HOUSE OF COMMONS

Environmental Audit Committee

Oral evidence: Planetary Health, HC 1803

Tuesday 12 March 2019

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Watch the meeting

Members present: Mary Creagh (Chair); Alex Cunningham; Geraint Davies; Mr Philip Dunne; Kerry McCarthy; Anna McMorrin; John McNally.

Questions 240 - 312

Witnesses

I: Professor Mike Davies, Professor of Building Physics and the Environment, UCL Institute for Environmental Design and Engineering; Professor Yvonne Rydin, Chair of Planning Environment and Public policy, The Bartlett School of Planning, UCL; and Dr Anastasia Mylona, Head of Research, Chartered Institution of Building Services Engineers

II: Rachel Huxley, Director of Knowledge and Learning, C40 Cities; Daniel Black, Independent consultant and company Director, Daniel Black and Associates; Lawrie Robertson, Head of Strategic Planning, BuroHappold Engineering; and Councillor Paulette Hamilton, Holyhead Ward, Birmingham City Council

Written evidence from witnesses:

- Professor Michael Davies

Examination of witnesses

Professor Mike Davies, Professor Yvonne Rydin and Dr Anastasia Mylona

Q240 **Chair:** Good morning. I welcome our panel. This is the fourth session of our inquiry into planetary health. We are going to be looking today at the impact on human health from living in cities, somewhere where most of us here live. We are going to be looking at urban planning, building efficiency, transport choices and their environmental and health impacts and the crossovers there. Can I welcome our panel and ask you to introduce yourselves, starting with Professor Rydin, please?

Professor Rydin: Good morning. My name is Yvonne Rydin. I am a Professor of Planning, Environment and Public Policy at University College London.

Dr Mylona: Anastasia Mylona. I am the Head of Research at the Chartered Institution of Building Services Engineers.

Chair: Have you appeared before our Committee before?

Dr Mylona: For heatwaves.

Chair: Yes, you did, on heatwaves. I thought you looked familiar. Yes, thank you.

Professor Davies: I am Mike Davies. I am a Professor of Building Physics and Environment at University College London.

Q241 **Chair:** Great. You are all very welcome here today. I am going to kick off with a question about future population trends. The UN says that in 2016 55% of the world's population will live in cities. This is going to rise to 60% in 2030 and 68% by 2050. What are the estimates for UK cities? What are the figures now and what are the estimates and where will those new urban populations come from? Is it going to be rural to urban migration or are they going to come from overseas? Do we know?

Professor Davies: The UK population is expected to increase from around about 66 million in 2016 to 73 million by 2035 and 86 million by 2085, and that is from the ONS statistics. England is projected to grow more quickly than other UK nations. In the recent report from the Committee on Climate Change on housing, they reported that there was rather limited information regarding future trends in urbanisation in the UK, although they did report that cities were still growing. I think we know something about projections for the UK, so it is essentially growing and growing older as well, with implications in the demand for housing, for example, as more elderly people are living on their own due to better health and a desire perhaps for people to stay in their homes longer.

Q242 **Chair:** Anyone else want to comment on that? No. What are the major pressures that cities will face as a result of their increased populations?

Dr Mylona: As a building engineer, I think cities are already having certain problems. Those problems, obviously with the cities expanding, are going to be even worse if we do not pay attention to the way we expand them. Air pollution and urban heat island effect are some of the issues that we face today, but they are projected to be even worse. This will have an effect on people's indoor air quality, so in their homes and in the places where they work. Of course the most vulnerable populations are going to be affected the most with their homes and their lives being positioned in areas where they have the highest pollution, highest noise, potentially not good access to green spaces or good access to daylight.

Q243 **Chair:** Who do you say is a vulnerable population?

Dr Mylona: I would say it is the elderly, people who need to be at home all day, people who do not have the means to have air-conditioning when they get too hot or use their heating when they get too cold, people who are in social care and are being placed in social housing. This is usually the properties, the flats, the apartments where they are facing the busy roads, unlit areas, lower down the block of flats, where they do not get good daylight, perhaps away from all the green parks.

Q244 **Chair:** What about children?

Dr Mylona: Of course children as well. Yes, absolutely.

Professor Rydin: If I draw attention to the work that the Marmot Commission has looked at on the very clear links that are made between income and health within the population generally, and therefore within the urban population, which shows that life expectancy drops drastically as a result of the socioeconomic determinants of health. When you are talking about vulnerable populations, I think you must include low-income populations with that as well.

Q245 **Chair:** Which populations do you think are most vulnerable?

Professor Rydin: If you are talking about it from a planning point of view and from a city point of view, health is really a result of three things. One is your genetic disposition, one the environment that you are in and, thirdly, the behaviour that you take account of. The most vulnerable are those who are not able to control that. We cannot control our genes, so to what extent can you control either the behaviour or the environment that you are in and the risks that that exposes you to? There is no doubt that income is one of the key things that prevents you doing that but age, whether you are very young or very elderly, might also limit you. I think your ability to control your environment and behaviour are probably the things that give you the most control over your health.

Q246 **Chair:** What about the emissions from our buildings? The emissions are increasing, so we have legally-binding climate change targets. We have said that we are going to reduce our emissions from the 29 million homes. Those attempts have stalled and the emissions went up between

2016 and 2017. What is going wrong there?

Professor Rydin: That is Mike's area.

Professor Davies: We are not going to meet the targets for emissions reduction without complete decarbonisation of the housing stock, so it is critical that the housing stock is decarbonised. As you said, they have remained stubbornly high for a long period now. I also sit on the Committee on Climate Change in the UK. I am not here today in that capacity, but if I may, I could just refer to a report that was published a couple of weeks ago asking the question, "Is the UK housing stock fit for the future?" The conclusion, with regards to both mitigation and adaptation, was largely no for the almost 29 million existing dwellings there. The majority of them are not fit for the risks of climate change, but they also need to be dramatically decarbonised. That is the existing stock, alongside the policies that need to be put in place for new build. The report identified a series of actions for Government with respect to that, which I could say more about if you wish or maybe later.

Q247 **Chair:** One of which was the no new home should be built on the gas grid?

Professor Davies: Yes, that caught the headlines.

Q248 **Chair:** Just talk us through that. If you were a builder—mind you, we are not necessarily here in defence of Persimmon Homes—how do you build a house that is not on the gas grid?

Professor Davies: One option would be to use heat pumps, which would need an electrical supply. They would utilise that for heating to pump the heat from the ground or the air into the building using electricity and then there would be electricity used for cooking as well. The solutions, the technological knowhow is there. It is not something that needs to be discovered, so we know how to do it. The challenge is now having the policies to back that up.

Q249 **Chair:** What about insulating current housing stock? We did have an insulation industry in 2010. Talk us through what happened.

Professor Davies: The flagship policy was the Green Deal, which was intended to result in millions of dwellings having these very intensive low-energy interventions. Unfortunately it was not successful, as I think is recognised now, and only a fraction of that figure did take up the offer. There are multiple reasons for that, but I think part of that was perhaps not considering the wider system of issues that were involved when people made decisions about whether they want to undertake these interventions in their dwellings, which can be quite disturbing and take some time.

It is not necessarily just a very simple, straightforward financial transaction, that your bills will be lower, "I will therefore definitely go ahead". As we all know, I think there was a much more complex set of

factors that influenced people. The different institutions have been trying to look at these different factors and work with bodies of stakeholders and then to work with BEIS as part of their process to try to feed in the importance of dealing with this in a systems-thinking approach.

Q250 **Alex Cunningham:** The panel has already described a huge range of challenges. I wanted to turn specifically to health. We have already talked about elderly people and children. We are all aware of the issues around air quality, rising temperatures, not just in cities but in areas hosting industry, where air quality is particularly poor. What do you see as the major public health concerns going forward for urban populations over the next 30 to 50 years? What do you see as the key determinants of the health outcomes?

Dr Mylona: From a building engineering point of view, I think for us the challenges are, like you mentioned, air quality, overheating and good ventilation. This is a major challenge because at the moment there is not a comprehensive way that policies or regulations address that, which means that we will have to address it in the future. That is going to be more costly and it will have a much bigger impact. There are things that we can do now if the right policies and the right regulations were in place. By the right policies and regulations, I mean policies that look at it in a holistic way, so looking at how the external environment, for example pollution and noise, will affect the indoor environment—we do not have that at the moment—and try to develop cities that are sustainable and look at urban planning as well as planning of the buildings.

Q251 **Alex Cunningham:** You said it is going to be more costly in the longer term if we do not act now. What are the shorter-term things that can be done?

Dr Mylona: I will give you an example of that. Let's say we refurbish loads of existing homes and we put in a lot of insulation to start. This might have unintended consequences. It might have overheating during the summer; it might have mould growth because of the humidity not being ventilated properly. When you subscribe to this kind of insulation, you need to also look at the ventilation strategy for your property and summertime overheating mitigation options. For example, you can put external shading, you can put mechanical ventilation or look at the natural ventilation options of the existing property. I think that can be done immediately when a refurbishment or a new build is being designed.

