

## London Assembly Environment Committee – 13 September 2017

### Transcript of Item 6 – Draft London Environment Strategy

**Leonie Cooper AM (Chair):** Finally, Item 6: we come to the draft London Environment Strategy. We have with us some guests this morning. We are very pleased to welcome back Shirley Rodrigues, who is the Deputy Mayor for Environment and Energy. Thank you for coming, Shirley. We also have at this point in our discussions Patrick Feehily, who is the Assistant Director to Shirley. You are very welcome as well, Patrick. It is only a few months since we have seen you back in May [2017] and Shirley towards the end of last year [2016]. We have a number of things that we would like to ask you about the Environment Strategy.

For anybody who is following us today, just to make it clear, it is a very long document and rather than setting us all an impossible task of trying to ask you on everything in terms of its contents and the scrutiny teams who then also go through all of the contents with a fine toothcomb and also for us to go through that in detail with you, we decided that it would make a lot of sense to split it. Therefore, we are going to be starting with certain parts of the document today, particularly those focusing, really, I would say, on energy. We are going to be asking you a lot about energy and waste and recycling. Also, we are going to talk about carbon reduction as well.

The first question, which is an overall question, if you like, which is about the draft Strategy, which is reducing the expected pace of the carbon reduction in the next few years and deletes some previous earlier targets to cut emissions by 60% by 2025. Overall, it is still ambitious, but in the early stages up to 2025 the document is possibly slightly less ambitious. Why have you made that change or, as some people might see it, why are we less ambitious in the early stages?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Thank you very much, first of all, to you, Chair, and to the Members of the Committee for inviting me here to give you an opportunity to talk about it.

Would you permit me just a few seconds to talk a little bit about the Strategy generally? I was here just under a year ago following my appointment and since then I just want to pay tribute to the team and to the many stakeholders, including you, who have helped us prepare London's first single Environment Strategy for London. We have turned eight single strategies, reviewed them thoroughly, produced an evidence base and come up with the policies that we are going to be discussing - some of them - today and at a later meeting.

Just to re-emphasise, the Strategy is aiming to make London the greenest global city and one that is clean, attractive and healthy. It takes an integrated approach because we want to ensure that we are tackling issues like health inequalities, access, health, social injustice and fairness, as well as our economic agendas. The Mayor has set out a very ambitious vision in that agenda and the strategy for London's environment to 2050. We have a number of targets around making London a zero-carbon city by 2050, a zero-waste city, a zero-emission transport network by 2050, and ensuring that over half of London is green and blue. We are setting the level of ambition for London but we also think in this post-Brexit world that other cities in the United Kingdom (UK), internationally and indeed our Government should follow some of the policies that we are setting out because we think those are the best ways to improve the environment generally.

To your point about ambition, we know that setting a long-time target and a signal is absolutely critical for those investing in London, but we know that we have to improve London's environment straightaway. Therefore, alongside the Strategy, we have published a Solar Action Plan and a Fuel Poverty Action Plan. The Mayor has announced a number of programmes that we are going to be implementing around energy efficiency and green spaces. I am hoping we can be able to talk about that a bit later.

In terms of your specific question, Chair, the reason that we have rebased some of the targets is because, as I said to you when I came before you last October [2016], we have had to review all of the policies and all of the evidence and understand what the baseline is. In looking at the baseline on in particular our carbon reduction policy and energy policy, we looked and realised that we were not where we should have been under the previous Mayor's Strategy. For example, the 1.2 million homes that were to be retrofitted by 2015: we are nowhere near that number. That is partly down to two things. One: Government policy; a lot of that has changed. For example, the Green Deal programme has gone and eco targets have changed. Also, the previous administration had not set enough action underway. Therefore, in looking to work out what we can do, we have tried to take a pragmatic approach and an evidence-based approach to what we can do in the short to medium-term, but setting out very long-term and ambitious targets.

However, we are absolutely clear that we cannot deliver all of those targets ourselves. We do need government help and government support. We need government policy. We do not have, for example, the Emissions Reduction Plan or the Clean Growth Plan that they have been talking about producing for over a year or two years now. We are expecting it shortly but, in the absence of that policy, we have had to take a view on what we can do and what we think London can do and should do on energy and carbon emissions reductions generally.

We can talk a little bit more about the specific targets that we have rebased but you will see that the ambition is very strong. We want to make London a zero-carbon city by 2050. We have modelled some scenarios that we have set out for consultation so that people can look at that to say how we can get to that zero-carbon target. Then we have set out some approaches - a short, a medium and a long-term approach - that we could take to that, and have started in the short term with some very specific funding programmes. The Mayor has set aside £10 million over the next four years to fund energy efficiency programmes. We are funding some work on solar to talk about how we might boost our renewable energy, low-carbon decentralised energy approach in London and other actions. We have set out the Fuel Poverty Action Plan as well.

**Leonie Cooper AM (Chair):** Yes, it is particularly welcome to see the Fuel Poverty Action Plan because I do not think we have ever had one of those before for London. That is particularly welcome to us because, as you will know, we produced our own domestic energy and fuel poverty report earlier on this year. In that report, we did note that we had started to veer from the original set of targets that had been set by the previous administration. The rebasing that you are talking about in the earlier stages is because London has gone off track in terms of where we had hoped to be from the previous set of targets. Is that your argument?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes, that is absolutely right.

**Leonie Cooper AM (Chair):** Do you not think then that it is a bit unambitious? You seem to be saying, "Well, it is a very practical reality. We have to scale back on what we are doing", but do you not think you then run the risk of being seen as unambitious rather than ramping up more vigorously in the early stages to try to get London back on track?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** No, because what we said is we are going to try to do as much we can do within the Mayor's powers and gifts. The £10 million programme

looking at new energy efficiency measures is over and above some of the work that we are doing on RE:NEW, for example, our domestic homes programme, and RE:FIT, our retrofit programme for buildings, and other aspects of work that we are doing. That is showing that we are quite ambitious in what we can do within what we can fund as the mayoralty, but we have set out what is needed in London generally and we are asking for Government help. We know we need to retrofit in the order of something like 100,000 homes a year in order to meet that zero carbon by 2050 target. That is in line with what the Government itself has said, but yet we have no funding or programmes or policy to help us with that. What we can do is work on what we can do in London, which is our programmes, working with our partners in boroughs and in the social housing sector to see what we can do to start moving that activity we can do now. We are looking at the private rented sector as well through the Fuel Poverty Action Plan, but we absolutely need the Government's help and funding to enable us to meet the rapid rate and ambition that we and the Government have to meet if we are going to meet, for example, the climate targets that the Government has signed up to.

**Leonie Cooper AM (Chair):** You are being practical but ambitious, it seems. Patrick, did you want to come in as well?

**Patrick Feehily (Assistant Director - Environment, Greater London Authority):** Yes. I was just going to bring James in, actually, because we are proposing to move to a budgeting approach which we think gives us more flexibility rather than moving away from ambition. Do you want to explain?

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** Just a couple of things. Over the course to 2050, this is more ambitious, first of all, and it is emissions over time that count. The contribution of London's emissions into the atmosphere is over time, not in particular years, first of all.

**Leonie Cooper AM (Chair):** It is over time. For those of us who are concerned about our current climate and are looking at the level of warming - which is now being evidenced by Hurricane Irma and Hurricane Jose and what seems to be a very much higher level of water being carried in the atmosphere because the atmosphere is warmer - that ambition at the early stage is because we cannot wait. That is really where my comments are coming from.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** That is precisely where I was going, actually, which is that we have looked at a far more sophisticated approach that the architects of the Kyoto Protocol and the Climate Change Act that was brought forward into 2008 really recognised, which is that carbon budgets offer flexibility even in the short term. What we signal in the Strategy is that, between 2018 and about 2020 to 2022, we have looked to achieve around a 40% reduction in carbon dioxide (CO<sub>2</sub>) emissions, which is still extremely ambitious based on the 16% reduction we saw in 2014 on 1990 levels. I am talking short-term still. The overarching ambition is greater but the short term is still equally ambitious. The carbon budgets will offer flexibility and more certainty for business and others to invest against the framework that is durable over time.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Just to say that I should have talked about how we do have ambitious policies around our new buildings, which we will be seeing in the London Plan, our zero-carbon buildings and zero-carbon homes, but we are also proposing a zero-carbon buildings target and policy, which will be set out in the London Plan as well. We have set out in the Strategy some very ambitious policies. We are doing what we can practically to do the massive challenge we have of retrofitting our existing homes. We are taking a carbon budget approach to give us the flexibility to find the best and quickest way to get there. However, as I have said, we cannot do this alone. We absolutely need Government help, funding and policy to enable delivery.

**Leonie Cooper AM (Chair):** We do appreciate that you are saying that obviously we are operating within that wider context.

**Shaun Bailey AM:** Just to pick up this point of ambition, lots of these ambitions you have seem to come in after the Mayor's term. He made a great big deal about how he was going to focus on the environment and I cannot see that being delivered in his term; somebody else will have to carry the can. You made the comment that the previous administration had not been ambitious enough and we are here talking about that now, but will somebody be able to make that claim about this current Mayor because all of these targets are after he will probably have moved on?

Also, this reminds me of the Transport Strategy in that while there are key performance indicators (KPIs), up to that point, how do we know we are on track? You get great political uplift from saying you are going to fix everything, but how do we judge you and the Mayor's performance if you do not tell us what the milestones are and where you expect to be?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** This is a point that the Committee had made when I first came before you. That and a number of other things that you have said we have taken very much to heart and so, if you look at the Strategy, we have set, as we said, very long-term targets for where London needs to be and we have set out milestones where, again, you and others can judge whether the Mayor's actions are being delivered. Within the Strategy, we have set out, for example, on energy, on air quality and on green infrastructure a number of milestones for our own programmes and for others, anything from air quality, where we know we are going to be implementing a zero-emission capable taxi requirement from 2018. We know that we are looking at increasing our habitat targets by 2025 and by 2020 we are reducing our nitrous oxide (NOx) emissions.

**Shaun Bailey AM:** I understand that, really, but they are all the things that will hopefully get us to the goal, like better air quality, but what is the standard? We can introduce all of these things and have no movement or have massive movement. They do not seem to be indicated in your policy or in your agenda. We do the cabs; we do retrofitting. What uplift do we expect to get in air quality? That is the part that is missing. You are not telling us if it is going to improve and by how much.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** That is in the Strategy. We know that by 2020 we are expecting to see, if all the policies within the Strategy are implemented, a 40% reduction in NOx, a 50% reduction in particulate matter smaller than 10 micrometres (PM10), and a 25% reduction in particulate matter smaller than 2.5 micrometres (PM2.5). There are other emissions reductions targets set out for 2025, 2030 and 2050 on air quality alone. There are others within the Strategy where we have talked about what we want to do on solar energy, for example, and on what we want to do on waste and what we want to do on green infrastructure.

