actually going to stop having share price investors, I'm going to go to private equity, but also transforming the corporate mission by changing the Articles of Association and transforming the purpose of the company, and that's what the B Corp Movement or the Benefit Corp Movement is about.

I think there's a lot of mileage in this, that we shouldn't always try to find solutions that work for the current profit motive of the way businesses are currently structured, but ask how can business be restructured such that it is incentivised to do the right thing and [the whole person can come to work] because, of course, we are people in our families and people in businesses, but when you arrive at work, in so many companies, it incentivises you only to look at a limited number of issues and to ignore or to push to the side environmental concerns, social concerns, and inclusivity. How can we design companies so that we can come to work as whole human beings and care about the issues that we're working on through our businesses in the same way that we would if we were just working as private citizens? I think that's a really exciting opportunity for transforming businesses, and it's happening. So, again, some people are working on making the incentives work for mainstream business, and other people are working on a different part of the spectrum, transforming the structure of business such that it works for the world. I don't think they have to be seen in conflict and there's a danger if they always end up fighting with each other. They're parallel transformations and I think we need them both.

Tim Jackson

Thanks. I'm conscious of time, and I'm also conscious of the challenge that Caroline laid down. Actually, she laid down two challenges, one at the beginning of the meeting to move the conversation towards what and how can the APPG take this debate forwards, and then she gave us another challenge, which is that the context of the debate at the moment is it's not going forwards but rather going backwards, and it seems to me that there is a...that it's really useful to bring that to the fore, to put that idea that, actually, the long moral arc of progress is not, at this point, necessarily going in the direction of social progress, because it should, I think, give us some indication of how and where we should act that is different from the context in which everyone is agreeing with the direction of moral progress. I'd like you, as our audience tonight, just to think a little bit about that for the last round of questions. What can and should APPG, a group, a small group, of parliamentarians, well-motivated and potentially in a position to do something, how should they take this debate forward?

While you're thinking about that, I have a couple of people who are on the list and I would just urge you to be either speaking to that question already or with some quite short comments that we can answer very quickly – Tony and then the gentleman here and [?], yeah.

Tony Greenham

Thanks. Tony Greenham from the Royal Society of Arts, Manufactures and Commerce. I felt I needed to try and cheer Caroline up, and actually, there is already a coalition of the willing, which is the Divest-Invest movement, which includes many faith groups and is global and is growing. I think that's something which we can point to as a groundswell actually.

On where to go next, I think it occurs to me that, I mean, you've referred already to the crisis in economics and the Rethinking Economics movement to try and tackle that. Next year, we're already at the 10-year anniversary of the beginning of the global financial crisis, when Northern Rock collapsed in this country, and the flaw in economics that meant it was simply blind to credit bubbles. It didn't have the intellectual frameworks and tools to even see that that was a possibility. It has, equally, [?] economics has that flaw about the ecological footprint. Unlike ecological economics, it simply, consensually, cannot see limits to growth. So, I wonder if we can draw parallels, as we go through this series of post-mortems, as we will, on the global financial crisis, can we, as Carbon Tracker have done with the carbon bubble, can we increasingly point to the danger that economics has quite simply not seen the danger of the environmental crisis?

Tim Jackson

Thanks, Tony. Gentleman over here...

Other Speaker (male)

I'm not sure that we're being hard enough on capitalism. Capitalism is based on growth. It's almost inconceivable for capitalism to do anything other than continually look for ways of growing.

Although, with today, both in this meeting and earlier this afternoon, there's been implicit criticism of that dominant system, I'm just wondering whether this group, the APPG, I mean, it's tough because... I mean, I'm thinking should we take our gloves off here and really slam into capitalism? That's a question I ask...

Tim Jackson

Thank you very much. And, finally, we'll take another question...

Other Speaker (female)

I'm also just thinking about what Caroline was saying and the APPG. I could see it as positive that the Department for Environment & Climate Change was dismantled perhaps because climate change issues should infiltrate all departments in government. So, I was wondering – but then also quite negative that it wasn't mentioned at all in the Autumn Statement so... Is there a role for an advisory board that could have influence across governmental departments and how could the APPG fit into that? And is this top-down approach appropriate or is it more about creating a social movement that can influence government? So, I wondered what you think, Caroline?