Professor Rydin: Perhaps I could pull back from that. Traditionally, when you are talking about the public health and urban planning agenda, you have been talking about communicable diseases, putting in sanitation and avoiding cholera and typhoid. What we are now really concerned about is chronic diseases and these are the ones that are incredibly expensive for the health service, because if you have a chronic disease, the good news in a way is that you are going to live a long time with it. By chronic disease, we are talking about cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. Obviously there are

medical interventions that will help with these, but I think one of the key things urban planning is now trying to do is thinking how we plan the cities to deal with these chronic diseases and to alleviate them.

One of the key things there is to make the cities more mobile, more actively mobile, so not rely on motorised transport, but to make them planned so that we can move more. The evidence is that all of these chronic diseases will be partially prevented and perhaps eased by having more active mobility within cities. I think the movement now is looking at how we can do that, how we can make cities better connected for walking and cycling, how we can make them safer and perceived to be safer as well, because that is really important.

That can involve also a lot of incorporation of green infrastructure, which has been shown to be important for combating air pollution and for mental health as well. I think there has been a big shift in the urban planning agenda towards this kind of new way at looking at things.

Q252 **Alex Cunningham:** Land in cities is very expensive, so green spaces are difficult.

Professor Rydin: Yes, but I think the urban designers now are looking at ways in which you can manage that. It is a question of if you build denser in some places, you release other spaces for this kind of green infrastructure. It does not have to be huge swathes. The value of pocket parks, trees and a variety of vegetation is important.

Q253 **Alex Cunningham:** There is a huge tower block—I am trying to work out which direction—yes, that direction at Vauxhall. I think it is the highest living accommodation and their pocket park is no bigger than this room.

Professor Rydin: But I would draw a distinction between higher densities and high rise. You can have higher densities without having high rise. Traditional Georgian London was high density and medium rise and that gives you many more options for creating different forms of pedestrianised areas, green areas, greater ways of having connectivity across the urban fabric than the idea of having these large point towers and then a clear space next to it. That is not the current thinking in urban design.

Professor Davies: I wondered if I could return briefly to a point that Dr Mylona was making about housing, but it applies across all sectors, I think. It is the importance of trying to have a clear understanding of the multiple benefits or the co-benefits associated with any of these interventions. You will probably be able to recognise the benefits from these types of interventions. For housing, for example, alongside reducing emissions and increasing resilience to climate change, there is the possibility for reducing utility bills and improving comfort, health and the natural environment. I think a recent report made an estimate of the health costs to the NHS of conditions exacerbated by poor-quality housing of somewhere between £1.4 billion and £2 billion per year, so

investment in housing should result in some savings, for example, to the NHS. I would like to stress the importance of recognising these co-benefits with the relevant policies. There has been an increasing amount of work, certainly in the last decade, in trying to provide now quite robust scientific evidence.

Professor Rydin: Could I add a figure to what Mike said there? The review that we did suggested that low-quality housing in the UK cost the National Health Service £1.4 billion in first-year treatments.

Professor Davies: I think that was the figure I gave.

Professor Rydin: Sorry, I apologise.

Q254 **Geraint Davies:** There has been a lot of conversation about outdoor air pollution, with 40,000 people dying prematurely. There is emerging evidence about indoor air pollution. Obviously there is a cocktail of cleaners and sprays and candles and hermetically-sealed rooms and the interaction of outdoor and indoor to create the sort of cocktail of inflammatory problems for health. Would you agree that there is an urgent need now to reframe building guidelines, which up to date have been focused on insulation and keeping heat in, rather than the inside, and that it is keeping pollution in and essentially killing people prematurely?

Do you finally think that that should be incorporated in the Environment Bill, which completely ignores that, on the grounds that it is talking about the natural environment, which we are told is outside the house?

Dr Mylona: I will talk a little bit about how, when we are designing buildings, we design ventilation. This is based on part F of the building regulations, the document, and it refers to adequate ventilation and fresh air from outside. I will take your point completely, that it assumes that the air outside is clean.

Q255 **Geraint Davies:** It is not, is it?

Dr Mylona: In a lot of cases it is not, so there needs to be a revision of the regulations to frame air quality and what are the indoor pollutants and outdoor pollutants, what are the acceptable rates and how we can design them out of the indoor ventilation.

Q256 **Geraint Davies:** Do people think this should be done in conjunction with, minimally, warnings or ideally banning certain products that are being intensively marketed, as Professor Rydin has mentioned, often to poorer communities? In a lot of these poorer communities, the targeting of whatever sprays and smells and candles and all of the rest of it is at particular audiences that are at risk. Isn't there a case, alongside the ventilation, for an aggressive position from the Government to ban things that are systematically harming people?

Professor Davies: I think there is certainly a strong need for the relevant parts of the regulations to be addressed. It might be that within

the regulations that there are opportunities to address that: alongside part F, which deals with ventilation, part L deals with energy. In "The Housing Report" there was the argument made for the need to deal with these in a systems-thinking way, a holistic way.

Q257 **Chair:** Talking about cooking with gas, most people would think you can smell your candle and you should get rid of your candle, but no one thinks that they should not cook with gas.

Professor Davies: No, that is right, and there are 60-odd deaths a year related to carbon monoxide poisoning, for example. But I think the point about addressing this complex system of indoor pollutants, which are generated indoors and pollutants that are generated outdoors and how your ventilation systems and behaviour affect your exposures, not just to that range of pollutants, but also to cold and heat—it turns out to be quite difficult to develop generic rules as to when you should open windows, for example, because you might reduce temperatures in the building but you might increase your exposure to PM2.5 generated outdoors. Is it overall better for you to keep the windows closed in those circumstances or to open them?

There are a whole set of determinants of health that you would have to juggle to design it optimally, but I think that you could produce a set of clear guidelines for different categories. If you are living next to a very busy road where the pollution levels are high, you would be erring to reducing ventilation rates or putting filtration in to deal with that.

Dr Mylona: But I think it is a very important aspect, the urban planning, at this point. If we manage to improve the outdoor environment, opening windows will get the fresh air that we are supposed to be getting as well, just to go back to the point that there are multiple benefits in looking at these different aspects of urban planning.

Professor Davies: Dealing with these different spatial scales, the city neighbourhood and then the street and then down to the building again to make sure that they are all joined up and co-ordinated.

Q258 **Geraint Davies:** Should we be banning certain sprays and candles and things as well as trying to reduce diesel? That is what I am asking.

Professor Rydin: That is not the remit of urban planning per se, but the point I would make about building regs is that if you are going to think about building regs, it is very important also to think about the enforcement of building regs, which the Grenfell Tower alerted us to. It is not enough just to put things in the building regs. You need to look at how the whole building reg system is resourced, the ability of local councils to have officers to check that they are being implemented appropriately, because we do know that the building industry has skills loopholes, shall we say, which mean that what we plan does not always end up being what is built on the ground.

Q259 **John McNally:** Before I start, I would like to mention that I do not know

if you have heard of the Helix project in my own area of Falkirk, where the Kelpies are and the Falkirk Wheel, but it is an absolutely spectacular feat of artistry and engineering, with the Kelpies being the centrepiece. But basically what it has become, it is a place to visit, it is a destination for people for their health and their wellbeing. It is between Grangemouth and Falkirk, where they have a huge industry. They have the cycling and the walking, and I am sure you will all want to go and visit it, but the Kelpies are absolutely amazing. You can see the smile on people's faces, and I think it is starting to raise the health and the wellbeing and the happiness of people in general. You can cycle, you can walk, you can go on canal trips; you can go on these things and plenty of families visit it.

But the aim of my question is to understand how the environmental considerations are considered among the priorities for urban planning. We did hear in evidence to the inquiry, "The UPSTREAM researchers state that the UK's main urban development leaders, from both the public and private sector, 'fully acknowledge that health is not adequately accounted for in the urban planning and development process'". Could you tell us a bit about what you think the key features are that should be a consideration in urban design?

Professor Rydin: I agree with that, it is not a priority. If you talk to planners, the overriding priority in most cases is economic regeneration of the town centre and housing numbers. There is a very strong directive towards that. The other real problem is that although there is a variety of different stakeholders who wish to put forward the health agenda, they tend to be spread across the local authority and a number of other agencies. One of the issues is how you pull together these people working in a number of different departmental and organisational silos to work together towards this agenda, because it is a multi-stakeholder agenda. It is not something that can be done just by one department on its own.

The other thing also is to reiterate what Mike said. I think it is important: you think of it as the building scale, at the street scale and the neighbourhood and then up into the urban area and then more broadly. Some of the things that we need to think about, like the shift from motorised transport to public transport, can only happen at the urban scale, it can only happen at that broader scale, whereas other things like the provision of green infrastructure, how you provide blue features—water-based features to combat the urban heat island effect in city centres—is something that is a much more detailed level of design that only happens at the neighbourhood or the street scale. One of the big issues is how you work across some of these different areas.

I would say the other real challenge in this is a challenge of split incentives, that the benefits that are going to come from better health will accrue to parts of the public purse, but they are not necessarily the same bits of the public purse that are going to have to take the action. Local authorities are now charged with a public health agenda, but the benefits of that are probably going to areas like the NHS, perhaps

eventually into social care, which would be part of the local authorities, but another part. It is partly about prioritising this in terms of values, but it is also about different bits of the organisation that are taking action seeing the benefits of that and being rewarded for the benefits of the actions they take.