**Leonie Cooper AM (Chair):** I have some specifics about the existing homes and energy efficiency, apart from the overall thrust of the programme and the speed of activity. One of my specific questions was about Energy Leap and what aspect of Energy Leap is so new that it requires a fresh proof of concept pilot. You are talking about another pilot. Why not simply improve the programmes that we have already and just bring them up to scale? How quickly can it be rolled out?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes. We are doing both. On our new RE:NEW programme, our successor programme, we want to take a deeper approach to energy efficiency. Under previous programmes, pretty much some of the simpler, easier to do measures on the whole had been taken up but not everywhere and so we still need to do more on that. The deeper and more complicated

things also need to be done and so we are looking at that through our RE:NEW successor programme and James can talk to you about that.

Energy Leap is a completely different concept. It is a whole-house approach and it is a different approach that has been trialled in Holland but has not been trialled in the UK yet. We have a different set of circumstances, different building regulations and different housing typologies and so we want to see how much of that can translate to the UK context, in particular the London context. If that works, then it is going to be a particularly effective way of reducing carbon emissions, helping with fuel poverty, the costs of running homes, dealing with energy bills and other aspects of the home in terms of making it more resilient and so on.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** That was a really good summary. Just in the context of an Energy Leap home, what we are looking to do is eradicate the energy bill entirely. It is what they have proven to do in Holland for the 111,000 houses they have done a deal for so far and they have delivered in the order of about 2,000 or 3,000. This is about really changing the proposition entirely. It is about testing new modern methods of construction. Can you prefabricate offsite to rearrange the supply chain and bring down costs? Can you showcase all of these innovative technologies we talk about from supply-side and energy efficiency through to smart technologies all in one? Then can you look at commercial propositions in terms of how you structure the finance over time?

Low-cost borrowing and green finance becomes ever more important here. You are looking at aggregating all of the costs a social housing provider, say, may make over time but bringing them forward, taking out a low-cost loan and then looking to see whether that will be paid for by the energy generation through those measures.

In the context of these buildings, if they are proven in London, they will generate as much energy as they consume on average over the course of the year and thus, in effect, eradicate an energy bill entirely. This is pointing towards the fuel poverty problem in London and how we can solve that, but we need to trial it first because we will be the first city - capital city, at least - in the world to do it.

**Leonie Cooper AM (Chair):** We look forward to hearing about the outcome from the pilots at this Committee. When do you think we will have some outputs from that? How quickly are you going to be able to run the pilot, get the results and then start to roll it out at scale?

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** We are hoping to achieve it by summer 2018.

**Leonie Cooper AM (Chair):** Next summer we will get the outputs from the pilot?

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** That would be the outputs. In effect, we will be evaluating and monitoring the energy usage beyond the point of which the retrofits are done, but we are looking to have them built so that you can physically go and see them from the 2018 summer period.

**Leonie Cooper AM (Chair):** They would be built by the summer of 2018, but then to really monitor their effectiveness presumably you would want to do that over the course of a year, an autumn and a winter period particularly, because that is the high point in terms of energy usage because of heating. We would be more likely to get the outputs of how well they have worked in the summer of 2019 and then rolling out from then?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** The rollout would be dependent on financing. These are really expensive whole-house approaches and part of the evaluation will be looking at the costs of it. As I have mentioned, we are looking at different topologies of buildings and then we need to work out where those types of buildings are, where is most cost-effective to focus on delivery, and then we have to secure the financing. I will not promise delivery on those, but certainly testing the efficacy, the cost-effectiveness and actually how much it helps with energy bills and how much it can contribute, we should be able to do something -- as you say rightly, we need to run it for at least a year to really get a sense of how it affects energy bills. Also, one of the big problems around energy efficiency measures and other measures that we put in is how people use them. Are they easy to use? When you put people's smart meters in, do they use them in the way they should do effectively to get the most out of energy savings and operations and so on?

**Leonie Cooper AM (Chair):** Sure, and then some of the problems that then result from making something really energy-efficient and airtight in terms of condensation and making sure that it is all balanced up so that you do not then create a new set of problems and an unliveable dwelling.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Absolutely, yes.

**Leonie Cooper AM (Chair):** We will look forward to bringing that back to the Committee and hearing about how successful that has been. Moving to the workplace, is the administration going to be meeting this square footage or energy saving timetable for workplace retrofit, which was set out in the previous Strategy? If not, why not? Will it come back to similar things to do with having gone off-target?

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** In terms of the workplaces, I should say that this is the RE:FIT programme that we are talking about. This is about decarbonising public buildings in London. RE:FIT has been extended to the middle of 2019. So far, we are, broadly speaking, on track to deliver those KPIs. I should say that the total of all phases so far has delivered about 31,000 tonnes of carbon and about 668 buildings have been supported, which is in line with that original estimate. We are currently looking to do an additional 318 by the middle of 2019. We recently undertook a segmentation exercise to look at the greatest emitters in London and how far we can bring down their energy bills, save them costs, save on energy and also reduce CO<sub>2</sub>. Therefore, I would say it is a slightly different story for RE:FIT compared to the domestic energy efficiency programme, which has been harder hit by some of the changes to Government policy, not least the Green Deal programme.

**Leonie Cooper AM (Chair):** Is there any evidence that people that are interested in building new workplaces and new office buildings are taking on board a zero-carbon approach? Do we know if the London Plan is going to cover this? When we are trying to do RE:FIT and RE:NEW, which is the retrofit side, are we also going to see some improvements with new buildings as they come on stream? London has still got a lot of cranes up at the moment and not all of those are for residential blocks.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Absolutely. I was mentioning before that we are proposing a similar policy to our zero-carbon homes policy, a zero-carbon developments policy. Again, as you pointed out, the cost of retrofitting is massive and what we want to make sure is that the buildings that are going up now last for hundreds of years, that they are fit for purpose, that they are energy-efficient, that they are climate resilient, that they are air quality positive and all of those things. We are working very closely with the London Plan team and Jules Pipe, the Deputy Mayor for Planning, [Regeneration and Skills], to make sure that those approaches will be taken in the forthcoming London Plan.

**Leonie Cooper AM (Chair):** That brings me on to my final question in this particular set, which is about the zero-carbon homes requirement, which you referred to earlier, Shirley. With developers, quite often, if you say that you want them to incorporate certain features that we might consider to be absolutely essential to future-proof those buildings, which will be around for hundreds of years and say, “My viability assessment and my bottom line has been deeply affected”.

What analysis have you been doing to see whether the zero-carbon homes requirement might affect the rate of new home building, which then impacts on another of the Mayor’s big concerns, which is to meet the housing needs of Londoners?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes. When the policy was introduced we did a very thorough assessment, which was tested through the Examination-in-Public and so on. Our research shows, on average, it is something like adding approximately 1% to base build costs and so it is not affecting, we believe, supply. Actually, we have not really seen, through the planning permissions that we see through the Mayor, any major issues about that. In fact, because we have set also a requirement to provide funds through an offsetting fund where onsite it is difficult to do that, that is now being applied in pretty much two-thirds of London boroughs. It has raised something like £30 million worth of funds that can be redirected into energy efficiency renewable energy or low-carbon energy approaches around that development or in that borough associated with that development. We think it is a very good policy. It is working and that is why we want to roll it out in terms of the zero-carbon development approach as well.

**Leonie Cooper AM (Chair):** Thank you very much for that.

**Tony Arbour AM:** In relation to the - as we would see it - kicking into the long grass of the dates when we are going to be able to measure the Mayor’s achievements, you did, Deputy Mayor, run through a list - which seemed to me to be quite a woolly list - of things which I thought were unmeasurable which you said are likely to be delivered in 2018 and 2019. Could I ask please that you publish a list of the targets you expect to actually meet during the current mayoralty? The reason I am asking this question now is because I can ask this in relation to every single topic we have on the agenda and so I would ask that question now, please, and that you do that.

I am not a cynic, as you well know, but it does seem to me that the putting back of all of these targets is a way of a future Mayor perhaps saying, “It was the fault of the last Mayor”, just as you have done earlier. Indeed, you have said that the Government is being slow and that Brexit will have an influence. It does not have an influence over the matters over which the Mayor has direct control. For example, I cannot find anything in the plan where it says that the [London] Pension Fund [Authority] will be instructed to divest itself of investments in businesses which do not appear to be sympathetic to the Mayor’s targets. That is something which can be done here; I have the reference.

However, in relation to Energy Leap, if I may, on the questions that you were asking, Chair, you were absolutely right to say that some of this could be in conflict with the Mayor’s other policies. The principal one which concerns me is buildings that are going to be in the public realm such as schools, for example, which you are asking should be zero-carbon. Has there been any work done on the additional cost, shall we say, for construction per square metre of a public building which may well affect the cost of building new schools and other public buildings, which may mean that there will be less than there otherwise would have been? Is work being done on that now?

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** Just to be clear, I guess we have to be clear that we are talking about new buildings here, not retrofitted ones.

**Tony Arbour AM:** Yes, new buildings.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** In terms of additional costs for schools, our 1% figure that Shirley quoted is a figure across the board from conversations with developers and so it is a marginal cost. In terms of schools, we can look into that and we can potentially write to the Committee on that with further information.

**Tony Arbour AM:** Where did the 1% come from? Did it come from you or did builders say - we have all heard developers say this sort of stuff - "It doesn't matter, guv. We will put in this extra bathroom and it will only cost an extra 1%". Has the construction industry said, "We will make this completely carbon neutral and it will only cost you an extra 1%?" Do we just have an assertion from them or has it been subjected to some kind of third-party check?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** It was an analysis that was done by consultants and it was tested through the Examination-in-Public, the viability assessment, and we will be doing further viability assessment of new policies under the new London Plan.

**Tony Arbour AM:** This was the Examination-in-Public for the previous London Plan, was it?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** That is right, yes.

**Leonie Cooper AM (Chair):** You have offered to send us the detail of that subsequent to the meeting.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes.

**Leonie Cooper AM (Chair):** We will have to accept that for now, Tony, because I do want to move on because we still have several areas to cover.