Tim Jackson

Thank you very much. Okay, lots of questions there actually already speaking to our final conversation and I've got more people who'd like to come in. Let me give the panellists – Federico, have you been too soft on capitalism?

Federico Demaria

For me, I have no problem, you know, in saying I'm an anti-capitalist and I am no one to speak in the [?]. We get this...I get criticised also because [?], they say it's [we are anti-growth]. Even that ['we'] is problematic, in effect, because what [is degrowth] – it's a community of people that agree on [the limits to grow] but don't [know what to do, we don't know]. But I can say there's been a survey done at the Leipzig conference in Germany, so 3000 is only a representation, and the majority declared themselves with no problem saying anti-capitalist. So, I have no problem with it. In Spain, it's common, you know, there is this anarchist past in shouting in the demonstration "We are anti-capitalists", but the problem is not saying that – it's nice but it's a bit naïve in itself. We have to understand what it means, so what is capital – which are the fundamental capitalist institutions that we are able to challenge, or not. So, one would be better property, [wage] labour and so on. So, when we did the 10-point proposals, for instance, we were trying to play a little bit in the middle, no, in saying – we were also trying to be referee somehow. So, we said, for instance, we want to change [wage] labour, but we are not going to say that we want to abolish it, so let's build on it little by little.

So...and the other thing is, in the [focus], the way we discuss it, I think capitalism has two functions. One is a technical function, so to say, that it needs [the growth], that's clear, otherwise we can't have interest rates and so on; and then the other is that it's an ideological justification, it's a social and political justification, in the sense that if the economy is growing, then you can justify capitalism. [One of the things] you can justify is that there is [no redistribution] or there is no land reform, for instance, no? Once growth stops, then you have a problem because everything starts – and that's what Tim Jackson was saying, no? The problem here is how we make [degrowth] stable. So, in that sense, I think it's important to take into account that there is a past, a present and a future, so let's not assume that the future will be like the past. So, I don't – people, it's common to say, at least in South Europe, to say "When will the crisis be over?" Well, wake up, you know, this is the new normal, as even the IMF say. So, we have to deal with this.

And I think in terms of – and this is the other big question, along with how does change happen, then one issue is who is the political subject of this change or who is the change actor? I think there are many. I don't think, like with Marxism, it was easy to say it's the working class. I don't think degrowth has a clear political subject, and it doesn't need one, but we need to have that debate. I would like to think that, part of it, it is the...because the system is changing and is leaving the people behind, at least in Spain where they live, and we already know, high unemployment, poverty, inequality and so on, so there are people who are left behind. My hope is that we can include in that "we" those people who are left behind, who are the victims, who are the refugees of the growth society without growth, because we are trapped in a society which is organised around growth but with no growth, and then it becomes a [?] and it creates a problem.

Of course we can have an alliance also with the environmentalists and so on. [I didn't get the chance] to comment exactly on what I would propose to this committee, but one of the things you could do is what we did, we ran a large survey, with a statistically significant sample and so on, on public views on economic growth and sustainability, and what we found was surprising. Well, one thing that is not so surprising is that 60% of the population believes that sustainability and economic growth are compatible, okay, that's green growth, and that's what they are hammering you every day. Then we found that only 5% of the population is actually ready to go for economic growth no matter what happens to sustainability, and then we found that 35% of the population is

ready to question growth, is even neutral to growth in terms of policy, if we have to promote sustainability. So, what I mean - that's what I mean by let's be brave, because I think that there is a public that we can interact with, and then, again, I don't think we have a party [alignment with degrowth as a banner], as a main slogan. I see more progressive parties, like Podemos could have been and so on, and able to dialogue with them. I want to push them. Degrowth is not their main agenda, but I'm fine with most of their agenda, and I'm going to push for degrowth within their agendas, and this will be similar to what the Green Party can do in the UK and so on.