Professor Davies: There is an interesting angle there. For many of these issues, there is a body of scientific evidence that is available now and is growing to support the benefits—or disbenefits, in some cases—of these interventions. But there is a very interesting piece in how that evidence is taken up or not by policymakers. It may be part of the decision-making process, but it seems that it is certainly not the whole part of it. I think trying to find ways of ensuring that with those decision-makers, you can enable them to access the scientific evidence in a way that has greater weight within the decision-making process. Otherwise I think there is a danger of lots of academic projects producing interesting and important findings but those not finding their way into the policymaking process and also into the implementation end of those policies.

I know that is something that the Wellcome Trust, for example, is very keen to try to support projects that not only do excellent academic work but also undertake that work with stakeholders in cities, for example—not just policymakers but the whole range of stakeholders—and do that in a way that increases the chances of it leading to really transformative change. That is what I think we are talking about here if we are going to transform cities from all the aspects that touch on planetary health.

Q260 **John McNally:** There is quite a good example, if I may. The NHS in Scotland won the RTPI Award for planning excellence with their toolkit called "Place Standard" to enable communities and other stakeholders to assess the health impacts of their local environment. They offered their input into that, but of course, as you quite rightly say, it is not what they say, it is what people hear. The decision-makers need to hear what has been going on, but I think you will fail if you do not have the infrastructure and communities involved in the first place. It is how we get to that stage where people, the decision-makers, listen to communities themselves. Do you think that is a strong possibility, that this is now going to happen, that these decision-makers will listen to what communities are telling them? Is that a good example from the NHS of involving people in the first place?

Professor Rydin: I think those kinds of toolkits can be very useful. They are often presented as rather technical things, like a health impact assessment, "This is a checklist you have to go through" or, "This is evidence you have to get", and somebody has to sit and synthesise it. But I think the real value of many of these kinds of toolkits is that they bring the different stakeholders together and that will include centrally local communities, alongside those in different agencies and different local government departments. All the research shows that the difference

those toolkits make is that they get people to talk to each other and that then starts to build the connections that you need for this kind of agenda.

Professor Davies: I would agree with that, yes. My colleague at UCL, Helen Pineo, has done some work on looking at these urban health indicators and there is, on the face of it, perhaps an encouraging growth in the number of tools that relate indicators of urban health, but many of them are simply not being used. They are potentially useful, but they just end up sitting on a shelf. I think the process of generating them does have value, but how are they then built up?

John McNally: That is the danger with most of these things. People do not listen. I call it received apathy, because people end up saying, "What can you do about this?" and that is not the message you want to be giving out if you want to take communities with you.

Q261 **Mr Philip Dunne:** I will ask a few questions about the existing housing stock. I think, Professor Davies, you said you were on the Climate Change Committee and referenced 29 million existing dwellings in the UK. At the current rate of new build, the Government aspiration of 300,000, that is about 1% a year. In order to have any impact over the foreseeable future, we must amend the existing housing stock rather than focus on new, although obviously it is important we build to good standards for the new. Did your committee give any thought about the cost of renovation of existing housing stock in order to get it to a standard that meets the objective?

Professor Davies: Yes, I agree with you. We clearly need to address the quality of new homes, but the issue that is going to largely decide how we successfully decarbonise is relating to the retrofitting of existing homes. It is an enormous number of homes that needs to be dramatically decarbonised, so it means very large-scale interventions in all of our homes. The costs will vary depending on the type of property that you are in, so solid-walled properties will be potentially more expensive to retrofit than cavity-wall properties, for example. There is a range of costs associated with it but there is also a range of benefits, as I mentioned earlier. I think we need to make it clear that there are multiple benefits of doing it, so you are not simply reducing emissions, you are getting the benefits for health and comfort.

Q262 **Mr Philip Dunne:** Yes, but you just referenced the health benefit at £1.4 billion to the NHS. If my maths is correct, if you divide that by the number of homes, it is something of the order of £48 a year per home, existing housing stock, which is less than £1 a week of benefit. Do you have an estimate? Is there an average cost of renovation that you have worked out?

Professor Davies: I may be wrong—and this was not a figure I think that came from the Committee on Climate Change—but I think the costs associated with undertaking the relevant interventions in those dwellings

was of the order about £10 billion, but I can check that. For an investment of £10 billion, you could potentially start addressing that.

Q263 **Chair:** But the benefits are annual?

Professor Davies: Yes.

Q264 **Chair:** There is a one-off capital cost and then there is a recurring £1.4 billion benefit?

Professor Rydin: It is the first year of treatment costs, so the ongoing costs might not be exactly the same.

Q265 **Alex Cunningham:** On the external cladding things, the advantages and benefits go well beyond just the cost savings. We did external cladding schemes in Stockton-on-Tees and we found out that not only do they improve the quality of life, they gave people more money to spend. It created a new community, in that people started to do things like hanging baskets outside their properties and their whole wellbeing improved. Is that something you recognise?

Professor Davies: That is exactly right. That relates to a point I made earlier about we need to think of this wider system, and it is not just a simple financial transaction, but you are doing something that connects. If you involve the wider community, for example, you are likely to have a much greater chance of those types of activities being successful. I would agree completely with you. There is a need to think creatively and perhaps in ways that have not been more widely thought of.

Q266 **Mr Philip Dunne:** I would like to take us back, if I may, to my line of questioning. You have come up with a £10 billion figure, approximately.

Professor Davies: That was not a figure from the Climate Change Committee.

Q267 **Mr Philip Dunne:** I would be grateful if you could look at that, because if you divide £10 billion by 29 million, that is £344 of capital cost per home. Do you recall what the capital cost was put forward under the Green Deal, which you referenced as having failed?

Professor Davies: The capital costs would vary depending on what intervention was taking place. Cavity-wall insulation would be the order of a few hundred pounds, for example.

Q268 **Mr Philip Dunne:** I seem to recall the Green Deal was offering up to £6,500 per home.

Professor Davies: Sorry, on the offer? I thought you were still talking about the cost of the interventions.

Q269 **Mr Philip Dunne:** I think that one of the reasons why the Green Deal failed was because it was not adequate to meet the costs of renovating the existing housing.

Professor Davies: The figure you mentioned there probably would not be for a solid-wall property, for example.

Q270 **Mr Philip Dunne:** I should declare an interest here, Chair, in that I am currently renovating a redundant building into four new units and I can tell you that that figure is woefully inadequate in order to provide the kind of building standard that is needed to meet new home standards. My concern about your evidence is that I do not think you are putting into proper context the benefit versus the cost of what is required. The NHS figure is not the only benefit, I completely accept that, but to use that as a significant financial ongoing benefit compared to the very much greater capital cost I do not think is realistic. How do you respond to that?

Professor Davies: I think it was an example of one benefit. It was not the benefit, so it was—

Q271 **Mr Philip Dunne:** Yes, but it is a benefit, generating £48 a year benefit versus several thousand pounds of cost.

Professor Davies: I was simply making the point that there are benefits. I was not making the point that was the only benefit.

Professor Rydin: Yes, there are multiple reasons for retrofitting. That was relating to poor-quality housing on health, but there is also the climate change effect that obviously you would value very differently. I will make two qualifications to this conversation.

One is that you started out by talking about vulnerable populations. One of the key reasons for retrofitting is to avoid fuel poverty, to avoid the requirement for households to spend an excessive amount of their income on heating in order to maintain healthy living standards. That is quite a distinctive rationale for linking the vulnerability of populations to this agenda. But more generally in retrofitting housing, I think we need to set that in the context of the overall greening of the grid and the extent to which we are now shifting towards renewable energy within the grid, which will alter quite drastically the benefits, the climate change benefits, of retrofitting housing. I think one has to be a little bit careful about the actual goal one is trying to achieve in retrofitting housing.

Professor Davies: In "The Housing Report" there was a recommendation that the proposals put forward by the Green Finance Taskforce were taken up, of which there were many, but I think that they offer a spectrum of different possibilities as a different set of alternatives to the Green Deal, as it was originally couched.

Q272 **Mr Philip Dunne:** I think they reference heat pumps as an alternative to fossil fuel heating sources. Again, the evidence that I have from personal experience is that the cost of installing heat pumps is roughly double the cost of installing fossil fuel sourced heating systems, oil and gas if you are on the gas grid, and the actual running cost of the electricity to drive the heat around the house is comparable to the cost of the fuel. I do not think we are there yet. I think it is an admirable way to go and I am all in

favour of trying to develop both air-source and ground-source heat pumps, but I am not persuaded that the evidence is there to suggest that it is remotely a feasible alternative today without significant Government intervention or support or some kind. If you have some to prove me wrong, I would be delighted to receive it.

Professor Davies: There is some evidence set out in the report. The Green Finance Taskforce was not necessarily focusing on any one particular technology, but how to raise funds to support whatever type of intervention took place in the dwelling to decarbonise it.