**Tony Arbour AM:** Of course you do. Fine.

**Leonie Cooper AM (Chair):** If you can send that after the meeting, that will be very welcome to see. Can I just clarify? I did not say it was necessarily in conflict. I said that these policies may impact on another set of policies. I was not saying they were necessarily in conflict because I cannot see a conflict between building new homes and then also asking that they are zero-carbon.

**Tony Arbour AM:** If it means that there are fewer new homes, Chair, it manifestly is in conflict, is it not?

**Leonie Cooper AM (Chair):** It depends whether it does.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** We should be clear. This is where offsetting comes in quite nicely. The 1% cost is the marginal difference when building onsite, but the whole point about carbon offsetting is that where it is physically or an economically difficult to be able to do it onsite, then there are other means to be able to achieve that level of carbon reduction through, for example, other projects within the portfolio that the builder has or the construction company and also within the local borough. The £30 million is the collection of those funds that Shirley referred to earlier. That can go into retrofitting and tackling fuel poverty.



**Leonie Cooper AM (Chair):** In a sense, it has an impact, as my question was originally about, but it should not reduce overall the number of new homes?

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** Correct.

**Caroline Russell AM (Deputy Chair):** My first question is about Energy for Londoners. The Strategy proposes to contract with an existing company to deliver a London energy supplier rather than setting up Energy for Londoners as a fully licensed not-for-profit energy company. How will this affect delivery of the Mayor's goals for low-carbon energy generation within London? In particular, how is it going to affect his ability to deliver fairer energy pricing?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We are still proceeding with those aspirations. We have a number of programmes that Peter [North, Senior Manager, Programme Delivery – Sustainable Energy, Greater London Authority, GLA] and others can talk about that will talk about what we are doing on low-carbon energy generation, energy efficiency and all the aspirations that the Mayor has set out for Energy for Londoners.

The supply company issue and what we are doing on promoting fairer tariffs is the ambition and why we are going out to tender for a supply company to help us with that. Those are still our objectives. The way we are doing it is we are taking an approach that will help bring benefits to Londoners quicker at less risk to London and Londoners, which we feel is more manageable. It does not preclude us going out to establish a full energy supply company down the road, but we feel that the imperative – particularly because of fuel poverty – is to try to get some benefits to those people quicker.

**Caroline Russell AM (Deputy Chair):** You say there is less risk and it is going to be more manageable, but actually a fully licensed company would give the Mayor much more power to be able to deliver the benefits of fairer tariffs and also to be able to use the profits from the energy supply company to deliver all this. We have heard about the squeeze on the money for retrofitting and everything else. There are an awful lot of Londoners living in existing built properties that have no insulation. They are living in cold homes. The studies that you were doing into the fully licensed company, it was expected those were all going to be published with the Strategy and they have not been. Why is that?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Just time. We are expected to publish shortly. We have been focusing very much on getting the Strategy out and getting the programmes that we have published – the Solar Action Plan and the Fuel Poverty Action Plan and the Greener City Fund – out so that we can start getting benefits out to London as soon as possible. That has taken a lot of time from the team to focus on. We will be publishing that analysis.

**Caroline Russell AM (Deputy Chair):** When do you expect to publish that analysis?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Shortly.

**Caroline Russell AM (Deputy Chair):** Shortly? Is that days, weeks or months?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Days.

**Caroline Russell AM (Deputy Chair):** Marvellous. Thank you.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** In terms of your point about the risk and control, a full energy supply company has much more risk. In going down that route, you are exposed to regulatory risk, having to meet a number of industry codes. You have to capitalise the company in multimillion pounds worth of funding. We know that companies that have been set up by other local authorities have still yet to break even.

The ability to direct impacts or to help the people that we want to help, those in fuel poverty and generally Londoners who are struggling to meet their energy bills and to be able to provide them with fairer bills, we feel that a quicker way is going down the route of tendering for a partner. That does not exclude - and we would expect to do through the process - trying to maximise the benefits to Londoners. We want to see not just straightforward energy companies coming to us with straightforward offers; we want to see innovative business models and so on coming towards us. One of the things we will be judging the company that we decide to go down this route with on, will be how quickly they can help produce those fairer tariffs for Londoners.

**Caroline Russell AM (Deputy Chair):** Yes. I will not labour this point, but the benefits of a fully licensed company are far greater and more long-lasting and much more ambitious than what can be got from working on a Licence Lite basis with another company where you have another energy company that is generating profits of its own. If the Mayor was running the company, it may be a bit more risky but Nottingham and Bristol have both found a way to take this forward and the potential benefits from that ambition for people living in those cities are absolutely enormous. It just seems important that the Mayor keeps sight of that ambition because the prizes are so huge in terms of delivering affordable heat and power for Londoners who are struggling.

Just moving to low-carbon energy generation, what new resources are going to be devoted to promoting low-carbon energy generation?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** The first set of funding was setting aside funding to support community energy groups in rolling out more local solar installations. We are in the process of just setting that up, but the discussions we have had with community groups, the trade and others is what they need is not funding to install but funding to help them make the business case, to understand, to get over the legal hurdles and so on. That is what we are proposing to help with, that capacity and technical assistance. That is in the order of £400,000.

**Leonie Cooper AM (Chair):** Can I just check? Will that include feasibility studies as well as legal documentation? Any help with negotiating finance as well or would you be leaving that to the groups themselves?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We are saying, "Tell us what you need". We are leaving it quite open. What we would bar is anything that would look at installations because it would then compromise their ability to get subsidies down the line. We are just trying to be really careful that the money is where they have said they need help with. They just need to demonstrate whatever it is --

**Leonie Cooper AM (Chair):** Avoiding the double subsidy complications but focusing on something that would be a London equivalent of the Urban Community Energy Fund (UCEF)?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes, essentially.

**Leonie Cooper AM (Chair):** Thank you.

**Patrick Feehily (Assistant Director - Environment, Greater London Authority):** We also have the £3.5 million Decentralised Energy Enabling Project (DEEP), which Peter is leading on, which provides that technical assistance in terms of making a business case and bringing projects through to market. Do you want to come on to that?

**Peter North (Senior Manager, Programme Delivery – Sustainable Energy, Greater London Authority):** We now have in place under the DEEP a framework of consultants that have the skills from strategic study work, technical feasibility, commercial, financial and legal. We are predominated at larger-scale schemes where the private sector really is not playing their part but it will play an important role with the community schemes and solar schemes and enabling them to go down the project development chain from concept to business case, business planning, as you mentioned, commercial templates, etc. What we are aiming to do is not keep repeating this time and time again. As we learn and establish our templates, we will keep them and then we will adapt them for projects as they come forward. We aim to be quite efficient and effective on how we use this money. The preference is for larger-scale schemes but, as these smaller ones come forward, they can be supported. We can share the learning and knowhow with them.

**Caroline Russell AM (Deputy Chair):** Thank you. Moving on to look at solar, the target to install an additional 100 megawatts of solar capacity by 2030 seems quite low. Does this relate only to the direct results of mayoral action or does it include all solar? How much more capacity do you expect to be delivered by the wider market? How have you estimated wider market delivery? How do you expect the wider market to deliver more capacity? That is a big basket of questions.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** As our ambition and in order to meet the zero-carbon by 2050, London will need something in the order of two gigawatts of solar by 2050 and one gigawatt by 2030. However - and this goes back to some of the questions before that we were asked - we have looked very carefully, taking a bottom-up approach, to understand what we might be able to do through the planning process for new developments and the technical feasibility of installation of solar on our estate and just generally in London to understand what might be feasible. That is where the 100 megawatts by 2030 figure has come from.

That is a very ambitious figure anyway because we do not really have the policies and wherewithal to do everything we want to do. That is a very ambitious figure by 2030 in terms of direct delivery. In terms of what the Mayor can influence and others to deliver through the general process, then we know that we need to do more: one gigawatt by 2030 and 2 by 2050. We can give you a little bit more detail about how that is broken down.

However, just to say that the previous aspirations on solar were really very aspirational. When we looked at the technical feasibility, it was not essentially technically feasible. It was reliant on massive solar arrays being installed in London when there was not really the place to do that. Again, what we have done is really looked at what might be possible to do in London given what is feasible and then using that as a baseline and then talking about the aspiration of what is needed in London, which we will do through the Mayor's voice, through leadership, through our planning policies, through what we can do on our own Greater London Authority (GLA) group estate, through our work with the boroughs and so on.

**Peter North (Senior Manager, Programme Delivery – Sustainable Energy, Greater London Authority):** I am an engineer, by the way. If I could comment on the technical feasibility, London is a very difficult place to install photovoltaic (PV) and get it to work effectively and efficiently. Very tall buildings have very small roof spaces within which to install them. The building orientation is fundamentally important to get

good yield and load factor. We get shading from other adjacent buildings as well. It is a really problematic area to install building integrated or building level PV systems. The figures we have come up with are realistic.

There is also the viability aspect of it. We are now benefiting from the significant drop in prices for PVs and so they have come forward in our thinking significantly. However, as Shirley said, if you want to do PVs at scale, it is the concept of the array. We have had several inquiries about building arrays on derelict land or meanwhile land, which I suppose we would encourage, but I do not think that they will come forward in great volumes.

**Caroline Russell AM (Deputy Chair):** Are you looking into using the Transport for London (TfL) estate, train tracks and even roads, for PV arrays?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Absolutely, yes.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** TfL is currently involved in a tendering process to start with 24 of their buildings. This is in the Solar Action Plan, actually.

**Caroline Russell AM (Deputy Chair):** I was think about over tracks and roads rather than on buildings.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** One of the actions in the action plan is to get the GLA group estate to start mapping what is possible and feasible, which will include looking at the potential for trackside solar building, solar meanwhile land, etc. We are looking at all aspects and where it might be possible to look at installing solar PV.

**Caroline Russell AM (Deputy Chair):** I do not know. Has anyone done over rail track PV?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Not at scale. There are probably some pilots and stuff. We would have to find out and let you know.

**Caroline Russell AM (Deputy Chair):** Yes.

**Leonie Cooper AM (Chair):** Can I just come back to the point that Caroline was making about the gap, though, between the 100-megawatt ambition and the one gigawatt requirement by 2030? Do you think there is any mileage in trying to find a mechanism through the London Plan or by working with sympathetic boroughs, which might be all 32 but possibly not - there are so many people now who do not move house in London because of the changes to stamp duty and a lot of people are doing loft conversions and expanding their roof spaces and basements - to say, "You can only have building control approval and planning permission to do these things if at the same time you install what has now become a really pretty cost-effective system on your roof that will then also help you reduce your bills"? Is that something you have been exploring with the Deputy Mayor for Planning [Regeneration and Skills]?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** What we have been exploring is ways to enhance the take-up in new build. That is essentially a retrofitting approach.