Tim Jackson

Thanks, Federico. I want to come back to that political question. Kate, on Tony's question about the failure of economics, have we learnt enough from that failure? Are we insulated against failure in the future, against a mis-functioning economic...?

Kate Raworth

No. I think we're deeply exposed to it. I studied Economics at university 25 years ago and was really frustrated by what I was taught and what I wasn't taught. There wasn't even an option to study environmental economics – it didn't exist at the time, let alone ecological economics, and so I walked away from economics, too embarrassed ever to call myself an economist because I thought that was a really shameful thing to be, and I've found myself, over the years, walking back towards it, and it's what made me leave my job at Oxfam and say, actually, the next piece of advocacy that I want to do is to write a book about rethinking economics, precisely because you can't walk away from economics. It's the language of public policy. We are immersed in it, and we need to reclaim it. I want to be part of the movement for reclaiming the idea of economics. "Economics" means "household management", and the great irony is that "ecology" means "understanding the household", and yet economists are taught to jump in – economists never study ecology, never understand the household, they just jump in and manage the damn thing, without even understanding what this household is. So, any economics education should begin with an understanding of what is this household, our planetary household, just as any medic – anybody who wants to be a heart surgeon first has to learn about the muscular system, the nervous system, the digestive system, the respiratory system. You have to learn the whole damn thing of this complex system before you're allowed to specialise in one part of it. Economists are just allowed to jump in and ignore the rest of the system. You would never trust that doctor who said, "Well, I know about your heart – I mean, digestion, you know, don't know anything about that." You would never trust that doctor, so we should not trust those economists who have not had a holistic education. So, I'm passionate about going back to the roots of my own economic education and looking at the diagrams I was taught and looking at the concepts I was taught. The environment, it's an externality. I mean, that framing tells you everything you need to know about the abject failure of economics to understand the planetary household in which the economy exists. So, we need to fundamentally rewrite the language of economics but also re-draw it's fundamental pictures. For me, the question is, if you want to bring...if you want to meet the human rights of all within the means of the planet, what is the mindset that you'd want today's economics students to be being taught to give them half a chance in hell of starting to bring us there because it is not the mindset that they are being taught, and what the economy is, what it's for, how it moves, who we are, all of that is so extraordinarily out of date and deeply ripe for rewriting.

Tim Jackson

Thanks, Kate. Jørgen, Graeme, what about this question of top-down versus bottom-up, the politics question that [?] was raising there? The APPG obviously, to some extent, is a kind of, you know,

caught in between – it's neither top-down nor bottom-up in a sense, but it has at least the ability to influence or be influenced by both of those places. As you've formulated this work, and particularly as you've formulated your proposals in reinvented prosperity, who do you see your audience there – is it a top-down audience or is that also something where you're speaking to a broader grassroots movement?

Graeme Maxton

I think it's both, and that's what we've tried to do. We've come up with policy proposals, but we've come up with ideas which are meant to appeal to a short-termist democratic majority – they should be in the interests of the 90% - and so that's also why the Club of Rome is now trying to speak to a much broader audience, to help people understand.

[As well], picking up on that question about is it time to take the gloves off with the capitalists because that's also part of who are you speaking to, and I think my answer to that would be “Not yet”. We didn't use the word “capitalism” in the book very much at all because it's a very... inflammatory word, and “socialism” has become a dirty word, despite the fact that it simply means “managing for the benefit of society”. We've attached, in the last 30 years, dangerous associations to these words which make them very difficult to use, so that, for example, instead of using “capitalists”, we use simply “new liberal economists” or “owners”, “business owners”, and we did that very deliberately because...because people will reject the book. I mean, the last time I gave a talk in the US, the headline in the newspaper the next day was that I was a little Marxist just like Obama.