Q273 **Mr Philip Dunne:** One final question on this. Do you think the introduction of energy performance certification for landlords to make houses available for rent is effective in improving housing stock?

Professor Rydin: Like many of these kinds of schemes, they work very well at the higher end of the market and less well at the lower end of the market. We are back to enforcement, which is very often a Cinderella kind of local government. I believe that the Trading Standards Office will be enforcing those. I did a little bit of research on this in relation not to housing but to the commercial sector. The suggestion was that it will be a very tick-box kind of exercise and not necessarily sometimes enforced, honoured in the breach. Again, it goes back to the vulnerability point. It might work at the top of the market but for the most vulnerable people in low rental value property, you do have to look at the enforcement system.

Q274 **Chair:** Isn't it also that people on low incomes cannot choose?

Professor Rydin: Yes, of course.

Q275 **Chair:** If you are in a G-rated house, it is tough, because that is all you can afford.

Professor Rydin: Yes. We also need to look at the way that the EPCs are awarded, because there is the different depth in which the assessment occurs for an EPC. We have stories of people almost doing a drive-past assessment, which makes it largely pointless. One should not assume that the letter is completely followed in full intent.

Q276 **Mr Philip Dunne:** My experience of the EPC is far from that. It is much more intrusive in order to secure a certificate and the certificators are not prepared to accept evidence unless they have drilled through the walls and seen what is inside them.

Professor Rydin: I think that varies enormously.

Professor Davies: I think it does vary enormously.

Chair: Clearly Shropshire County Council is doing a much better job than elsewhere. We will be naming and shaming them in the report. We are going to move on to our final question from Anna.

Q277 **Anna McMorrin:** I am going to ask about cities in relation to active

transport and how transport impacts on our health and environment. We know that many cities are making increased provision for active transport such as cycle lanes or pedestrian-only areas. What is your view on this? What other initiatives would make the biggest impact on both health and our environment?

Professor Rydin: Yes, it is clearly a good idea. I do think it is important to look at this across the different scales. You need to set this in the context of also improving public transport and I think one of the tensions at the moment within the planning system is the importance—which I completely acknowledge—of building more housing. It does not necessarily mean that you are going to get the integration between the expansion of public transport and where residential development is occurring. You can see a big difference between what happens in this country, where the housing developments tend to come first and then there is a question of what kind of public transport, perhaps buses you can add on afterwards, and what happens elsewhere in Europe, where they are much more integrated in the way they are planned.

When you get down a scale from that, you are into quite detailed aspects of how you design these developments and you design the city. It is important to think about connectivity by all these different means: legibility; is the city legible to be able to cycle and to walk across? Is it perceived as safe? That is really important for walking, particularly in a 24/7 society, but for cycling as well. It is often a matter of detail about not just the design on the map but about legibility and perceptions to encourage people to take up these more active modes.

Q278 **Anna McMorrin:** How does that begin? You say a more integrated transport system. Where does that start? Does that start from Government level?

Professor Rydin: This is a key role for local government to play. Local government have that kind of remit over their cities as a whole. They are the ones who are able to look across that and see the way in which public transport, the road system, the cycling system, the walking availability layers down as you come from the city-wide scale right down to the neighbourhood.

Q279 **Anna McMorrin:** Do you think that more needs to be done from a national Government—so UK Government or Welsh Government or Scottish Government—point of view, where it sets out the expectation of transport policies?

Professor Rydin: Yes, absolutely. It is also about this interconnection between the transport policy and the urban development policy, so that local authorities feel they are able to have some control and influence over the way in which urban developments is going, rather than feeling that they just have to permit the housing that currently occurs. A developer, quite reasonably, is only looking at its particular development site. Where developers take on a larger-scale site and where they engage

with schemes, for instance, such as the BREEAM Communities assessment scheme, that encourages them to think about these kinds of issues within the bigger developments.

I think some of the best developers, who are operating on a more master planning scale, are also taking that on board. But even the biggest development has to be seen in the context of the city as a whole and it is the local authorities that are the democratically-elected representatives that have to take that perspective, because they also have the responsibility for engaging with local communities, which was mentioned earlier.

Q280 **Anna McMorrin:** Do you think at the moment that current Department for Transport policies in the UK go far enough?

Professor Rydin: Like I say, I do not think it is necessarily the policies per se. It is about the way the transport policies interconnect with the planning policies, because I do not think they are talking together enough. This is an area where there has to be more integration across these kinds of concerns.

Q281 **Anna McMorrin:** Planning and transport?

Professor Rydin: It needs to be interconnected.

Q282 **Anna McMorrin:** At UK and at a local level?

Professor Rydin: Yes, because obviously the policy level at the top drives it down. There are plenty of good things that are said, for instance, of the national policy framework that plays nods to the active mobility agenda and such, but it is the drivers on local government from the centre that are important.

Q283 **Anna McMorrin:** For example, in Wales I know we have a Wellbeing of Future Generations Act that is a driving force for all levels of accountability to make those decisions and will put health and the environment, climate change, inequality on the same level.

Professor Rydin: It is a very pioneering bit of legislation.

Anna McMorrin: What could be done here in order to have the same? Do you think that is having some effect and do you think we could have that at a UK Government level, to have some impact on some of the planning or transport proposals that are coming through at the moment?

Professor Rydin: It is an interesting question. I think there is a need for some kind of policy framework that brings together the NPPF, the National Planning Policy Framework, and these other agendas, the public health agenda and the transport agenda, in a more coherent way. Whether that is done through another piece of legislation I do not know, but in terms of some kind of initiative that shows the importance of these interconnections at the highest level I think that would be welcomed.

Q284 **Anna McMorrin:** Can I ask any of the other panel members?

Professor Davies: I do not have a specific background in transport, but just to note that in the housing reports there was a series of six recommendations made in connection between housing and transport and four of them were recommendations to the Department for Transport in collaboration with MHCLG. There may be some interesting points in there that could be pulled out but those are related to the points Yvonne has made about the move away from communities built around the car as the main mode of transport to develop these much more integrated and higher density, where appropriate, settlements that have wider benefits for the city as well as just transport.

Dr Mylona: My background is not transport but I would like to agree with Yvonne's earlier comment about local authorities and to say that with their resources and knowledge of how the cities and neighbourhoods are used, not just the buses and cycle lanes and where communities gather together, they have a big wealth of information. I think they can make better decisions in local planning and local development and I agree that there needs to be something that provides local authorities with more resources and more power to make decisions.

Q285 **Anna McMorrin:** But just leaving them to do it by themselves maybe is not going far enough.

Dr Mylona: No, but we have the NPPF, for example, and we have other national policies but if the local—

Q286 **Anna McMorrin:** That is not really making much change, though, is it?

Dr Mylona: Not the way it is set up right now, no.

Professor Rydin: I think we have lots of examples of local authorities doing very good things and being very proactive, but I agree with you. The importance of having a very strong statement at the national level about bringing together housing development, public health and transport policy is absolutely key.

The other thing one needs to recognise is that transport is expensive. Even providing a road hump is expensive let alone providing a tram system. We need to think about how this interconnects with local government finance and how you can release financial resources to support that kind of integrated travel planning rather than transport planning for people in the city.

Anna McMorrin: It is very difficult to have integrated transport plans where there are companies that are privatised and competing with them.

Professor Rydin: Absolutely, and we are still living with the legacy of the deregulation of, for instance, the bus services outside London. Totally, yes, I agree.

Chair: We will have to leave our first panel. I thank our witnesses very warmly. We will move on to our second panel. Thank you all very much

indeed.

Examination of witnesses

Rachel Huxley, Daniel Black, Lawrie Robertson and Councillor Paulette Hamilton

Q287 **Chair:** I welcome our guests. Please introduce yourselves, starting from my left.

Rachel Huxley: I am Rachel Huxley, Director of Knowledge and Learning at C40 Cities.

Daniel Black: I am Daniel Black, independent research co-ordinator, Daniel Black and Associates.

Councillor Hamilton: Paulette Hamilton, Councillor Hamilton from Birmingham in a ward called Holyhead and I am also the cabinet member for adult social care and health.

Mr Robertson: I am Lawrie Robertson. I am the Head of Strategic Planning at BuroHappold.

Q288 **Chair:** You are very welcome. We have had the theoretical overview, the policy and academic overview. I will kick off by asking each of you what you are doing to make cities healthier and more liveable. Can I ask Councillor Hamilton to begin, please—lessons from the Midlands?

Councillor Hamilton: As many people know, Birmingham is the centre of the country. We have had our challenges over many years but what we have done is tried as a city to grasp those challenges and we have looked at air quality as a key area. Over the next 12 months we are looking at introducing a congestion charge because centrally our levels are so high in the city that we have had to take radical measures to ensure we reduce the congestion that is especially in Birmingham.

We are also looking at reducing the amount of traffic coming through the centre of the city. We are looking at reducing some of our underground tunnels, removing some of our overpasses and trying to ensure people do not come through the city when they do not have to, but they go around, so again reducing the emissions in the city.