**Leonie Cooper AM (Chair):** It is.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** What we are looking at is something quite innovative called a reverse solar auction. We know there are a number of people who are interested in installing solar panels on their roofs but, to do that individually, the cost is quite high. Therefore, we are

taking this approach - we are just working the details up - which will then try to assemble the collective interest around London and, in doing so, bring the cost down and hook them up to installers so that we can start to see some of that rollout accelerating on private householders who are interested.

In terms of new developments, then, yes, that is a planning policy that we are asking new developments to include more solar carbon renewable energy in the new developments, which it comes back to the zero-carbon homes and zero-carbon development approach. We are seeking to incentivise as well as regulate but taking, certainly for private homeowners, the incentivisation approach.

**Leonie Cooper AM (Chair):** Thank you.

**Caroline Russell AM (Deputy Chair):** One of the problems for take-up of solar is the lack of Government support for solar. What are you going to be doing to try to influence the Government to give more support to solar power in London?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have been talking at official level certainly about the disappointment at some of the changes that have happened over recent years in terms of supporting solar, things like taking away the UCEF, the Government support for community energy groups that want to install solar. We are replacing that in London but that is not sufficient, really. It needs good Government policy and so we are expecting in the Clean Growth Plan to see much more support for a whole host of issues in order to help the Government meet its targets, from energy efficiency through to more renewable energy generation and so on. The Mayor and officers will be continuing to advocate the Government for changes.

**Caroline Russell AM (Deputy Chair):** Thank you.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** The Government has committed to doing a further review of the feed-in tariff, although the timing is unclear at present.

**Leonie Cooper AM (Chair):** That has never previously been particularly good news, in my experience.

**James Hardy (Programme Manager - Energy Efficiency, Greater London Authority):** Exactly. There was a 64% - in real terms - drop on the feed-in tariff last year and that has really changed the economics.

**Caroline Russell AM (Deputy Chair):** The Strategy places very heavy reliance on national programmes like grid decarbonisation, smart meters and other smart energy. How likely do you think it is that these actions will be delivered and what will happen if they are not? Is there a plan B?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** That is a very difficult question because - you are right - 94% of London's energy is from outside London and is dependent on the grid and so we are very reliant on grid decarbonisation. The good news is that the grid has been decarbonising. We have seen coal powered stations closing. We have seen much more renewable energy coming onstream. You would have seen the auctions earlier this week for the Contracts for Difference, which have shown that offshore wind is now cheaper than new nuclear, which is amazing. We are seeing solar costs plummeting and so on. It is absolutely amazing. Our big problem is gas, still. There is no plan to decarbonise gas, which is why our Strategy is looking at how we might encourage more low-carbon renewable energy within London and how we might support that.

However, as I said at the beginning, London, however much we might like it, is not an island. We are dependent on national policy and national funding programmes to deliver. We will do what we can do through partnership, through encouragement, through leadership, but we need the policies, powers and funding at a Government level and that framework in order to deliver. That is difficult and so one of our jobs has constantly been to demonstrate what needs to happen. As I have said, we think the Environment Strategy here, alongside the Mayor's draft Transport Strategy, plus forthcoming strategies, sets a template for how we believe that the UK should be taking forward policy on those issues, in particular environment, climate, waste, noise and so on. We think there are very good templates that the Government should really adopt.

Is there a plan B? Our plan B is as we set out in our Environment Strategy. We will do what we can to deliver what we can for Londoners and we will carry on doing that and advocating for that.

**Caroline Russell AM (Deputy Chair):** Thank you.

**Shaun Bailey AM:** Why is the Transport Strategy expected to achieve a proportionally smaller reduction in carbon emissions than homes and workplaces? There may be a technical reason for that but I would like to understand.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** As we pointed out, the fact that our homes and workplaces are really dependent on energy power from the grid. As that decarbonises, we have seen appliance standards and energy efficiency coming in. We are seeing a much greater rate of reduction. Transport emissions have been slower to date because we are only really just moving to electrification, electrifying our vehicles and so on, but you will have seen over the last year or two the massive change in the disposition towards electric vehicles. The Secretary of State [for Environment, Food & Rural Affairs, The Rt Hon Michael] Gove MP has talked about more electric vehicles. We have seen our own Mayor talking about how we are going to move to zero-emission vehicles and more electrification of vehicles. As that starts to ramp up, that policy framework is changing. We are seeing manufacturers coming forward with new electric vehicles. The rate of change or the rate of emissions reduction will change.

**Shaun Bailey AM:** The draft Strategy emphasises the plans for zero-emission vehicle standards, but can you clarify what carbon emissions you expect vehicles to be responsible for as we move forward?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** As a proportion?

**Shaun Bailey AM:** Yes, as a proportion.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We will have to write to you with that specific proportion. I do not have that to hand.

**Shaun Bailey AM:** Let me ask another question. What priority do you place on shifting travel from walking to cycling compared to replacing high-carbon vehicles with low-carbon equivalents? I sit on the Transport Committee. For instance, the big problem we have is not so much private vehicles but delivery vehicles. There does not seem to be a lot of electric vehicles in the pipeline to replace the small white van or even the large white van.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have worked very closely with the Deputy Mayor [for Transport] Valerie Shawcross CBE, to make sure that our policies are very integrated. The 80% mode shift target is absolutely critical to deliver and we need to partly because the road space in London

is limited, the congestion, but not just that: because of health benefits. We need to get people out of their cars and moving more actively, walking, cycling and so on.

What cars and heavy goods vehicles and light goods vehicles remain in London, we want to see that they are moving around London more efficiently, looking at consolidation, for example, around freight vehicles, and then making sure that the last-mile deliveries are reduced so that we have more efficient movements, and that those are in cleaner vehicles and preferably more electric vehicles as they come onstream. Part of it, is getting them to reduce the mileage that they do but then making sure that they are using cleaner fuels and then ultimately that they are electric or zero-emission vehicles down the line.

**Shaun Bailey AM:** We will have other challenges than that because we need to provide the electric charging infrastructure, etc. That is why we could be the bottleneck in all of that.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes, but we have a programme for that. The Mayor is funding that. We have some Government funding to help drive electric vehicle rapid-charging points around London, which we are in the process of installing. We are working with local authorities to install charging points for residential vehicles as well and so that is underway. We have been working very closely with the Office for Low Emission Vehicles to secure funding and we are trying to advocate for more funding for London to help with that.

**Shaun Bailey AM:** All of that is great but we are far off, in my opinion, what we need to do to encourage people to buy electric vehicles because the big thing is, if you cannot charge it, you simply will not buy it.

Just moving on, what proportion of - by 2050 - carbon emissions do you expect to be provided by aviation?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Something in the order of 2.5% emissions, I believe. Aviation emissions are measured really just about operations at the airports and then the take-offs and landings. That is a significant part of our emissions that need to be managed. We are looking to work with the operators to make sure that they minimise their carbon emissions around their operations and take-offs and landings as far as possible. They are developing climate action plans that we want to see improved and we have conversations with Heathrow, Gatwick [Airport] and the operators.

**Shaun Bailey AM:** Do we have a timescale for those things, for the action plans that they are going to deliver? Do we have any timescales for them? Do you have any idea how much you would like to reduce those emissions by and how you could go about that?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** I do not have details of when Heathrow and Gatwick are producing their action plans.

**Leonie Cooper AM (Chair):** Can I just be clear? With the 2.5% transport emissions, are we talking about London here? You have now brought in Gatwick [Airport]. We might like to call it 'London Gatwick' when we are talking about it as an airport, but it is actually not technically within the boundary of London.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes.

**Patrick Feehily (Assistant Director - Environment, Greater London Authority):** Should I just come back on some of that? At present, it contributes about 2.5% of London's monitored greenhouse gas emissions. That is for airport operations and take-offs and landings, which is what we measure in London. The Mayor opposes any airport expansion in London unless it can show there is no unacceptable impact on noise or

air quality and greenhouse gas emissions are minimised because, if it is left unchecked, aviation would comprise about 20% of London's greenhouse gas emissions by 2050; hence the emphasis on the carbon reduction plans which Shirley was talking about.

**Leonie Cooper AM (Chair):** Yes, because, as everything else reduces, if aviation does not reduce as well, then the percentage that it forms of overall greenhouse gas emissions in London goes up.

**Shaun Bailey AM:** It will go up, relative.

**Patrick Feehily (Assistant Director - Environment, Greater London Authority):** Could I just come back on the transport question you asked, which I think answers the question? Currently TfL estimates that electric cars emit 50 grams of CO<sub>2</sub> per kilometre, which is half the average emissions factor for new vehicles, but of course, as we decarbonise the grid, that reduces over time.

**Shaun Bailey AM:** Chair, can you indulge me slightly? I just want to circle back to a question that my colleague, Assembly Member Russell, asked about an energy company for London. Many Londoners were quite excited by that and will be distressed that we seem to be moving away from that, but I do have sympathy for a cautious approach because it is a huge sum of money.

This is a genuine question because I do not understand. How I saw that company was that it would help our burgeoning self-generation. Londoners would generate their own power; the Mayor would buy that power. Does the current setup that you are talking about - contracting an external company - put that at risk? Would that external company be less likely to buy power from Londoners who are generating it?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We do not know because we have not gone out through the procurement process. Part of the specification and part of the ask would be, "These are the sorts of things we are interested in. Can you work with us to do that?" It may be that they cannot, which is why we have other programmes that we are working on to look at how we might promote more renewable energy being produced in London and also being used in London.

**Shaun Bailey AM:** I could be wrong but that company - the fictitious company - gave hope to a lot of groups in London who produce their own energy. If I was one of those groups, I would now be worrying that the Mayor stepping away from that, seemingly, would mean that we are less viable. Is there enough in the Mayor's plans to make those groups still feel like they can push ahead?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes. We are still progressing with the Licence Lite programme. I know that it has taken some time, which is partly the risk issue that we have raised. The complication of setting up and getting a junior licence has taken a long time to get through the Office of Gas and Electricity Markets (Ofgem) process, to get through the negotiations with energy generators and to get that hooked into initially TfL but, as this gets embedded, then that gives us the scope to take energy off those community energy operators.

**Leonie Cooper AM (Chair):** When did those negotiations over Licence Lite start, Shirley?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** They started about four years ago. That was when the initial Mayor's decision was made, but then that required a lot of discussion with Ofgem, etc.

