OFFICIAL REPORT
AITHISG OIFIGEIL

Net Zero, Energy and Transport Committee

Tuesday 31 May 2022

Session 6

The Scottish Parliament
Pàrlamaid na h-Alba

Tuesday 31 May 2022

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NET ZERO, ENERGY AND TRANSPORT COMMITTEE
19th Meeting 2022, Session 6

CONVENER

*Dean Lockhart (Mid Scotland and Fife) (Con)

DEPUTY CONVENER

Fiona Hyslop (Linlithgow) (SNP)

COMMITTEE MEMBERS

*Natalie Don (Renfrewshire North and West) (SNP)
*Jackie Dunbar (Aberdeen Donside) (SNP)
*Liam Kerr (North East Scotland) (Con)
*Monica Lennon (Central Scotland) (Lab)
*Mark Ruskell (Mid Scotland and Fife) (Green)

*attended

THE FOLLOWING ALSO PARTICIPATED:

Franziska Breyer (Green City Freiburg)
Collette Stevenson (East Kilbride) (SNP) (Committee Substitute)

CLERK TO THE COMMITTEE

Peter McGrath

LOCATION

Committee Room 2

Scottish Parliament

Net Zero, Energy and Transport Committee

Tuesday 31 May 2022

[The Convener opened the meeting at 09:31]

Decision on Taking Business in Private

The Convener (Dean Lockhart): Good morning and welcome to the 19th meeting in 2022 of the Net Zero, Energy and Transport Committee, which takes place in hybrid format. We have apologies from Fiona Hyslop, and Collette Stevenson joins us as a substitute. Welcome back, Collette.

At agenda item 1, we have consideration of whether to take in private items 3, 4 and 5. Item 3 is consideration of the committee's annual report; item 4 is consideration of the evidence heard today; and item 5 is consideration of our approach to an inquiry on ferry services. Do we agree to take those items in private?

Members *indicated agreement.*

Role of Local Government in Delivering Net Zero

The Convener: Our next item is an evidence session in our on-going inquiry into the role of local government and its cross-sectoral partners in financing and delivering a net zero Scotland.

We are delighted to have a representative of the city of Freiburg in Germany's Black Forest—a city that is well known for its net zero policies. We will use this short session to explore what local authorities in Scotland can gain from the experience of Freiburg when it comes to their responsibilities in delivering net zero. I welcome Franziska Breyer, executive manager of the climate neutrality staff unit, environmental protection office, Green City Freiburg.

Good morning, Ms Breyer, and thank you very much for joining us. It is a pleasure to have you in front of this committee of the Scottish Parliament. We have allocated around 45 minutes for the session, and I believe that you would like to start with a brief opening statement.

Franziska Breyer (Green City Freiburg): Thank you very much for giving me the occasion to tell you something about our experience in Freiburg with sustainable development and climate protection. I am a forester by profession, with the state forest administration, but I have worked quite a bit in the city administration—for about 30 years—in different functions. I am now in charge of the climate neutrality staff unit because, although Freiburg has for a long time been committed to sustainability and climate protection, we realise that we have to move faster and be more radical and more efficient in that field of action.

I hope that I can answer all your questions. If I cannot, I will take note. I am curious. I have been to Edinburgh—my daughter once worked there, for half a year—and I liked the city very much.

Exchanging experience and information that moves the world, especially at the local level, is very important to achieving net zero and climate neutrality. Without the cities and local authorities, it will not work. I therefore hope that I can contribute something to your level of information. I will do my best.

The Convener: Excellent. Thank you very much indeed. I completely agree that the exchange of good ideas in the global challenge that we all face is a very good thing to do, so thank you once again for being with the committee.

My first question relates to a common challenge that we face in Scotland, which I believe that you also face in your area: retrofitting houses to make

the fabric of homes more insulated, combined with the decarbonisation of heating.

Will you talk us through the different measures taken in Freiburg in the area of energy efficiency and heat decarbonisation? What role has the private sector played in the delivery of the decarbonisation of heat?

Franziska Breyer: There are two parts to your question: how much energy do buildings and houses consume and how do we provide that energy?

The first part already has a long history in Freiburg. At the beginning of the 90s, we defined a building standard for new houses being built in Freiburg. I have to say that, apart from that, the building stock is also a big challenge. However, it is naturally easier to achieve a high standard when building new houses, and we have always had the ambition to be a little bit ahead of state law and federal regulations for housing. Low energy housing therefore already has a tradition of 30 years in Freiburg.