I was really interested in the first panel because for me in Birmingham it is about integration. It is about health working with transport and working with planning. We have 40% of the city as a deprived population and 10% of that population is on the top levels throughout the country. We have some real challenging issues around obesity and people's living conditions because at the moment in the city we do not have 86,000 homes for people to live in. By 2031 we are hoping to have built 51,000 of those homes but we still will be short. I was very keen to hear about what people are saying and how we can bring the homes we currently have up to standard.

The problem that is going on is that nationally, because of the large cuts to local government funding, we are not really able to focus in the way we would like to support some of the things talked about earlier and I think we need to look at that.

Q289 **Chair:** Thank you. Can I ask you about the congestion charge? Are you bringing that in as a council, how much is it and what sort of issues are you finding with its introduction? Is it being resisted?

Councillor Hamilton: We are bringing it in as a city. It will be between £10 and £15.[1] At the moment the strategy is out for consultation. It has a large number of issues relating to it, especially around the taxi drivers in the city and people living in that area who will be affected. We found with the research we have done that many people who work in the city centre do not live near the city centre because some of our most deprived areas are around the city centre. In the centre itself you have communities that are doing quite well but just outside it is quite a deprived part of the city. It is doing that piece of work with our communities, our religious organisations, our partners to ensure we can introduce this without causing World War Three.

Q290 **Chair:** Good luck with that and God speed. Can I move along the panel, starting with Rachel?

Rachel Huxley: At C40 Cities we focus on climate change. We are a climate change organisation and we work globally with 94 of the largest, usually but not always, cities. We recognise that climate change is the biggest threat that humans face today, and we recognise that cities are a key focus point for that. They occupy only 2% of the land area but they are responsible for 70% of the emissions and that increases when you include consumption.

We, as an organisation, fully support the Paris Agreement aspirational target of 1.5 degrees and we see from that IPCC report that came out how important it is for all of us to aim for that. We are currently a long way from that goal, and I think that is something we need to bear in mind in terms of planetary health. Climate change is the big chronic disease we are facing and if all the nationally determined contributions are met—and that is quite an ambitious, optimistic statement—we are on track for 2.9 degrees to 3.4 degrees of warming and scientists do not know what that world looks like.

We were aiming for under 2 degrees. We have now had the IPCC confirm how important it is to try to stick to 1.5 degrees versus 2 degrees and if everything goes according to plan we are on track for 2.9 degrees to 3.4 degrees. Cities are right at the heart of that so they will be the ones on the front line for many of the problems climate change will have for us. We have seen how extreme weather events impact cities. Increases in

[1] Councillor Hamilton later to wrote to the Committee to state that the congestion charge will in fact be £8.

heat will be concentrated in cities due to urban heat islands. They are centres of population and people are going to be affected by increasing food prices and changes in vector-borne diseases that will come from climate change.

The biggest thing we do as an organisation is try to tackle climate change and also adapt to it, looking at cities as the problem but also the solution. One of the things with planetary health is that there is a huge opportunity. We heard from the previous panel and the previous speaker the overlaps between climate and health. If we can get these policies right, we are not just averting the global catastrophe of climate change, but we are creating much more liveable, healthy, prosperous cities. As an organisation we are focused on climate, but we totally recognise this is interconnected with wider sustainable development and in particular quality of life and health.

Q291 **Chair:** Thank you. Mr Black, you are a research organisation doing the Upstream Project funded by the Wellcome Trust. Can you just talk us through how the research is going to support Rachel and Paulette in their work with cities?

Daniel Black: Sure. If I can start by going back to where we started, we were looking at different appraisal mechanisms for largescale urban development—health impact assessment, sustainability appraisal. It became very clear that the opportunity for change through that what I refer to as quite downstream processes is quite limited. The focus of Upstream, the name of the research project you mentioned, was about shifting the focus and looking at issues of control, power differential and where the root cause of these inefficiencies in the system are.

The Upstream project is a three-year project. It was split into three phases. The first phase was what are the links between the urban environment and health outcomes? The second phase was how much does that cost? Can we put a value to that monetarily but also in terms of other forms of quantum? Finally, what are the barriers and opportunities across the whole system in achieving the health outcomes we want?

We found that we interviewed 15 different senior delivery agencies or senior individuals from the UK's major delivery agencies, and they flagged around 110 barriers and 76 different opportunities. This is a systems-level issue, looking at finance and short-termism of finance, land control and who controls the assets effectively and what their interests and motivations are, issues around governance.

Public realm was a particular issue. Who maintains the public realm? The local authorities at the moment do not want to maintain the public realm. They do not have the resources to maintain the public realm and yet it is fundamental to our quality of life, if it is mental health or getting to and from your home to work and so on. There were issues of partnership, risk and valuation, but I can provide our report if that would be helpful.

Q292 **Chair:** That is great, thank you. Mr Robertson.

Mr Robertson: In our work we focus on supporting cities and city leaders here in the UK but also worldwide to practically go through the transformation of their cities on both long-range planning and resilience building on one side and how they prioritise and deploy funding into the cities.

On the planetary health agenda, one that we see come forward here but come forward internationally in our work is it is very important to say that city leaders increasingly have always understood that they are responsible for a broad range of outcomes. There is an increasing expectation on them that they will manage for a broader range of outcomes—for instance climate and health together—and that they will do that with a greater attention to risk in the mid and long term and they will do that with a greater avoidance of unintended consequences in the process, effectively requiring the kind of systems thinking that Professor Davies was referring to in the first panel.

They have identified the need for that. They have not always had the systems in place to be able to do it. In our work we have quickly realised that many of the technologies, techniques and approaches to address these issues are out there. They are well known, of course, and there is further to go. The huge gap is in deploying what we know and on the context of this it is showing what we know can deliver co-benefits in this space and showing that transparently.

A lot of the work we do is also building the models that move us beyond the checklist approach to urban planning, consider this, consider this, consider this, and start to quantify some of these approaches, "This approach will deliver us 10 times the benefit of this approach. This might deliver that at 10 times less cost than this approach" and see how that goes forward. It is very important in all of this to understand local government finance, as has been referenced in the first panel discussion. Cities always have very limited resources to be able to achieve this.

Having a platform on which you can publicly and demonstrably make those trade-offs on one side or where you are challenging your private sector development partners in delivering the city, providing them an open book level playing field on which you challenge them to deliver so they are all judged by the same rules becomes very important as well and some of those modelling systems become an important part of doing that. A short way of saying we spend a lot of time in our work supporting cities through the analytical processes and then making the prioritisations and trade-offs to be able to deliver demonstrably the benefits that we are describing here.

Chair: Thank you all very much indeed.

Q293 **Alex Sobel:** We know that urbanisation has caused both mental and physical health issues for communities. What types of health outcomes do

you think should be considered when developing new urban developments?

Daniel Black: Our Upstream project used economic valuation to get a sense of the scale of different health challenges and noise came out as a very significant issue but also green space, air pollution, indoor air pollution. But I should underline that while there is a lot of evidence from the literature review we did, the amount of evidence you can take forward to economic valuation is very imbalanced. There is a lot of data on air pollution that you can put a cost to but there is very little on overheating, for example. There is a range of different evidence available.

Councillor Hamilton: Could I mention a quick one? Something that has become a real issue for me as the cabinet member is obesity because of our very deprived communities. At the moment in Birmingham it is worked out that two out of every five of our young people are obese by the time they are in Year 6. It then says for the rest of their life if they are not careful they will remain that way.

In Birmingham—and I am speaking about Birmingham because that is what I have been asked to do today—some of the issues we have seen are relating to, say, we encourage children to walk home from school. Between school and the house they probably pass about 10 fast food places. The issues between the planners and licensing and what have you are not joined up enough. We are finding that because of food poverty within the homes many of our young people are eating high calorific foods but the foods are not very good quality.

We are finding that our young people are not having their five a day, but it is not just our young people. Also our adults are not having the five a day. You can go along many streets in the city where you do not see fruit and vegetables. Our youngsters do not know how to cook it. For me, some of the work that needs to go on is how are we joining up these things? How are we teaching our youngsters to cook? How are our planners planning the streets so that wherever we have our youngsters living, or even older people, they have places they can walk and cycle.

Can I just say something then shut up? I have done many things in my life. The thing I was most proud of was learning to ride a bike. Although I only look 21 and a half, panel, I did not learn to ride a bike until my mid-40s. It was something I was really proud of when I rode that bike for the first time on my own. We have a picture at home. My husband went out and bought me a nice flashy bike with a helmet because it was something I was so proud of. We are starting that planning in Birmingham where our new areas have the walking and the cycling but unfortunately there is not enough of it.

The previous speakers talked about the fear of riding bikes. Although we are starting to see that work, I think it needs to be speeded along where

you take leisure into what people are doing so that it will help with the health outcomes going forward. I will shut up there.

Q294 **Chair:** It is great to hear a fellow cyclist. I had a very windy ride in this morning into that gale that was coming from the south-west as I came in from the north-east and literally static cycling. It is great to meet a fellow sister cyclist.