**Leonie Cooper AM (Chair):** It started in 2013?



**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** 2014.

**Peter North (Senior Manager, Programme Delivery – Sustainable Energy, Greater London Authority):** Probably 2013. There was a lot of early development work about a form of contract which did not exist at the time in the industry and technically how it would work with the electricity market mechanisms. A lot of that early work was exploring the feasibility not in a financial sense but how it would work in the regulatory framework. It has taken us a long time to get there.

You will be familiar that we have tendered for what we call the third-party licence supplier and that is the full electricity licence-holder that provides us with the market services. That was awarded to RWE Npower. We have also tendered the framework for generators and they are all published documents that you can see. We have these component parts in place. From scratch, we have had to develop the contracts for the generator and for the selling of power to - in this case - TfL and so that has also taken us a while to put these in place as well. You can see we have moved from the industry and the regulator knowing nothing about it or how it is going to work and the mechanics to quite a refined position where we are now.

**Leonie Cooper AM (Chair):** I understand that there have been some complexities relating to Licence Lite, which you have just explained very clearly to us, but just to pull together the points that Assembly Member Bailey is making with the points that Assembly Member Russell made before, she referred to the fact that Bristol and Nottingham have managed to go ahead with fully licensed energy companies. You almost seem to be citing back to Assembly Member Bailey the idea that because Licence Lite has taken four years to get going, that might justify what you called a cautious approach. Is it really the same set of circumstances? You are talking about something that was unique and needed to be developed from the first but, because we already have Bristol and Nottingham and possibly others who have already trod that path, are we really not in a position to say that, if we went down the fully licensed route, it would be a little bit faster? I can completely understand why if it is going to take four years. Or is that something to do with the fact that London is just on a different scale than Bristol and Nottingham, which with all due respect to those cities are frankly tiny? They are like a couple of London boroughs, really, are they not?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** It is a bit of both. We would be gaining some experience from Nottingham and Bristol.

**Leonie Cooper AM (Chair):** I presume you have been talking to them.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have been, but we know that it takes a while to get through that process and we would have to follow similar processes, as Peter [North] has talked about, and the detailed development of a business case, etc. The difference, as you have pointed out, in terms of a London company is scale.

Also, we do not own housing stock. We do not have an existing customer base so that we can then have control over, for example, void policy. The ability when a tenant leaves a home to then switch over to an energy company owned by the Mayor is not there. We would have to negotiate - and this is one of the things that we would have to consider - with every registered social landlord (RSL) in London, the G15 and beyond, and every local authority. Those are all individual contract negotiations that we would have to start on, agree and go through the process to get the customer base. All of those things add that complexity and risk to setting up a London supply company. We know already that it took something like a year to get the approvals to start the process in Bristol and Nottingham. We know that we can probably shorten that because we know that they have been through a process and so that experience is out there. It is not, like Licence Lite, starting

completely from scratch, but it is still a very different market, a different process, a different scale. The powers that the GLA has are different from the powers that a local authority like Bristol or Nottingham has.

**Shaun Bailey AM:** We do have some advantages in London. We have London Councils. We have a place for all the councils to convene. The whole point of this company would be to provide energy at a lower cost. If you are saying to councils, "We could provide you with energy at a lower cost", I am sure they would be excited to get involved. We have a capacity that those two smaller cities probably do not. We have the GLA, as one point.

Just to finish on my focus, I am trying to understand what this means to small generators. The Mayor's ambition would have been, had he done this, to sell electricity at a lower rate. Does that affect their viability? Does it make their margins smaller because they would be paid less per unit for what they generate or am I wrong here?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** I will let Peter answer that question but, just on the London Councils point of view, we have had interest from boroughs but we would have to go through an individual negotiation process with each of those local authorities and those RSLs. There is one thing about a general acceptance and a desire to participate, but on everything it requires an individual negotiation and a legal contract and that takes time.

**Shaun Bailey AM:** You are completely right, but why I make the London Council point is because they would have the conversation amongst themselves and make the process easier. If you are looking at the scale, one of the advantages of scale is it gives complexity and it also gives you a huge customer base. Every borough that you got could potentially be hundreds of thousands of customers.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** I absolutely appreciate that. It makes it somewhat easier; it does not make it very easy.

**Shaun Bailey AM:** I am not suggesting for a second that it would be easy. I am just saying that it would be possible.

**Peter North (Senior Manager, Programme Delivery – Sustainable Energy, Greater London Authority):** Just in the context of Licence Lite, it was originally conceived following a white paper in 2007 or something like that. There was no access for local generators to the retail market unless they had a full electricity supply licence and we know what a burden that is. It precluded them from the market. The concept of the junior licence or Licence Lite as it is called was that it is a lightweight arrangement whereby small generators could acquire such a licence and then access the retail market. Instead of at the time getting their three pence per kilowatt hour, maybe they would 12 pence, for example, retail type prices.

**Shaun Bailey AM:** Sorry. Could you repeat that last point?

**Peter North (Senior Manager, Programme Delivery – Sustainable Energy, Greater London Authority):** I was using figures whereby a generator would normally get wholesale prices for the electricity offered to them by the full licence holder of maybe three pence. That is just a suggested figure. You can see in the retail market people paying up to 12 pence plus for their electricity depending on the size and scale. I was just trying to use those figures as an illustration of the difference in the wholesale and the retail markets. The idea of the junior licence or Licence Lite was to allow local generators to acquire the licence so that they could go into the local market under the distribution point - London, for example - to access that market. It came forward really for the generators and our business model has been set up trying to give the generators

the best possible price. We clearly have the advantage of being able to use the GLA group to sell that to. The point is, when you begin to look at the generator framework, you will see a combination of gas engine-type combined heat and power plants (CHPs) on the framework but also a number of PVs from social housing providers like Peabody, for example. It does hold the potential to give good prices to local generators. When we conceived it, we never really thought about the domestic level but that is emerging and why not? That is something we can give some thought to, but it does require them to have certain installation requirements. They need to be half-hourly metered and so the idea of a smart meter might help to overcome that barrier. If they are not metered correctly, we cannot measure their generation or their net generation. There are some technical issues in there that we have to be very careful about. Maybe smart meters could be a way to help overcome that. Personally, I would not preclude Licence Lite as such thinking about how it might help local generators, but first we have to get it up and running and demonstrate that it functions and works in the processes. We can then evolve the business model to think about other target groups, but we have to start carefully and simply to start with.

**Leonie Cooper AM (Chair):** We have moved quite a long way from the original set of questions on transport. In fact, we have joined ourselves back to the other questions about licensed companies. One of the questions on transport, if we could just come back to that one, which you answered, was to say that the proportion expected to come from aviation is 2.5% but that, as everything else moves down, that might then go up to 20%. I wondered what approach might be taken to deal with that because that cannot really be left unchecked. Are you aware of the proposals from Heathrow, City Airport and possibly even Northolt, bearing in mind certain questions that were being asked only last week about the rise in flights from Northolt? All of those airports are within what one might call the curtilage of London.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** There are some plans that Heathrow talked about in terms of how they operate the airport and in terms of reducing carbon emissions and general sustainability, but the elephant in the room is the expansion at Heathrow that Patrick has talked about. That cannot really be dealt with because, essentially, expansion would mean that other sectors have to take up the slack or we are looking at negative emissions technologies or whatever, which is way down the line and not even in existence yet, which is why the Mayor has talked about opposing expansion.

**Leonie Cooper AM (Chair):** Heathrow expansion really does not sit very well with this particular aspect?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** No.

**Leonie Cooper AM (Chair):** Is there anything else on transport you would like to ask? While I ask you that, can I just say that perhaps Andrew Richmond might like to start making his way down? We will be moving on to talking about waste any minute now. The next section we are going to move on to. Thank you very much, I am going to say, to James Hardy, Programme Manager for Energy Efficiency, and Peter North, Senior Manager, Programme Delivery, Sustainable Energy, because I did not introduce you as you arrived earlier on. Thank you very much for being with us and answering those questions. It is extremely likely that we will be coming back to talk about energy again and calling upon you to come in and further the discussion after the draft Strategy becomes an actual Strategy and we start to move forward in this area. Thank you very much for your responses this morning.

**David Kurten AM:** Good morning. I am going to ask you a few questions about waste and recycling and that aspect of the draft Strategy. In the draft Strategy, there is a diagram that talks about the waste hierarchy. At the top, you say there is prevention, reuse and all that kind of thing you want to focus on; going down, recycling, down to disposal. It appears that from the figure you have more of an emphasis on reuse and

prevention of waste. That is where you can get the most benefit in the future and the biggest part of your strategy.

How satisfied are you with the emphasis on giving priority to reuse and prevention of waste rather than disposal at the bottom?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** The waste hierarchy that you referred to is a Government waste hierarchy that we apply in London and it is meant to be how we can most effectively deal with waste. First of all, we should produce waste in the first place and so, really, it is about how we design out from products and services, I guess, how waste is produced. That is packaging through to making sure the products are recyclable, reusable and so on. Then we go down to recovering, recycling and then how you might dispose of it with the last being landfill as the most inefficient and environmentally unsustainable way.

In terms of reuse, the approach that we are taking is about resource efficiency. We know that we need to really carefully manage virgin resources. They are not inexhaustible and so we have to make sure that as much as possible we focus on that. We have been doing work with the Ellen MacArthur Foundation that Andrew [Richmond] can talk a little bit, which has been looking at how we might take more of a circular economy approach. How do we keep valuable resources in the economy in use for as long as possible rather than just having a make, take and dispose approach? We are proposing to sign up to the Courtauld Commitment, which is working with large businesses to look at how they in terms of producing products but also through their supply chain can start to reduce the amount of resources they use and therefore the amount of waste that is produced. The less waste that is produced, the less waste there is then to manage both by local authorities and others, and therefore less cost that way.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** One point to make is that this is the first time that we have taken a circular economy approach to the Environment Strategy, not just this section that focuses on waste, but also the low-carbon circular economy section within the document, and also threading that circular economy approach throughout the document. Driving the ambition that you keep materials and commodities circulating for as long as possible, whatever those materials or commodities will be, will give you the best environmental outcome.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We are seeking to do that, obviously, through working with other strategies, through our responsible procurement policy that we have that applies to the procurement that we in the GLA group taken and, ultimately, we will refer to borough procurement as well, through the waste contracts.