[Laughter]

So, we've got to be careful in the terminology. Your point is right. It is the capital system that is causing these problems and it is utterly impossible to get to a situation where we cannot – we have to reform that system. It's not possible to use the market to fix it. The market will not fix the problem. So, we have to find some sort of pressure points to bring to bear. I think about [?]. I would say focus on the weak spots, focus on the areas where the system is vulnerable – inequality. Inequality is really a great flashpoint. There's [the whole Occupy thing], what's happening in Hong Kong. If you can focus on inequality, I think that's an area where you can really create some momentum, and it doesn't need to be 50%. You just need to have 15% to 20% of the population agreeing that you need to shift the system. And the finance sector – the finance sector is still wrong, and nobody's done anything about that, and the populace, the great population, might also vote for that. But inequality for me is the number one thing to focus on. Go through the back door rather than going straight ahead. If you punch them on the nose, you won't know what hit you.

Jørgen Randers

I think that one should be more precise when one tries to criticise capitalism. So, what we have tried to do in the book is to use the “extreme free market” as the label when we talk about capitalism, and we're making the point, [and I already think that], you know, that the free market is not going to solve the most important problem that we face now, which is the climate challenge, because what we need to do in order to solve...to reduce emissions, to reduce the footprint, is to invest in solutions that are slightly more expensive than the cheapest solution. You know, the simple thing that needs to be done is to build windmills, offshore windmills here, and to build solar [panels] instead of building fossil and other gas utilities, and if that had been cheaper, it would have happened by itself, but it isn't cheaper and it won't become cheaper, and so, consequently, capitalism, or, sorry, the free market system, is not capable of [winning] this, and that's why I am this...dog about legislation, regulation. What we need to do – you know, if one was young, one would say let's troll the free market system. Anyone who is above 29, you know, ought to

understand that that is not going to happen in the Western world until after the climate crisis has [become clear to them]. So, you need to think about ways in which you could modify the free market system, with political support, and that's basically what we're trying to [indicate here].

I must [be allowed] to say one other thing. So, what I want is that, instead of having a society which is free market system, where the nation is built according to profitability, you know, where the capital flows flow into the most profitable projects, which is of course the core of neoclassical theory and the whole thing, I would like a society where we build the nation according to plan. You know, this is what we did in Norway from 1945 to 1965 – you know, some people decided how this was going to develop, you know, and they managed to ensure that they have democratic support, at least allegedly, you know, [and, I mean, they built] a wonderful society, but that was not done according to putting money where it was most profitable, it was putting money where things are needed. This is exactly what the Chinese are doing at this point in time: they are building the nation according to plan. They're copying South Korea, that did the same thing from 1960 to 1990, copying Japan, who did exactly the same thing from 1950 to 1990, and if any of you are going to argue that these [weren't] democratic societies so there is a huge difference between China and South Korea and Japan, well, then, let's fight in the...[boardroom or whatever].

The interesting thing, [?], capitalism is going to come to an end before many of you guys are dead, but it's going to come to an end in a completely different way than you think. In 2050, 34 years from now, we will be in a situation where China, average Chinese is as rich as the European, so that's the income level, and in those 35 years, Europe, and particularly the United States and the UK and Australia, which are the democratic [free market], you know, castles of the world, will have stood still or gone back, and after one generation where people see that the average Chinese is getting richer and richer and richer, there are more and more Chinese tourists, you know, and the Chinese are then easily outsourcing their manufacturing to Vietnam and other places and proceeding into becoming a post-industrial society, with increasing incomes and [everything], you know, I think the public attitude will [be starting to at least finally going to be there], but until then, it is going to be very, very, very difficult to understand that building nations according to profitability is not a good idea when you're faced with collective problems like, you know, a two-class society in the United States. Jesus Christ, I mean, the market is never going to solve that problem, or the climate problem, which is another one.

Tim Jackson

Jørgen, thank you. That sounded to me very much as though you had actually already taken your gloves off...

[Laughter]

It's a casualty of the wonderful surroundings of the committee room that we are urged to finish broadly on time, and I would really like to give the final word to Caroline, so many apologies to those who have been on a list to speak and haven't managed to do so. I'm told that there will be a continuation of the conversation in the Red Lion Pub, which is at 48 Parliament Street, for those of you who can get there. But Caroline, in relinquishing the position of chair, you've actually freed yourself to take a much more political and creative position, and you've already done that to some extent. Where do you feel this debate stands and how do we progress it?