Rachel Huxley: I cycled in as well, so here is another one. You asked what types of physical and mental health we should consider. I do not want to sound trite but all of them. As we heard on the previous panel, the urban environment for citizens affects all aspects of our physical and mental health. Where we can intervene very successfully is in land use planning, so the shape of a city is going to affect hugely how we travel. Again, we heard that before. Physical inactivity is the fourth biggest killer globally and we have seen the health care costs associated with that. Diabetes alone, for example, is 12% of global health care costs.

The shape of the cities in the first place, the way we lay them out, they should be compact and connected and we should combine good transport links with where people are living and working. An example from Portland where they are looking at neighbourhood-connected communities to try to get everything people need in a shorter area really helps encourage active transport. Public transport, walking and cycling are really important and the health benefits from public transport should not be underestimated. If you are walking 10 minutes to and from your source of public transport it adds up to quite a considerable health benefit.

Q295 **Alex Sobel:** Our post-war developments—I am an MP in Leeds and, a little bit like Birmingham, we do not encourage what you are talking about in Portland. How can we apply those principles from cities like that to particularly larger UK cities like Leeds, Manchester and Birmingham?

Rachel Huxley: In Leeds some of the recent work done around cycling is quite good and you are right, where you start from has a big impact. If you compare Leeds to somewhere like Copenhagen where 50% of people cycle, Copenhagen has been on a 100-year journey. I do not think it needs 100 years in Leeds to change that around. New Orleans, for example, has just done some amazing work on cycling and it was as simple as painting on the roads. That is not best practice necessarily, but it does say to you as a cyclist you are meant to be here, and you are welcome here. You are creating the physical infrastructure and also the more cultural infrastructure that welcomes cycling.

We have heard it is important for people to be able to cycle but they need to perceive that they are able to cycle, so it is the kind of culture that goes with it, the softer infrastructure and the harder infrastructure.

Q296 **Alex Sobel:** Can you say a bit more about the cultural infrastructure, because nobody spoke about that before? What are we talking about?

Rachel Huxley: I think the previous panel was talking about perceptions, whether you perceive lots of other people around you are cycling, whether you are able to cycle. If there is a road and there are no cycle markings you might think, "I am not allowed here", whether you are or not, whereas if there are some very visible cycle markings you accept that is where you are allowed to.

Referencing Copenhagen, the way they build their cycling infrastructure is they want to build aspirational, good quality, nice looking infrastructure so when you are cycling around Copenhagen you think, "Hang on, this is built for me. I should be cycling, and I am valued as a cyclist. This is a valued method of transport." They will do things like create wide enough cycle lanes so you can go two together and have a conversation because that is what you do in other forms of transport.

Mr Robertson: To follow on from what Rachel Huxley is saying there, it is very important in addressing all these issues that one starts at the highest level of planning, fundamentally putting the right thing in the right place. The kinds of accessibility, the kinds of compact cities we are talking about work when the journeys you are making can also be made actively. You can have all the walking and cycling provision in the world and even all the public transport provision in the world, but these things are not particularly quick modes and if they do not get you to where you need to go within the right timeframe you will not get there.

We did a lot of work on the turnaround plan for Detroit, discovering that what was cutting people off was not the absence of these things but the timeframe in which they could not get to the opportunity they needed to. Planning to get the right thing in the right place is a critical part of it.

To some of the things the first panel were saying, that often goes beyond the boundaries for a particular development and it often goes beyond the boundaries of a particular local authority plan as well. Often when I start working with a city I do a fundamental what I call economic accessibility analysis. You look at where all the work is, and in any modern economy everybody always needs a choice of economic opportunity. Every household may need to access multiple places, services and jobs. Look at the way the city enables that activity, in terms of time, cost and the activity that goes behind that. Then you start to direct planning behind it.

We have an opportunity coming forward in the UK at the moment. The planning that is starting to go forward for the Oxford-Cambridge corridor and the integration with the planning of East West Rail into the identification of where new economic development and new homes will be supported is the start of an example of something being done here that, as you were referencing earlier on, has been done in other countries such as the Netherlands, Germany, Denmark and much more. That placing of larger regional networks is part of your planning, so you understand whether people are able to access the things they are really going to need to access.

The last point is that active travel is extremely important. Everybody is very busy, though. It needs to be active travel in pursuit of the main things I am trying to do in the day: get to work, get to my school, get to the essential services I need to access. If the city is not structured to do that, if it is only a leisure option for me, I inevitably will not get my full weekly dose of the activity I need.

Q297 **Geraint Davies:** There has been an enormous surge of problems with mental health among teenagers in particular and a lot of that has now been linked to air pollution, and much stronger links with physical abuse, for example. There is an issue about riding bikes with people being unsafe and getting polluted. Would people agree that we need to take a much more aggressive approach to literally restricting cars to facilitate safe riding? I know when I lived in Croydon I did some cycling round and you just feel paranoid. There are huge amounts of traffic and fumes and it is like this is not realistic at all. Do you think there should be a more aggressive approach to save our children's mental health and wellbeing?

Rachel Huxley: Yes, absolutely. I welcome completely the question about whether we should be restricting private vehicle use. We do not hear it enough, so thank you very much for that question. A point around cycling and whatever form of transport I choose to move around London I am going to be exposed to air pollution, possibly most in a vehicle although as a cyclist I will be breathing so my exposure rate might be higher because I am breathing more actively than I would be in a vehicle. But it is something we hear quite a lot. The concern that as a cyclist you are exposed to more pollution is not necessarily always true and the benefits you gain from physical activity outweigh the pollution risk by an order of magnitude.

Having said that, back to the last part of your question; should we be restricting private vehicle use? Absolutely. It causes a huge amount of problems in our cities with congestion and people being able to get around quickly. It is an enormous cost with the amount we invest in road infrastructure, parking spaces, and if you look at the amount you need to invest in cycling infrastructure, it is much less for the same sort of gains in moving people around, all public transport. The emphasis we have had on provisions for private vehicles really does absolutely need to change in order to tackle climate change and in order to make healthier cities. We heard how noise impacts people's health and vehicles obviously are a big source of that. You talked about mental health associated with air quality. Vehicles are a huge source of air quality, the main source in most European cities, and London is no different. Even if we switched to entirely zero-emission vehicles, we would still get a huge amount of particulate matter from tyre and brake wear. The best solution is reducing the use of private vehicles and that does require bold, ambitious policies.

Daniel Black: Yes, unequivocally. There is a tension between economic growth drivers and political pressures, which obviously we need to be

mindful about. The case of Stockholm is a good example where they had 42% support for the congestion charge. They decided to do a six-month trial and after the trial there was 52% support and there was a political leadership that wanted to see it go ahead, so they made it permanent. Now it is up at 70% support. Having that political chutzpah, for want of a better word, is obviously important, but also using trials as a way of testing public opinion and demonstrating that maybe it is not quite as scary as people might think it is.

There are also issues of inequality. I live in the centre of Bristol and I can cycle around very easily, whereas people commuting in from the outskirts may not be able to. There is a very significant issue of inequality in congestion charging, so there is a broader question about how you can balance those books politically, in terms of income and all the rest of it.

I also wanted to bring up a point that was made earlier in the previous session about costs. If you look again at the systems level and you try to put costs to all this sort of stuff, you get a completely different picture. There are costs, for example, on air pollution globally. The OECD countries would be willing to pay 1.12 trillion to combat air pollution. McKinsey & Company did a report on obesity—47 billion a year just for the UK. There have been other reports about mental health—77 billion. In our Upstream project we did not want to come up with an aggregated figure because there is a divergence of opinion as to what weight those sorts of figures are given. Some people think that is what we need; other people think that it is too uncertain, and they do not have that much impact. We brought it down to an individual basis: indoor air quality, for example, £250 per person per year in lost productivity, or lack of green space £220 per person due to impact on mental health. It is only by bringing together all this stuff, because it is all the wider co-benefits, that you can start to get a proper cost-benefit analysis. That would apply to congestion charging and all the rest of it.

Mr Robertson: If we look at the wider types of city form that we were referencing earlier that are needed to produce the other kinds of climate and health benefits that we were describing, you end up with a relatively compact city form that gives you the walkable, the access to green space, and the community that is important for mental health and wellbeing. Those kinds of cities simply do not have the geometric space to allow private vehicles to be a majority mode of transport regardless of the propulsion system for those vehicles.

In that context, you start to need to look at the restriction of private vehicle use and the emphasis of other modes, as you were asking at the outset of your question. We have done a lot of research for the German Government on this with a rather technological start to it about the introduction of electric mobility into German cities. In the end, we had to say that ultimately they would be going backwards with the introduction of a lot of those systems compared to maintaining relatively compact,

high public transport, walk and cycle focuses as they had in many of their urban areas already.

Q298 **Chair:** That was looking at the introduction of electric vehicles?

Mr Robertson: That was looking at the introduction of electric vehicles. It is very important that in some of the mobility debates that are going forward the decarbonisation of private vehicles, which is an important topic, should not distract us from the other negative benefits of high levels of private vehicle use in cities in terms of congestion, safety and the health disbenefits of the non-active travel involved in that.

Chair: Interesting. The solution is definitely the e-bike, I think. That is where the Germans have gone and that is where I have gone.