**David Kurten AM:** Yes. That is a very good general answer. Are there any specifics that you would like to see developed in these areas, any new areas for the Waste Reduction Strategy, such things like bottles or whatever? You have mentioned using less material in the procurement and so that is something.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have been working through the Mayor's London Waste and Recycling Board (LWARB), which is a Mayor-and-borough partnership, with a number of programmes that are helping to, first of all, identify the circular economy waste reduction approach that we might take in London. There is a route map which has been published, which looks at five different types of waste stream, from food waste through to the built environment, through to textiles, plastics and electronics, which shows the amount of potential there is both for job creation and income generation for London. That sets out actions that various sectors, whether it is business or local authorities or individuals, can take to implement that approach and get those benefits.

Alongside of that, again through LWARB and the GLA, we have a number of programmes that are available to support small and medium enterprises (SMEs) and others in creating new approaches, new products, new businesses essentially, to take those projects forward. What we would like is more recognition of the importance of taking a circular economy approach by the Government; for example, in its 25-year plan that the Department for Environment, Food and Rural Affairs (Defra) is supposed to be producing in the Clean Growth Plan that the Government is producing because it has a huge impact on the amount of carbon that is produced and therefore can be reduced, and so just understanding, as businesses have already understood. The Ellen MacArthur Foundation and the Courtauld Commitment have big businesses that are involved. For example, Coca Cola is starting to look at how it might produce more recyclable bottles for its drinks. A whole host of different businesses are looking at what they might do with their food waste in terms of minimising food waste. In London particularly, we are going to see what we might be able to do at programme level around some of the things that the Assembly have talked about in terms of plastic bottles and coffee cups and so on. As we mentioned in the Strategy, we are investigating ways that we might help with that.

**David Kurten AM:** Thanks.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Just to add to that, through LWARB, the Resource London Programme, which is a partnership between LWARB and the Waste and Resources Action Programme (WRAP), will continue to run the Recycle for London campaign, the office communications facilities to local authorities, so that we have some consistent messaging on reduce, reuse and recycle across London.

We will be continuing to work on the Love Food Hate Waste campaign. It raises the profile of domestic food waste production and so how we go about our daily lives and when we get to the end of the week and we empty the fridge of food waste, which is a travesty, and what measures we can take along the lines to reduce that. We have the TRiFOCAL campaign programme through them, which is again looking at food waste and has European Regional Development Fund (ERDF) funding. Then we have also set out in the Strategy that we want to work with the Government to investigate deposit return schemes and increase access to tap water in London.

**David Kurten AM:** Thanks. There does not seem to be a target in the draft Strategy for reducing the size of London's waste stream. Why is there no target for that?

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** There is a target. It is not very obvious to start with. The Emissions Performance Standard, which is the carbon-based metric that we also measure London's waste management performance against, does include waste minimisation in terms of the reduced carbon output of the performance in which we manage waste within London.

The reason there is not a set target on prevention is it is quite difficult to take a tonnage-based approach to prevention because what you are seeking to do is tackle all material streams and reduce all material streams, which have a variable weight to them. Food waste is relatively heavy and we do have a target in there to reduce food waste and associated packaging by 20%. When you start to look at other material streams, it is very difficult to accurately predict what the interventions would do in terms of reducing weight in terms of a weight-based target.

**David Kurten AM:** Do you have a target for landfill weight or anything like that? You mentioned food. Do you have a specific target for food waste in terms of tonnage?

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Yes. The landfill target is for zero biodegradable and recyclable waste to go to landfill by 2026.

**David Kurten AM:** All right, thanks. What activities in waste reuse would you hope to support? How do you see the GLA policy developing in waste reuse? You did mention zero target for landfill by 2026, but is there anything else you want to do?

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Yes. Through LWARB and the Circular London Programme as well as the London SME fund, which is run out of this organisation here, which is a part follow-on from London Green Fund, there is £17 million to invest in circular economy businesses over the next three years. We are not being prescriptive about which circular economy businesses to support because the market will come forward with circular economy opportunities when they are appropriate for both the product and the service. Is there consumer demand for this and is there a circular economy-based solution in which to approach this?

Just for example, some of the businesses we have been working with to date: we have been working with Restart, which is a small business that encourages people to bring their defunct electrical items. They do not just repair them; they show the individual, the owner, how to repair and maintain those goods, which is about extending product life. We have worked with Globe Chain, which is a programme that provides a platform for developers to put forward their excess building construction materials on the platform for other developers to bid in, so it is online platform for large case materials. We work with Snacked that produce fruit jerky out of fruit and vegetable waste that would otherwise have gone to landfill. There are numerous others.

I suppose the other programme to mention is the Mayor's Entrepreneur Programme. We have created a number of circular economy SMEs through the Mayor's Entrepreneur Programme over the time period and we will focus more on those going forward. We have the likes of the Ooho! programme, produced by Skipping Rocks Lab, that is producing drinking water in little bubbles, which is a great example of the innovative ideas that come forward when you do not constrain the programme to only these particular areas.

**David Kurten AM:** Thank you.

**Tony Arbour AM:** Can I refer you to the point that I made earlier about short-term targets during the current mayoralty? Perhaps we could have some relating to this aspect of your work. I am particularly interested in the entrepreneurial thing that you just talked about. I misheard you. I thought you said, "Fruit turkey". I was quite looking forward to that.

Moving swiftly to what I have been instructed to ask you about, it is in relation to recycling of household waste and how you expect boroughs to change their past approaches to household recycling. I note, for example, that in the report, among the things that you suggest are smaller bins and different frequencies of refuse collection. I would be interested to know really which of these you favour.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have set out very clearly what we require boroughs to do, which is to collect a minimum of six dry recyclables at kerbside and preferably also do the same for flatted properties. We know that that is very difficult in flats, but we will be looking at that through the new London Plan for new developments. We want a separate food waste collection because, as we have talked about before in terms of the previous question from Assembly Member Kurten of reducing waste and the circular economy approach and so on.

We have been very clear that the ability for boroughs to meet that target - and we have the modelling from WRAP - is constrained in London because we do not have the heavy garden waste and so on. Therefore, we are trying to maximise that by giving boroughs the opportunity to recognise that commercial waste collection will help meet the municipal waste target that the Mayor has set of a 65% reduction by 2030. How boroughs do that we are leaving to them to do.

We know that there are lots of innovative approaches that boroughs are taking. The South West London Partnership, for example, is four boroughs that have looked to a very unique approach that we want to be replicated across London, where they have reviewed their waste collection and waste disposal contracts. They are doing joint procurement, which has meant that, for example, they are no longer having the situation where refuse trucks are having to crisscross boroughs. They are taking more efficient routes, which means they reduce their vehicle kilometres, which means they are able to save costs, which they are able to then recycle back into the service.

**Tony Arbour AM:** Is there anything which the Mayor particularly favours? The two items I picked out are the two that are in the report, i.e. the smaller bins and the frequency of collection. Are you completely agnostic as to the way it is done?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** As I have said before, this is a borough service. The boroughs know exactly how they should be delivering for their residents and for the business customers there and so it is up to them how they deal with that.

**Tony Arbour AM:** What business is it of the Mayor, then, if it is entirely a matter for the boroughs?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** The Mayor has a duty to produce a Waste Strategy for London and to set out how he best thinks that should happen by setting out broad policies and broad targets. The implementation of that, as I have said, is left to the boroughs to set out. We provide guidance through LWARB, which is a partnership with the boroughs, and WRAP. Very many other expert organisations have set out a lot of evidence on how management of waste collection can be implemented. It is for boroughs to look at that evidence.

**Tony Arbour AM:** Does the Mayor actually have any power to enforce any of this?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Boroughs are required to be in general conformity with the Strategy and the Mayor has powers to direct the borough.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** The Mayor's power of direction is where the activity that a local authority is going to undertake will be detrimental to the implementation of the Strategy.

**Tony Arbour AM:** Could you possibly give me an example of what a borough might do? Let us suppose there was a strike, as we have just had in Birmingham. Are we saying that the Mayor of London, unlike the Mayor of the West Midlands, could come in and order the work to be done?

**Leonie Cooper AM (Chair):** Can we not do it in the context of a strike? We are trying to focus on waste hierarchy and recycling. Could we do it instead in the context of boroughs, for example? Could you tell us how many boroughs currently separate out food waste, which you have said is something that is in your Strategy? Let us try and fix it to the Strategy.

**Leonie Cooper AM (Chair):** You have just said you want six kerbside recyclables collected and you want all boroughs to have a separate food waste collection. That is in the Strategy. However, not all London boroughs do a separate food waste collection.

Can you answer Tony's point about what power the Mayor has to make boroughs or in some way enhance their likelihood or some other set of words? Can you please explain to us how you are going to persuade them to do a separate food waste strategy, which is in the Strategy but which is not carried out in all boroughs?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** The requirement is for boroughs to be in general conformity with the Strategy. They are required to produce waste action plans and, in the Strategy, we have a list of some of the things that we would expect boroughs to do. They bring those forward and the team will review whether the plans that the boroughs have put forward are sufficiently in general conformity with the Strategy. That means taking a considered view which is in discussion with those waste authorities about their ability, their performance, whether they have stretched themselves or whether they are really doing the minimum. For example, on food waste collections, we would seek to understand why boroughs are not doing food waste collection, what they might be able to do to start moving to a food waste collection down the line and taking all of those into account, the Mayor then signs off their waste Strategy. It is then for boroughs to implement and deal with whatever they have to deal with.

Ultimately, the Mayor does have a power of direction but that is sort of an extremist power that any Mayor would be reluctant to use. It is about partnership with the boroughs and we have a very good partnership with the boroughs on the LWARB and in many other aspects. That approach belies the fact that boroughs work to take a good approach to waste management but where they do not, then the Mayor will seek to use his powers, starting with the general conformity power.

**Tony Arbour AM:** It is pretty toothless, really. I have been here from the very beginning and I cannot recall the Mayor - any Mayor - intervening with a matter which is entirely within the purview of the local authority, whether it be an ordinary planning matter when something is not in general conformity to the London Plan.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** It would be illegal for the Mayor to do that.

**Tony Arbour AM:** I cannot think of a single case. In effect, were I still to be the leader of a borough and the Mayor were to come to me and say, "You are not recycling enough food waste", or, "Your bins are too small", just quoting examples that are in there, I would be quite justified - and I am quite certain that my council taxpayers would support me - in saying, "Get your" - I nearly said, "tanks off my lawn" - "refuse collectors off my lawn". Frankly, you only have powers of encouragement. Is that fair?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** No, it is not fair. I have just spelled out exactly what the Mayor's powers are. He has the powers to ensure that the boroughs are required to be in general conformity. Where they are not in general conformity, the Mayor has powers of direction. How he chooses to use them and when he chooses to use them would depend on the particular case.