If state law and federal law do not allow us to define too high a standard, we put it in the contracts. If we sell land for investors to build houses on, for example, we put it in the private land contract if the law does not allow us to define a very high standard. We define our own standard and try to regulate that via the land contracts for housing. If we have areas of the city where new building is taking place, we try to define the standard as high as possible—knowing that the real estate market is really on top in Freiburg. It is very pricey and costly to live here, and the real estate business really makes revenue. It can therefore afford a high energy standard. Naturally, that also means lower costs for heating for the people.

We realise that it is easy to have a very high standard when building new houses. However, how to refurbish and retrofit the housing stock is a challenge. In addition to the subsidy programmes that we have from the state or federal level, we also have a local subsidy programme for Freiburg for our citizens and house owners where they can get subsidies if they want insulation of their roof, new windows or even solar panels.

We try to have a mixed strategy. We define high standards for new buildings. However, we cannot define standards for existing buildings, so we try to have a pull strategy there. In addition to the regulations at the state and federal level, we also try to have our local standards.

It is not enough only to get the energy demand down; we also have to think of where the demand for heating comes from. In former times, we used to have several sectors in the energy field such as mobility, industry, private households and enterprises. However, we now have the coupling of sectors, which means that we have the technology at hand to get everything from renewable electricity. That means that renewable electricity power has really gained in importance.

We have our so-called master plan for heat for the whole city, which was worked out with the expertise of different engineers. We try to divide the city into certain areas. In the central area, where the housing is very dense, we put a focus on district heating, which must be decarbonised in the long run. On the outskirts of the city, where the buildings are not so dense, we put a focus on heat pumps.

First, it is about getting the heating demand down as much as you can and as much as the law allows you. Second, it is about trying to substitute the fossil energy with heat pumps in the areas where district heating might be too costly, because it is a huge investment to put those tubes underground. Fossil energy is still in the system in Freiburg; we still have lots of natural gas in the system.

In the inner part of the city, where the buildings and structures are very dense, we have district heating systems underground, and we try to put as much renewable energy into the system as we can. Living in the Upper Rhine valley, we also have some hope that we will be able to tap into geothermal energy, as that is an area where it might be valuable.

I hope that that answered part of the question.

The Convener: Absolutely; you have answered all my questions and more. Thank you very much.

I will ask a very brief follow-up question before I move on to another area. It is interesting that Freiburg is using contractual terms to go beyond existing legislation so that you have more freedom to increase standards.

However, my question relates to the source of decarbonised heat. It sounds like district heating is being used in urban areas and heat pumps are being used in more rural areas where the density is lower.

Franziska Breyer: Yes.

The Convener: That is a very interesting observation. Will you talk us through the engineering rationale or the technical reasons for that being the case?

Franziska Breyer: That is not already the state of play; it is the goal. That is the strategy that the municipal council has decided on in the master plan, and we are going step by step in that direction.

However, the goal is not to have district heating everywhere, because it is costly. Especially with

the refurbishment going on and new standards, the return on investment for putting a system of tubes underground for district heating systems will be less and less.

We therefore really have to stick to the areas where we already have district heating and try to connect the grids underground, and put a stress on more decentralised approaches such as heat pumps, which are fuelled through renewables—mostly from solar panels but also wind energy. We also have a small amount of hydropower and biomass energy in the system.

We try to have a mixed strategy and we work hand in hand with our local energy utility so that we have mixed energy. We already have a huge district heating system in the inner part of the city and we tried to connect the different grids. However, sometimes it is difficult. A part of the grid belongs to the clinic of the university, which still uses other technology. Combining the grids can therefore be tricky and a challenge. However, we hope that it will be easier for us to get geothermal heat into the system. The rest must come from big heat pumps or renewables. That is quite a challenge, because there is still a lot of natural gas in the heating sector.

The Convener: That is very interesting. I have one more question before I bring in other members.

What you are discussing requires collaboration between different agencies and institutions, because so many different agencies have different responsibilities. What institutions in Freiburg have been key to the successful delivery of net zero? Is it all about local government or has there been a close working partnership between local and federal government?