Q299 **Alex Cunningham:** Daniel has already started to talk about resources, and I want to address that and policy as well. How well has central government identified and adapted to the contemporary health challenges of urbanisation? It is a big question.

Daniel Black: I was just looking last night at how the Government are implementing the SDGs, for example, and also thinking about the make-up of the Cabinet. This is way beyond my pay grade, but it strikes me that there is not a lot going on. I would describe the implementation of the SDGs as woeful. What is listed on the website as the initiatives to implement the SDGs is just inadequate. For example, on cities it is looking at cultural diversity, which is obviously incredibly important, but also economic growth and that is about it. I really did not see much on health. On the health side, SDG3, there is increasingly a focus from the Department of Health on prevention, which is incredibly important, and I think that needs to be encouraged as much as possible.

At the Cabinet level, a question for you: if you have environment in DEFRA and you have healthcare in the Department of Health, where does planetary health sit across the Cabinet and who is responsible for it?

Alex Cunningham: I think it sits here, Chair, doesn't it?

Chair: Absolutely. That is why we are here.

Q300 **Alex Cunningham:** Not in Government, indeed. We have talked about costs. How on earth do we meet the challenges in covering the costs, providing the sustainable infrastructure that people have been talking about this morning?

Rachel Huxley: To address your first point about how Government have done in identifying and adapting to urban health issues, from a climate perspective the target of 80% reduction compared to 1990 levels by 2050 was leading at the time. It is lagging now. From a climate perspective that needs to be reviewed. It is not science based. It is not going to keep us on a 1.5 degree trajectory. As well as the 2050 target, we need a 2030 and robust interim targets.

On your points about cost, often the question of costs and benefits depends where you draw the circle around what you are looking at and what timeframe you look over, which is a similar way of saying what you were talking about. We heard earlier that the cost of a retrofit for some buildings is quite large, but then if you have a wider boundary and a longer timescale, you consider, as I think Professor Rydin was suggesting, the costs of the entire energy generation or the health system.

Where and how we pay for this is a really important question. We need to have some mechanisms that allow us to budget beyond 12 month and local scales because that always pushes us down an unsustainable route. It is not a complete answer.

Mr Robertson: To give a follow-on to Rachel Huxley's point there, it is a long-term question, but it is one that is constantly overlooked in these debates. There has been a lot of quasi-technical discussion about the right solutions that might deliver better health or better environmental performance without necessarily looking at the cost. We tend to look at it in very pragmatic terms at a city level of what the available budgets are from the local authority finance perspective but also what resources exist for residents in the private sector. You can then build what I think of as a long-term cost to serve model. You look at the systems you are putting into place and the cost of running them in the long term and of replacing them in the long term. Then you look at whether there really is the ability within a city and its economy to be able to pay for that, not in the ideal world but in terms of what is there. It can make a very big difference to the kinds of decisions that you take, making sure that the great in that sense is not the enemy of the good.

We have pioneered that, as I say, in the Detroit context with what I would describe as Detroit rules. What happens in a city where funding is going to be the same or declining over a 20-year period, but I nonetheless need to produce higher citizen quality of life outcomes and improved environmental outcomes? Then look and test the range of interventions that you can make to be able to do that. That often comes down to simple frugal city measures: put the right thing in the right place in the first place, go for a more compact, less resource-intensive system. Less resource-intensive systems can often deliver that kind of long-term doable cost.

Rachel Huxley: I have one final point. It is about how we deploy the resources that we currently have, so what we are subsidising, what we are taxing, what we are not, and thinking about changing that system.

Q301 **Alex Cunningham:** Yes, but there are things missing from the system. We have seen local authorities that have tremendous responsibility in urban development. Their budgets have been devastated, decimated, as you say. For example, 52% of the budget at Stockton-on-Tees has now gone since 2010. How on earth can that support the health developments

that we need, and this work associated with it?

Chair: Can we hear from Councillor Hamilton, please?

Councillor Hamilton: What I would like to see is there is less money, but we need to be more creative. Where the Government could be really helpful is a staged approach that was mentioned earlier, that if the council gets to a certain point and they have done what has been asked of them, the Government will help them financially to get to the next stage. The problem is the willingness is there across the country to do this work, but they do not have the finances, so what is happening is everything is being done at a piecemeal type level.

If we really want to take this issue seriously, first, we have to join up a lot of the work that is being done and not leave the communities behind and, secondly, the Government have to show that they really want to see that change implemented and support where they can financially and through the legislation to say, "We want to see this by a certain date and we will support you to get there if you have made the steps going forward".

Q302 **Alex Cunningham:** Perhaps three, five, seven-year budgets for local authorities to be able to plan properly?

Councillor Hamilton: Exactly.

Chair: We are going to have to move on, I am afraid. We all have to be out of here by 12.30 because we have to be in the Chamber. We have three more questions from Anna.

Q303 **Anna McMorrin:** Following on from some of those comments in response to Alex, you mentioned the private sector and the role that the private sector plays. What do you believe its role is in building liveable and healthy cities for the future?

Mr Robertson: The private sector, certainly in the UK context, is a key delivery partner for most of the urbanisation that is going forward, certainly in new homes and new employment space. What is very important is that from the private sector's perspective they understand the issues and they are in principle willing to assist. The targeting in this space feels relatively fuzzy from their perspectives. The regulatory playing field in which they are operating does not feel clear either.

Within this context, laying out the planetary health targets and the necessity of achieving the co-benefits that local government and national government sees in these contexts is very important. There are complex trade-offs and place-specific trade-offs required. I tend to find that open book quantification frameworks—not just checklists but things that allow you to say how much of what benefit and how much it costs—are there and can be used as a tool so that they can feel they are getting a fair deal with local government but equally that it is open to community scrutiny in terms of what has been done and what has been agreed. It can be a very important way of bringing this on to the agenda. If it is not

asked for, if it is not regulated, the private sector will find it hard to deliver that in a competitive environment.

Q304 **Anna McMorrin:** Does anyone else want to comment on that?

Daniel Black: Yes. The private sector is absolutely pivotal and critical, and it is utterly dominant currently in the delivery of urban infrastructure. The local authority has very little capacity. It used to be that they had a lot more. I am not saying that either one is right or wrong about how that should be taken forward. Looking at our Upstream research project, the delivery agencies in this country are aware of these health issues. They acknowledge that health is not factored in. They support the use of valuation mechanisms to try to bring it in, and they have suggested a whole range of different opportunities for trying to feed different assessments of those health outcomes into the wider system.

There are also issues that we know relatively little about. There has been a lot of research and a lot of work done on issues of engineering, planning, architecture and how we design and shape the urban form, but we understand very little about those interests that control the development process and how those interests align with these planetary and health objectives. For example, one of the examples that was given in this research project was if you are specifying the quality of the paving of a development, if you are no longer involved in that financially after five years, then you won't have any interest in whether or not it performs, so there are issues around short-termism. If the majority of developments in this country are not incentivised to think longer term, then you are going to be limited. That would be it for the private sector.

Q305 **Anna McMorrin:** Before anyone else comes in, can I ask a follow-up question? On working in partnership with Government, what do you think are the challenges and the risks associated with trying to form that partnership?

Councillor Hamilton: I want to comment but quickly because I know we have to go. There is a major issue with the private sector, landlords in the private sector and the private houses. It is a growing area in this country and, unfortunately, they are not regulated enough. People talk about mental health. At the moment, large numbers of properties are damp and cold and are not really at the standard we want them to be. We have then brought in this voluntary licensing type scheme, which wasn't something that the Government really took much ownership of. I truly believe if we are going to work with our private sector partners we need to legislate so that they are very clear as to what they can and cannot do.

Anna McMorrin: In Wales, of course, we have done that.

Councillor Hamilton: Have you done it in Wales? Unfortunately, in the other parts of the UK that has not been done yet and I do think that is key. Going forward, working with Government, this has to surpass the colour of your politics. This is about where people are living and what is

happening to their health. When you see young people who have respiratory conditions because of where they live and mental health conditions—remember that we spend large amounts of time in our home and they are not of the right standard—I believe that for the Government or anybody who is in power this has to surpass the colour of your politics. We need to ensure that we are working together to make some of those changes.

Rachel Huxley: To build on that, I think it is strong, clear, stable policy, so echoing what has been said. Ambitious: if we want to see the UK continue as a global leader, being able to lead on these sorts of issues that are relevant for the whole of the world will only be good for our economic development. We heard earlier about buildings, setting policy that would support a 5% rate of retrofit. The existing building stock is where we need to focus, and the IPCC report says that we have to have a rate of 5%. We are nowhere near that. We need those strong policies from Government to support the private sector to then act.

Q306 **Anna McMorrin:** Do you think that something like tax breaks, subsidies or penalties could help and, if so, in what way?

Rachel Huxley: Yes, I think that all of those things can help, legislation and regulation, making something legally binding, being very clear on what needs to be done and making it a binding target. We heard about having standards that are clear, so we do not get insulation of a poor quality and having those standards enforced, and then I think that the tax breaks and the incentives, absolutely. We have seen how well they can work with things like renewable energy, but we have also seen the damages of having a changeable policy environment on incentives. If you build up an entire industry and then you have a six-month hiatus while you are waiting to work out what happens on insulation policy, lots of those small to medium-sized businesses cannot wait for six months.