**Tony Arbour AM:** I see. You believe that those powers, you accepted, would only be used in extremis and that boroughs are going to say to the Mayor, "Gosh, we read your plan. We think it is absolutely wonderful. It is perfectly true. We are recycling 10% less than the borough next door and the Mayor has told us that we have to recycle a bit more and, because the Mayor has told us, we will".



**Leonie Cooper AM (Chair):** In fact, I am very happy for you to tell me how many London boroughs currently do not recycle or do something else with their food waste and allow people just to put it into their black bag rubbish and provide no alternative. How many boroughs still do that?

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Two thirds of the boroughs provide a food waste collection service. Not all of those are separate.

**Leonie Cooper AM (Chair):** That is one third that do not.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Twenty-two out of the 33 local authorities provide a food waste collection service.

**Leonie Cooper AM (Chair):** They do. For those 11 boroughs that do not, let us answer Tony's question in strict reliance on those 11 boroughs. You might meet with them. You might discuss their refuse collection and diversion of food waste volatiles to, I do not know, anaerobic digestion, let us say, or something like that. You have met with them. They are still pretty reluctant because they still feel a concern about their council taxpayers and that this might involve them in capital costs relating to the purchase of new plastic bins to put outside people's houses. What do you do then? When do you get to the point of directing them to do something?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** I cannot give you an exact answer because each case will be different. You have to look at each of those boroughs' performances. The recycling targets we have set are averages for London.

One of the questions in the consultation document is about whether we should be setting boroughs specific targets which recognise then where they are, what they are doing and whether they have the capacity to do more, which might then pick up the issue about food waste. If you are not doing it, then maybe you should have a higher target and, therefore, you can pick up other waste as well as the food waste. We have to take a specific case-by-case review to understand what the circumstances are. The boroughs will make a case for what they can do. We will review that and make a case for why they could do more. It is a negotiation.

However, where we feel that they are able to do more and they are not, then the Mayor is able to direct. He then chooses, according to legal advice and so on, when and where he takes that approach or how he takes that approach.

**Leonie Cooper AM (Chair):** The Mayor has those powers. It is not that he is toothless. He has those powers.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes.

**Leonie Cooper AM (Chair):** Until now, the GLA has preferred to work with those local authorities to persuade, which is the word I used earlier, rather than to enforce.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes. There have been previous Mayors who have not done that, as I understand. The recent Mayor and the current Mayor have not.

**Leonie Cooper AM (Chair):** So far, persuasion, but there are teeth there, Tony.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** I would just add facilitation as well. Through Recycle for London, the Resource London Programme, which is a partnership between LWARB and WRAP, has £8.7 million to invest in local authority recycling collection services and assisting boroughs to achieve the Mayor's targets within here of the request of providing six materials kerbside and food waste. That continues to draw in other investment.

It is not sufficient and we are quite clear in this document what the costs are, if they are not offset through income generation or reduced landfill costs, but there is a programme there to provide support, which is the first step.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Just to be clear, the Mayor is absolutely serious that he has set a very challenging target for increasing recycling in London; 65% by 2030, and he wants to see that delivered.

**Tony Arbour AM:** Through you, Madam Chair, that is not awfully challenging by 2030 and that is the reason I have asked for the immediate milestones to be set out. What does he expect to do by next year and so on? I have recalled an example of when the Mayor did intervene in relation to waste and that was the new incinerator where --

**Leonie Cooper AM (Chair):** This Mayor?

**Tony Arbour AM:** Yes, in fact both Mayors, from memory. Mr Livingstone [former Mayor of London] was not very keen on having the incinerator. Was it Beddington?

**Leonie Cooper AM (Chair):** Yes, Beddington.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Beddington.

**Leonie Cooper AM (Chair):** There is Beddington in southwest London in the London Borough of Sutton, Belvedere in the London Borough of Bexley and a couple of others.

**Tony Arbour AM:** Yes.

**Leonie Cooper AM (Chair):** Shall we come back to the specific questions or have we moved on and shall we come to Shaun [Bailey AM], who has some more?

**Tony Arbour AM:** If you feel I have been inadequate in some way, Madam Chair, please take over, but we have established a fundamental point here that the way this has to be done is by encouragement, not by any threat. If I may, the real form of encouragement is by giving cash.

**Leonie Cooper AM (Chair):** Or saving cash because, if you remove food waste from your black-bag waste, the gate fees for landfill are approximately £150 a tonne but the gate fees for putting it in an anaerobic digestion are maybe £40 a tonne. That is a huge gap.

Sorry, before we come to you, Shaun, and your selection of questions, do you think we should set long-term 100% targets for recycling or similar sustainable waste management as with the zero-carbon city goal? Do you think we should be setting those kinds of goals?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have had a look at that. As I have said, the difficulty that London faces, in that we do not have a lot of heavy garden waste in order to help contribute to the minuscule waste targets, which are waste-based targets, means that it is pretty much impossible to do that on purely recycling. This is why we are taking the circular economy approach. If you design out the waste that has been produced in the first place, with what is left, we have said that we want zero biodegradable recyclable waste to landfill by 2026, and the very challenging 65% target should start to get us towards a zero-waste city. It is very difficult for us just to say that.

**Caroline Russell AM (Deputy Chair):** You were just saying we have a problem. We do not have lots and lots of heavy garden waste. That may make a difference in terms of proportions of waste, but reducing the amount of material that gets sent to landfill is an absolute thing and is completely separate from whether it is a leafy borough with lots of garden waste or not. It seems that the big issue in terms of getting people to recycle more is partly the housing stock and partly the ease of recycling. Many boroughs are not making it easy for people to recycle their food waste or to recycle any materials. Residents get discouraged and then they stop doing it.

It seems that with the cuts over the years and from what I have seen in the borough where I live is less and less energy put into encouraging people and explaining why it is helpful to recycle and why that is the right thing to do. That seems to be something where the Mayor could be really helpful by giving those messages very strongly across London, using the Mayor's broadcasting capacity to help those authorities who are struggling with years and years of cuts. They have many fewer staff and, if the Mayor is doing the messaging, then the boroughs can focus on the practicalities of making sure they make it easy for people. I do not know if that --

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes, I absolutely agree and Andrew [Richmond] mentioned a couple of campaigns. Recycle London is that general awareness-raising campaign and the LWARB have done a lot of work in understanding the market segmentation essentially and what the drivers are for different age groups. They set them into various typologies, geography, access to services and so on. That is absolutely something that the Mayor is supportive of and we are going to be supporting, the Love Food Hate Waste campaign and others. That is absolutely right. We will be carrying on doing that.

Alongside that is some technical assistance, practical assistance programmes, funding programmes again through the LWARB, which we have just talked about, which is how the boroughs might look at the difficulties of recycling in flats. There is funding available now for local authorities to look at developments in their areas because each of those have, in the past, a general approach of how you might boost recycling in flats. The funding programme is looking more specifically about typologies. How might you encourage recycling there in flats?

The policy we have set out where we are now requiring boroughs to collect six dry recyclables at kerbside properties; separate food waste collection will help with that. Then, for new developments, through the London Plan, we are looking at ensuring the steps the economy is taking, the approach taken in the building of new developments and the recycling and reuse of the materials that are there that the developers are using but also then how the developers themselves can facilitate more recycling. As we know, because of the housing supply and so on, that is more likely to be flats that are being built. How do we make it easier for the people to recycle?

Organisations like the LWARB and ourselves are looking at innovations through working with other cities in the UK and also internationally with the C40 and others to understand what might be potentially possible. They are also looking at what we are doing in the circular economy and saying that this is pretty amazing. London is a leader in this approach and we want to keep that mantle.

**Leonie Cooper AM (Chair):** Should you be setting a target for biodegradable waste to go to anaerobic digestion rather than being incinerated? Should not 100% of biodegradable go to anaerobic digestion?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We set one to not go to landfill but it is something we would consider. We would be very interested in people's comments and consultation responses on that.

**Leonie Cooper AM (Chair):** The advantages of anaerobic digestion in terms of producing green gas and then stuff you can put back on fields is quite a new --

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have just opened -- it was in Dagenham, was it not, the ReFood that has just been opened?

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Yes. We have just opened a 150,000-tonne capacity plant. We have another plant in south London and along the borders in north London as well. We have lots of capacity and lots of enthusiasm.

**Leonie Cooper AM (Chair):** People should be using it. Lots of capacity; therefore, let us get the food waste into the anaerobic digestion.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Yes, and the media love it as well and so you have a lot of media support as well.

**Leonie Cooper AM (Chair):** Yes, although maybe you need to wear a peg on your nose when you go to visit these places.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** No, I should say, absolutely, that is definitely a myth. It is so clean and not smelly at all. It is amazing. People should definitely go and visit. I am sure they would love it.

**Leonie Cooper AM (Chair):** Visiting the anaerobic digestion plant at the Thames Water Sewage Works, of course, there have been aromas for other reasons.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Aromas water.

**Leonie Cooper AM (Chair):** We are now going to move on to promoting the growth of the low-carbon economy. Thank you.

**Shaun Bailey AM:** How the Mayor will promote the growth of London's low-carbon economy?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Again, through the approaches that we have taken on many of the aspects we have talked about, which is setting a policy direction, setting a vision for where the launch should be, setting policies that we might be able to help with. We have policies around, for example, moving to zero-emission vehicles. That is sending long-term signals to businesses and manufacturers that this is where we are going. This is a low-carbon economy approach. Vehicle manufacturers are now moving into zero-emission vehicle production.

I will give you an example. The zero-emission capable taxi policy and the requirement to be zero emission capable in 2018 has meant that Gely, with partners, the London Electric Vehicle Company, have now opened up an investment, a new factory up in the Midlands where they are producing zero-emission taxis, which will be seen on our streets very soon. That was a £300 million investment. Unfortunately, it could not be focused in London but we are happy to see our policies helping the rest of London, jobs and growth. That factory that has opened up has extra lines and capacity where we know they are going to be building other electric vehicles, hopefully the vehicles we need to see for our freight, low-carbon light goods vehicles and so on.

That is just one example of how policies set the long-term framework and encourages investment to come in. That then leads to the supply chain becoming more low carbon and so on. That is one aspect; similarly, on waste, through our air quality policies and so on.