Franziska Breyer: That is always nice to talk about, because we can go back in time a little bit in relation to the tradition of energy issues and the public debate around them being important. In the 70s, we had what we call the big bang of our environmental movement when people from the city and the local farmers successfully protested against a nuclear power plant that was supposed to be built close to Freiburg.

From that success, we know that public debate around energy is important and that we can have an impact on politics. We are lucky in that, but sometimes it is also very exhausting to have a population of citizens here in the city who are very interested in and committed to energy issues. They said, “Okay, if we do not want nuclear power, what is it that we want?” In the 80s, it was about the resources; since the 90s and the Rio conference, it has been about climate action.

There is sometimes a very controversial debate between the citizens and the administration. We also have lots of stakeholders here in Freiburg—such as the Fraunhofer Institute for Energy Economics and Energy System Technology and other internationally renowned institutions—that can contribute. No institution here can really survive without being committed to those issues.

That is also the case across all the political parties in the municipal council—maybe apart from Alternative für Deutschland, in fact, which we have unfortunately had for two years now, and which is not a very environmentally committed party. However, there is always a consensus about climate protection and sustainability among all the other parties, which makes it easy.

However, we have a population that is very self-confident and powerful and that says to us, “You must go faster” and “The budget is not big enough”. That pushes us and criticises us, and the media always mirrors that as well. That is sometimes tiring for an administration, but consensus is sometimes overrated. The worst thing for a city is if the people do not care. Being committed, quarrelling with the administration and having controversial debates—including in public—is good because it creates an energy, and from that energy comes a transformation process, which is very hard.

The administration is not very agile; sometimes it gets a little bit stuck. We therefore need a population of self-confident citizens who put pressure on us and say, “Go ahead, the next election is around the corner”. We have that very controversial but fruitful situation. Naturally, it is about not only the citizens but also the many institutions. For example, the university is a hub of information and new developments. We try to get the most out of that situation, which is sometimes controversial but always fruitful.

09:45

The Convener: That is fascinating; thank you very much.

I am sure that my colleagues will want to pick up on some of the issues that you have raised. Let me bring in Mark Ruskell, who joins us remotely.

Mark Ruskell (Mid Scotland and Fife) (Green): It is really interesting to hear your evidence, Franziska. I will pick up on your last point about how engaged citizens are in Freiburg. Will you talk me through the formal mechanisms for engaging citizens? Is there a danger of what we call consultation fatigue, as a result of people being constantly asked about public policy? What sort of mechanisms do you have for engaging citizens? Are there citizens assemblies or particular referendums or discussions on particular issues? How does such engagement manifest itself?

Franziska Breyer: We have a tradition of some instruments, but the process is really speeding up and we now have a variety of new formats of citizen participation.

In all the committees of the municipal council, there is a strong tradition of there always being people from institutions and expertise from outside the municipal council who can discuss and contribute, even if the decision is taken in the council later on. We try to get as much expertise as possible involved in the process beforehand.

We also have referendums about very controversial things, some of which are also controversial from a sustainability point of view. For example, we had referendums in relation to the building of a new soccer stadium and the planning of a whole new city district.

Freiburg is a city that has a very high life quality. It is also a famous and popular university city and many people move here—not only students and young people, but people who are going to retire, who say, "I would like to spend the rest of my life in nice surroundings." We therefore have a population that is increasing, whereas the population in eastern parts of Germany is decreasing.

There are land use conflicts and resource conflicts. Building a totally new city district naturally enlarges our carbon footprint, as it involves using land and resources and lots of grey energy. It was therefore a controversial debate in the municipal council. We said that it was such an important decision that we would ask the whole population and that everyone would be able to vote. It was only when a rather significant majority said that a new city district should be built that we said okay. We said that we would have a climate neutrality concept, which would mean that it would be a new city district where nothing would be burned and where all the heat and electricity would come from renewables and waste energy from sewage and waste water.

It was the same with the new soccer stadium. Although it is a climate-neutral stadium with lots of panels on the roof, it uses grey energy, as well as space. That was also such an important decision that there was a referendum for the whole population.

Referendums are not only offered by the administration; citizens, too, can claim a referendum. If they get enough votes—I do not know exactly how many, but let us say 2,000 or 5,000—they have the right to demand a referendum.