Daniel Black: The Government have rolled back a lot: the Green Deal, Zero Carbon, Sustainable Development Commission and so on, but there are lots of good things: devolution, the local government borrowing cap being lifted, the Social Value Act, support for custom build, Community Land Trust and so on. There are lots of positives. On tax breaks and subsidies, one of the things that came up in our project was land value capture. There has been a lot of agitation around this recently. All bar one of our interviewees were supportive of it. One said it would be dangerous to try to unpick that, so clearly this is a significant point of contention.

What is missing from this picture, and forgive me for repeating myself, is that there is a real lack of understanding. This is putting all the onus on local government and local government has very limited resource. There is a huge lack of understanding about the role of the private sector and how they can help us address this.

Q307 **John McNally:** I would echo what Alex said earlier about councillors and

local authorities being given the responsibility but not the funding. As a former councillor, I totally agree with what you are doing because we were on the ground level, seeing what happens to people in their houses and dealing with the consequences of poor housing. The lack of probably long-term planning is crucial in everything that goes on. My simple question is to you, Lawrie. Do you think homes in urban areas are fit for purpose? What challenges are posed to the health of residents by the current UK housing stock? I appreciate what Anna said and some areas of Scotland are improving at a different rate. I wonder if you could answer the first point about the health of residents by the building policy.

Mr Robertson: To clarify there, in terms of the existing UK stock?

John McNally: Yes.

Mr Robertson: I won't repeat the discussion of the first panel about the indoor quality of homes. The thing that I would add to that is, of course, our existing stock is the legacy of previous planning policies about the location and density of housing. While you can focus on the energy performance or otherwise of some of our older stock, I am also quite worried about the locked-in wider health problems of some of our more recent building projects, and that goes right up to very recent projects, which have fundamentally locked in a low-density car-borne lifestyle with, as others have alluded to, a very great difficulty in reconnecting those back into sustainable transport grids, sustainable food systems and access to good quality green space.

Alongside looking at the energy retrofit, and the indoor environment retrofit, that retrofit back into a sustainable city model is also one that has to be given some attention. It is not wrapping things back into a well-functioning bus network, for example. It is not an easy proposition. When it is the wrong housing of the wrong density in the wrong place it is hard.

Q308 **Chair:** You are basically talking about suburban developments with no pavements, where everyone has parking for two cars?

Mr Robertson: Yes. If you look at the Transport for New Homes committee's recent reports, these are things that are going on right now. We are still allocating land under the current NPPF for new housing on edge of town, edge of village developments, where fundamentally the only transport connection is a new highway connection.

Daniel Black: On something that came out of this fascinating example, the Government decided about 10 or so years ago—I don't know the exact date—to bring out a policy called PPG3, which was to try to discourage out-of-town developments and encourage higher density, in-town developments. For the industry, it was an absolute disaster because it meant that there was a disconnect between those who were going to implement this new policy and the policy itself. You ended up with bad quality development because our industry was not geared up to deliver that higher quality, higher density development. Having the policy aligned to the implementation is absolutely fundamental.

Q309 **Kerry McCarthy:** I have been saving myself for this and it is a slight change of tack from the previous questions. I will start with Paulette. I wanted to ask about food policy, and you did touch on it a few times, talking about obesity being a problem. I suppose the thing I am particularly concerned about is how we make sure that people in cities get healthy food. I know that Daniel has a very strong Bristol connection and he will be aware of that as well. What are the barriers to making sure that everyone living in cities gets healthy food?

Councillor Hamilton: For me, some of the barriers are related to how healthy food is grown in an area, especially in an area like Birmingham. How are we using our allotments? How are we using our green spaces? How are we using urban policy about how to grow food in the inner city? For young people, how do they cook good food? How do they obtain good food and green foods? I am not going to speak for anybody else; we have streets in Birmingham where you would struggle to see a green vegetable. If you did see a green vegetable and you asked somebody under the age of 30, "How do you cook that green vegetable?" they would not have a clue. How do we educate our population on how to cook good but simple food?

As a local politician in the area, I believe we need to become far more radical. We have one of the largest allotments on the edge of my local ward with over 400 allotment plots. Less than 50% of those plots are being used right now, yet we have people who are hungry in our area. We have people who are very overweight. We have people who are eating, as I said earlier, high-calorific food because you can get a box of chips and that chicken stuff for 99 pence. Even though we are talking about walking and cycling, I am going to repeat again: for them to walk or cycle from school, they go past 10 of those fast food places, yet when they get home parents don't know how to cook the food and because they have stopped at the chip shop, they have not eaten the food.

One of my biggest passions is around diet and how going forward as a nation we encourage our young and older people to cook good food that is out there. Before we can do that in wards and areas like mine, how can we grow good food in very small spaces, in back gardens, in greenhouses? How do we prepare good food through education, whether it be in schools, local community centres and what have you? Lastly, how do people understand the value of eating good food and their health issues going forward to stop that chronic growth that we have around heart disease, respiratory disease and other things that are growing in areas like Birmingham, and I truly believe mental health, because they are not eating properly? I will stop there.

Q310 **Kerry McCarthy:** There is just so much; I could probably talk to you for hours. On the allotment point, it is anecdotal rather than based on any statistics I have, but in Bristol in the wealthier areas of the city there are waiting lists for allotments. In the poorer areas, there are vacant plots, which says an awful lot about the demographics. I can see that Daniel is

nodding.

Councillor Hamilton: Do you not think it is also about government? At the moment, I am really pleased that if you want to change something from an allotment site to something else you have to get it passed at a government-type level. It is ensuring that we keep our finger on the pulse and we don't change land over very easily.

Q311 **Kerry McCarthy:** In Bristol again we are mapping where the food-growing land is and how we can expand it. The junk food and the access to the unhealthy food is particularly an issue. Have you looked in Birmingham at something that I know some local authorities have done in trying to have a ban on fast food outlets within a certain radius of schools? The common one is 400 metres, but some are trying to do it at 800 metres.

Councillor Hamilton: We have done that, but if you remember, planning does not join up with licensing and with what schools want to do. Although that has started lately, in the last few years, you have properties that—

Kerry McCarthy: You cannot do anything with the existing ones, yes.

Councillor Hamilton: This is it, and the problem is on some streets the properties, because they were commercial properties before, don't have to change the usage. It is like if you have a religious building that was an old church, you do not have to change the usage so you can turn it into a mosque or a gurdwara. What many of our fast food outlets are doing is, because they are a commercial property, they just change over, and they seem to do it quite easily.

I do agree with you. There needs to be, and there is, more of a joined-up approach towards ensuring it does not open. In my ward, I have a school on the main Holyhead Road. From the Holyhead Road, if you live at the bottom, which is about a 10-minute walk, you have five fast food places. For many children £1 is not a lot and they can get a meal before they get home to one of the streets that is the catchment area. For me, it is how you teach those families to try to encourage the children not to eat that food.

Daniel Black: It is a really tricky one to try to fix, but I just want to give an example in Bristol again. When you go into Southmead, the new super hospital—and it is the same with the Bristol Royal Infirmary—you are faced with, as you get into the hospital, Coke, Mars bars and all this. The disconnect between us wanting to provide a healthy environment in an environment where it is all meant to be about health is incredible. If we can use examples like this as part of the narrative and part of the discussion, then maybe that is one way forward.

The other thing I wanted to say was about the Upstream project again. While we found a lot of evidence to support issues around air pollution, for example, or green space, even though there is a lot of evidence out

there on food, there was very little that we could use to put a value on that. That is a piece of work that needs to happen because with a valuation and evidence around that, that would help planners.

Q312 **Chair:** One minute each from Rachel and Lawrie and then we are going to have to terminate, I am afraid, so final thoughts.

Rachel Huxley: On some research we have not concluded yet we are looking at 57,000 deaths avoided from increased consumption of fruit and vegetables and 110,000 deaths avoided from reduced meat consumption. That is based on the EAT-Lancet planetary health diet.

Chair: We did that in our first session, so we have done a conversation on EAT.

Rachel Huxley: Great. Then I totally back up that the urban environment around us will impact, and that is the experience we have in C40 Cities and also in Peterborough if you are surrounded by fast food or you are surrounded by allotments. The impact of the food on the wider environment really should not be forgotten. It is great that you covered it. I would just emphasise that, and then the role of Government in procurement is a particularly important one for local government and hospitals and schools.

Mr Robertson: Very quickly from my side it would just be to say that food systems in the round have not been recently part of a major mandate in local authority planning and it would help. We regulate our water supplies, very clearly, and how we manage energy and how we manage transport. We have not managed food in that systemic way to anything like the same degree. If we want a resilient, healthy food supply, then we need to start slowing the powers to do that through to local government and start thinking of the planning techniques that will enable them to exercise that mandate when we give it to them. It just has not been a major area. Again, that is worldwide, not a UK problem, but it is one that is starting to change now.

Chair: On that note for systems change, I thank you all very much indeed for your very diverse approach. We all have to run now and listen to the Attorney General.