**Shaun Bailey AM:** Are we doing anything to support the creation of businesses in London? If you read the Government's low carbon report, apparently, as a country, we are in need of low carbon as a formal policy point of view? I wondered if the Mayor could do more to encourage London businesses that do not yet exist to come in and be involved in this market. Is there more we could do?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We are getting into the realms of the Economic Development Strategy, which is being developed at the moment. Rajesh Agarwal, the Deputy Mayor for Business, is developing that at the moment. The policies that we set out in the Environment Strategy are very clear about where we think we see growth in terms of stimulating the demand, anything from, as I have mentioned, manufacturing to professional services, and that is more of a London thing. The advanced local services are the terminology for the sector but it is essentially the architects, the financial consultants and financiers over in the City, the Corporation of London, through to engineers and so on. These are all services that are gearing up and have geared up to support the development of the low carbon economy from development through to some of the stuff that Andrew talked about, through the entrepreneurial SMEs that are coming up with new products and new services.

Andrew and Patrick have talked about some of the programmes that we have in place already to support that and the Economic Development Strategy, I am sure, we will talk more about that, too.

**Shaun Bailey AM:** Can you give examples of specific parts of the procurement situation that we have in the GLA and the Mayor has maybe asked other people in the business to be sustainable? There is one thing about generating demand; I feel London could have bought more electric and hybrid buses. They could have done more around that; the Mayor certainly could have done. Are we doing stuff with our procurement system within the GLA and are we encouraging and leading the way to have other London businesses copy that example?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** We have revised our procurement policy to cover the £11 billion worth of procurement that the GLA group, as a whole, more or less is responsible for, to become a responsible procurement policy. That covers a whole host of issues from the living wage, the London Living Wage through to some of the environmental aspects. In terms of the procurement policy now, anybody issuing a contract now from the GLA group will be asked to look at seeking contractors to come forward to look at some of the standards that we have set out and approaches we have set in the Environment Strategy on anything from how they might help reduce carbon, improve air quality, reduce waste and promote the circular economy. That has to be taken, assessed as part of the procurement process but that is now setting the standard for procurement in London through the GLA group and through the Waste Strategy as part of the general conformity approach. Any contract that is coming up for renewal by boroughs should also take that same approach.

**Shaun Bailey AM:** Just one last question, Chair. Just to focus on TfL because TfL is where the largest amounts of our local connected budgets are, what evidence is there that this policy and all of the ambitions you have are uppermost in the mind of TfL? For instance, if we talk about the reduction needed from transport, TfL is a big part of that. Its own emissions and the regulatory framework it gives to London is where you drive, where you park and all the rest of that. Are you satisfied that TfL are responding as best it can to the ambitions laid out in your document?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** The procurement policy has only just been published. I have to go back and now start checking on that.

In terms of the approach, TfL was completely involved in the development of that policy and very supportive of it. You will have seen that the policies in the Mayor's draft Transport Strategy and the draft Environment Strategy are completely aligned. The Deputy Mayor for Transport, Valerie Shawcross CBE, and I have worked very closely to make sure that our policies are really integrated and, in fact, seamless. We are doing the same with the other Deputy Mayors. I have the utmost confidence that TfL are taking this seriously and our job now is to make sure that the approach, that policy is now being implemented and we will be monitoring that.

**Shaun Bailey AM:** OK. Thank you, Chair.

**Leonie Cooper AM (Chair):** We have been talking here about the low-carbon economy and one of the things that we were interested in is how have you quantified the demand effect of the policies across the Environment Strategy such as carbon reduction, recycling increase, all the transition to zero-emission vehicles? How have you been working on that?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** That is a difficult one, I admit. I would welcome some ideas. We have some modelling and we can test some of these things by going out and doing surveys and so on. It is a very complicated and complex one.

**Andrew Richmond (Policy & Programmes Manager – Waste & Green Economy):** Yes, it is. We have done it on various sectors. The circular economy route map has identified that those material streams, if we transition to a circular economy on those five material streams, that can add £7 billion to the economy by 2036. It is a good, nice big number. We have also costed the actions within the route map itself that we have identified that either the LWARB, the GLA family or others could implement would contribute £2.8 billion of that £7 billion.

In terms of the low carbon goods and environmental services, we are aware or we track that low carbon goods and environmental services sector within London and that is worth approximately £34 billion to London's economy each year and there is potential for that to increase up to about £45 billion. We have measured some potentials and some opportunities but they do often require to be done on a case-by-case basis. It is very difficult to see it overall.

**Leonie Cooper AM (Chair):** It is quite hard to predict because we are talking about trying to model what might happen in the future when people who have moved over to doing something else with things that, until recently, they deemed to be things to be thrown away. How do you model, as you develop putting more volatiles into AD, what kind of business comes from that that would then serve the needs of London? The same with the zero-emission vehicles: how does that change and with the infrastructure requirements as well? I suspect we will be coming back to this.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** Yes. We would welcome views from response to consultation on either, a good example, pilots or a practice, rather, that has happened elsewhere or ideas on how we might do that. It is a question that comes up and we would quite like to be able to answer it. Something like that we could pilot, we would be very happy to do that.

**Caroline Russell AM (Deputy Chair):** The first question I have is about the Mayor's economic policy and what advice you have for the people writing that in terms of how the economic policy can best support the environmental goals in the Environment Strategy.

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** As I have mentioned before, it is the same approach, pretty much. It is about recognising the potential for the low carbon and circular economy and we have done a lot of research. I am pleased to say that - just like working with Valerie Shawcross CBE, Deputy Mayor for Transport, and Jules Pipe CBE, Deputy Mayor for Planning, Regeneration and Skills - Rajesh Agrawal, Deputy Mayor for Business, and his team have been very interested in the data that we are producing and very supportive about taking that approach. It is not just coming from internal officers, officers internally to the GLA and others. We know that a number of businesses have taken this approach and they are seeking for a policy framework to come out of London and Government that is supportive in what they need. Things like setting a really clear direction, therefore, they are able to have certainty about their investments and where to invest and when to invest. That applies from anything from the Environment Strategy policies to where we want to go on air quality and carbon for electric vehicles, through to businesses, to enable businesses to invest in the long-term. That long-term signal is absolutely critical; representing London in those discussions, making sure that London has what it needs to support businesses, the discussions with Government particularly.

Then what can we do practically through a whole host of issues from providing tactical assistance, some of the programmes, we have been helping SMEs, to understanding where new skills are going to be, how our current skillset might need to be migrated to support the new low carbon economy and how that is going to be supported through the further education sector and so on. Talking to employers and understanding what they need and what help they need; as I have said, those are all things that are really the purview of Rajesh [Agrawal] in developing the Strategy for the Mayor. We have set out the sorts of things that we are very keen on.

One of the great things that we have worked on and a good example of this is the approach you want to take is the work we have been doing on cleantech, which is understanding what the potential is, where are we and what is needed. Through the work, for example, the London Sustainable Development Commission has done and through some of those commissioners, through the teams here, the Betters Future programme that has just been launched which is providing space for cleantech SMEs to come together and innovation support to help those cleantech entrepreneurs with the advice and technical assistance, therefore, they can start to grow. Then how do we make sure that the framework is right to keep those SMEs, those entrepreneurs in London producing value for London and Londoners?

**Caroline Russell AM (Deputy Chair):** Do you think there is any tension between the Mayor's potential Economic Development Strategy, him wanting London to thrive and to have a thriving economy and the need to make sure that we have a low-carbon economy?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** No. He was very clear in *A City for All Londoners* and in subsequent discussions. His aspiration is for good growth and that means growth which helps Londoners thrive but is not at the expense of the environment which means taking a low carbon, circular

economy approach. The sorts of things that we set out in this Strategy are being mirrored in, I hope to see shortly, the Economic Development Strategy. We are very confident about that.

**Caroline Russell AM (Deputy Chair):** Great, then my final question is about investment. In the Mayor's main manifesto, he said that he would take all possible steps to divest the London Pension Fund Authority (LPFA) of its remaining investments in fossil fuel industries. How much investment do you think the Mayor can direct to the low-carbon sector? It seems that the bit in the Environment Strategy about divesting the LPFA has a few qualifications hedged around it. Just how ambitious is the Mayor over divestment?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** He is very ambitious. The LPFA has agreed a divestment policy. It is pretty much divested. Less than 1% - if not less than 0.5% - of the current portfolio is not divested. The LPFA has agreed a policy to make full divestment by 2020, therefore, that 0.5% or less should go. The difficulty is that is in passive investments at the moment, therefore, it is not in the direct control of the LPFA. They have to work with fund managers and get them to move but they have basically only a couple of years left to do that.

We have appointed two new board members; one who is particularly tasked to keep an eye on this and to work with the LPFA staff to ensure that policy is kept on track. That is a really important statement because we know that we should be moving out and putting money into fossil fuel companies where we are going to have stranded assets and so on. The more exciting part of this is that these are pension funds, massive pension funds and not just the LPFA but our own pension fund, the GLA Group's pension fund. Together, it is approximately £11 billion of assets which we should be exercising and using for the benefit of London and Londoners. Part of the job of those board members is to start thinking about how that might happen. That is not something they can do instantly and it is something that we also have to work with the Corporation of London because there are many other pension funds who are operating in London that we should be saying, "Invest in London's infrastructure". We know that we have an estimate in previous years of how much new infrastructure is needed in London from energy, water, waste, digital, transport and housing. These are trillions of pounds worth of funding that needs to be invested in London; billions in just new infrastructure for environment. These are, we would argue, not volatile areas because they are owned largely by public authorities, therefore, how can we start mobilising that investment? There are difficulties. It is trying to work with the Corporation of London's green initiative, and so on, to understand what the barriers are to get that investment in and what we can do and what the Mayor of London can do to set that, to give those pension funds and others certainty to invest more in London.

**Caroline Russell AM (Deputy Chair):** I am just thinking. Could we get the pension fund investing in energy for Londoners?

**Shirley Rodrigues (Deputy Mayor for Environment and Energy):** I would love to be able to see that but we would need to talk to them about what would encourage them to do that. We know that energy efficiency problem that we have in terms of retrofitting needs to be financed. That is not just unique to London. That is an issue that the Government has to grapple with too, but I would think: how we can mobilise pension fund funding into that area? It would be really exciting to do.

**Caroline Russell AM (Deputy Chair):** Yes. Thank you.

**Leonie Cooper AM (Chair):** On that intriguing thought, I am going to draw Item 6 to a close.

I would like to thank Deputy Mayor Shirley Rodrigues and Assistant Director Patrick Feehily, who have been with us throughout the entire session. I would also like to thank Andrew Richmond, who joined us to talk



about waste and the green economy, and I would also like to thank James Hardy and Peter North, who were here for much of the discussion about energy.