Naturally, we now have movements such as Extinction Rebellion and Fridays for Future, as well as many other citizen groups that have a strong impact, which have built up their own expertise and ask the administration, "Why this and not that?" and "Why are you not going fast enough?" Especially in the transport and mobility sector, we have Mobilitätsentscheid—as it is called in German—where citizens ask the others and have a vote on it. That really moved the administration, such that we are now working on a climate mobility plan.

We have two initiatives, one of which is with bordering counties; it is about how Freiburg and the two bordering counties could get 100 per cent renewables. It involves representatives of citizens from the two counties and the city working together on the plan and confronting the administration. We also have Klimaentscheid, which is like a referendum for climate protection. There is therefore a biodiversity of initiatives.

We are in a situation of urgent climate action. In Germany, we had the pandemic, and now we have the horrible war in Ukraine, but the elephant in the room is climate action. We cannot put that aside and deal with the urgent problems first and only then take on the climate problem again.

The commitment of citizens and the pressure that is being put on the administration mirror the importance of the issue for our lives, for our future and—talking about climate justice—for many countries that are not as rich or well off as we are. Historically, we have had a carbon rucksack weighing high on our shoulders.

It is hard for the administration to handle that. Naturally, we have to stick to the law, and we have certain mechanisms that must be followed. We have to prove and counter-prove things; we cannot rush in. Sometimes, people say that we are so slow that we are like a snail or a turtle, but we are part of the executive and part of the system, and we do not have a better system yet.

However, we can take that energy and try to make something fruitful. We can perhaps exert some more pressure on climate action. If we do not act fast—much faster than we have done, even in Freiburg—we will experience turning points, and the future will not be fun, not even here in Freiburg. Climate change is happening here, too. We have already had years when our river has run dry.

Mark Ruskell: It is great to hear how you are harnessing that energy from citizens. We can certainly learn from that here in Scotland.

I will also ask you about your sustainability goals, which I think have been in place for a long time now. How do those influence policy making? Do you have a sustainability framework that you apply to policies? How do those goals influence the individual discussions that politicians and others are having?

Franziska Breyer: We have a staff unit for sustainable development and sustainability management. We have our own goals, which have been defined and decided upon by the municipal council. Those are very close to the United Nations sustainable development goals, which I think are from 2015.

There is a problem with the sustainability goals, however, and it is not a problem just in Freiburg; it applies all over the place, and it is also the problem with the SDGs. They do not all go in harmony. We have different SDGs, and the tricky thing is that they are not equal. We have something for the conditions of life, the ground that we walk on, the water that we drink, the air that we breathe and the temperature that we have to deal with, and we have other things that can be based on those. It is difficult to tell people and officers in the administration that we first have to safeguard our preconditions of life, and then we can add on the economy, social issues and so on.

We do not yet have a mechanism for how to deal with conflicts between the SDGs. It is easy to define them for education, housing, water resources, climate protection and social justice. In education, they are defined in such a way that, in general, what job someone gets is not connected with their social background. It is easy to define the goals; what is really difficult is to prioritise them. Sometimes, working in the climate action sector, we are confronted with attitudes like, “Ah, you think you rule the world because you think you are so important, but we are all equally important.” It is difficult to say, “That might be,” and that it is worth putting our brains and our hearts into every field of action but, if we destroy the ground that we walk on and our preconditions for life, we can work on cultural and social concepts as much as we want, but it will not last.

We have a magic triangle of sustainability, with social issues, economic issues and ecological issues, but those things are not equally important. We have to safeguard the preconditions of life here in middle Europe, too. If we do not do that, the other concepts cannot jump in. That is the problem with sustainability goals. We still lack a mechanism that is accepted by all stakeholders for prioritising things so that we concentrate first on safeguarding our conditions of life, and then everything can be built on that. If we neglect the ground that we walk on, all those good concepts will not work.

That is also a problem in Freiburg. Our sustainable development goals are all wonderful, and we talk about getting tax revenue for the city so that we can build kindergartens and repair the streets and bridges and everything else, but where do those taxes come from? How much do we pay in ecological money to get that revenue? All those matters are very difficult, as they are in Scotland.

Mark Ruskell: Can you give a specific example of where there has been conflict between the sustainable development goals and how that was resolved? Is it ultimately for politicians to resolve that conflict?