Caroline Lucas

I mean, that's a tall order to try to encapsulate where we're at. I mean, I...I think everybody's who has spoken about the importance of teaching economics differently and so forth, and that whole economic literacy argument, is absolutely right. It just worries me about urgency, and that word

“urgency” is one that I think we should not forget, because otherwise, we can just maybe hang on, [Jørgen], until 2050 and then, you know, the penny will drop and then we can sort it out, but as you know, by that time, you know, unless we’ve had some pretty radical change, then what the planet is going to look like in 35 years, if we carry on with business as usual, is going to be pretty miserable.

I’d come back to something that we’ve talked about I think at the earlier meeting we had, which was about the communications challenge about this. I still think that one of the most important things we could do is to go to some of the best advertisers, who are normally selling capitalism and fast cars and all the rest of it – they know how to do that. They need to help us because I don’t know that we necessarily have the skills to begin to find a language in which we can talk to so-called “ordinary people” – I hate that phrase, but people who are just kind of trying to get by, who just want to know they’ve got some food on the table tomorrow, and who are not engaging with big debates about growth. I think the New Economics Foundation have done some great work on this – I mean, I loved the stuff they did about the hamster, you know, this idea that, you know, to try to explain the conundrum of exponential growth, they point out that a young hamster doubles its weight every week between its birth and puberty, but if carried on doing that till the age of one, you would end up with a hamster that basically weighed nine billion tons! So, I mean, that’s just – they had a lovely graphic that went with it, and there was a little video that went with it. You know, it’s sort of things, that somehow we capture people’s imaginations, we capture their attention in a very loud and noisy world, to try and cut through to think how do we get people to even begin to make the space to think about this stuff, because I come back to the fact that, sadly, although, you know, there are some fantastic coalitions out there, and the Divestment Movement, and the work that the churches are doing, and others, and the students, is amazing, but ultimately, politicians don’t move until they believe it’s safe to do so, until they believe that they’re not going to be punished in the ballot-box for having a bit of courage and imagination and forward thinking. So, that means we’ve got to be thinking about not only how do we talk to ourselves about this, which is challenging enough, but how do we talk to people out there about it, and I think – I’m not sure what the role is of the APPG on that, but I do know that unless we get pressure coming from constituents writing to their MPs, they’re not going to get their bums in this room, and that’s the bottom line.

Tim Jackson

Caroline, thank you very much indeed.

[Applause]

Thank you for what is quite an extraordinary leadership role that you have played personally, both in the APPG and in Parliament generally. As much of the world, as you described it, has been going backwards, you have always held that banner in terms of a forward movement – that’s really very much appreciated.

Also appreciated, the contributions from the panel – Kate Raworth, Federico Demaria, Graeme Maxton, Jørgen Randers. It’s been a particular privilege of course, for many of us, Jørgen, to have you here, and in particular because you’re an old fart.

[Laughter]

And actually, that is a virtue in a debate that needs not just new blood and fresh ideas but the experience that you have humbly, intellectually, with integrity, brought to that debate for over 40 years, and to me, personally, it’s a huge privilege to have been here with you tonight.

[Applause]

I wanted to leave you with two positives really: one is the address of the Red Lion Pub, which is 48 Parliament Street; but the other is an interesting insight into the audience for this debate, the appetite for this debate. When we launched the date for the debate and the idea of it, it was oversubscribed in a matter of a few hours, and within two days, more than twice the number of people who actually eventually managed to squeeze into the room would have liked to come, and I am absolutely convinced that we could have got an even bigger audience had we had a bigger room and more time to do it. There is an appetite for this conversation, and I think, in a way, that is one of the biggest strengths of the APPG, and I very much hope that we can help Caroline to take that debate forward over the coming months and years, and I would like to thank you also for your absolutely vital role in keeping that conversation alive. Thank you all very much.

[Applause]

[End of Recording]