Franziska Breyer: It is an issue that our politics tends not to face up to, even in Freiburg. We tend to be happy with the goals. It is beyond question that our sustainability goals are good and that it is worth while for us to try to achieve them. Politicians—not only those in the city administration, but others—have a hard time confronting the conflicts between goals. It is hard for them to say which ones are more important, because we have lobby groups for every field of action. The conflict is not really addressed. We try to stick to the goals, which are good. We have all these goals—like in a catalogue—and we put them all together and stir them round and say that that is sustainability, but that is not how it works. There is still the task, as there is in Scotland, of getting the priorities right while not sending a message that other fields of action are less important, fascinating or worth while. We have to get the priorities clear, but the conflict is not really on the table; rather, it is in the background.

Mark Ruskell: Thank you for that.

I will move on to another question. I was interested to hear earlier that you are a forester by background. Can you say a little more about how municipal forests are helping to achieve Freiburg’s net zero targets and to restore biodiversity?

Franziska Breyer: Yes, I am a forester and I really love the forest, but going into the city administration meant that I did not have to leave Freiburg, whereas working with the state administration would have meant that I would have had to move around the whole country for the next 20 years. I have left the forest a little bit, but I still have to deal with our forest office here in Freiburg.

We have a local forest of about 5,000 hectares—the lowland forest and the upland Black Forest, up to 1,200m, is our city territory. We manage it on an ecological basis. Since the mid-1990s, we have had a certificate from the Forest Stewardship Council, which means that we do not do huge clearcutting or use pesticides.

We limited the non-indigenous species to a certain percentage, and we try to combine the social benefits with the natural benefits of forestry. People can go hiking or mountain biking, and use the forest for playing sports or just for recreation. We value the social function of the forest, but we also want to produce timber. We produce some 35,000m^3 every year on a sustained-yield basis. That brings revenue, but the forest as a whole

does not make a profit, because the infrastructure required for the ecological functions and benefits and the social benefits is costly.

However, money comes in for the timber, and we really try to value sustainability. There is a long tradition of that in forestry—200 years ago, it was fixed by law that the forest should be managed on a sustained-yield basis. It is also a carbon sink, which means that we try to promote building and construction with timber. We have a small subsidy programme whereby house owners or investors here in Freiburg can get funding from the city administration if they undertake innovative housing projects that use timber or a certain percentage of timber; sometimes the materials have to be combined.

We strike a balance for the forest between how much carbon is stored in the standing stock of trees and how much is substituted. If I build with timber, I do not use steel or glass, and especially not concrete, which has a huge energy backpack, as we call it. Concrete, and cement especially, is a real problem in building—it is much worse than bricks, for instance.

10:00

We also say that it is a temporary sink. Our old cathedral in the inner part of the city, which is from the middle ages, has fir logs in it that have already been storing CO_2 for 800 years. That cathedral miraculously survived the second world war and the CO_2 from the middle ages is still stored in that timber.

We think that burning biomass pellets is not the first choice. Everyone talks about sequestration and taking CO_2 from the atmosphere, but the only working mechanism that we have for that is the one that nature invented millions of years ago—photosynthesis. That is a proven mechanism that works, and we should combine that with our technology, using timber as a carbon sink and substituting other building materials with timber, rather than burning it.

A small part of the huge carbon balance of our city comes from our forest. Our experts worked out a carbon balance, which counts all the functions of the forest.

Germany is having a big, and very romantic, discussion. I do not know whether Germans are more romantic than Scottish people. Some people say that we should leave the forest alone and let it be because forestry is violence and the trees scream at chainsaws. We say no to that. We have a tradition of sustainability and of having a mix rather than a monoculture. We have the Douglas fir, which comes from the United States, is very valuable and grows a little faster than indigenous species. We work out our silviculture so that it is mixed and includes a lot of broadleaf trees. We can have a beautiful forest that is a home for many species but which also produces timber. Timber is not the solution to climate action, but it can really contribute to the issue.

Fortunately, our very critical population in Freiburg still does not question forestry. That is an asset. There are other cities that have abandoned forestry and let the forest be. They are romantic and will go for a hike but will say that we should not hurt the trees. However, we should not look at a single tree; we should look at the forest as a whole. Managing and harvesting the forest is a wise thing to do.

Mark Ruskell: Do you see there being a role in a more sustainable supply chain for wood fuel biomass for heating, or is that a diminishing part of the energy mix?

Franziska Breyer: That might be unfair, because some enterprises have invested in that technology. Burning biomass is better than burning fossil energy, because the CO_2 that is emitted is recent CO_2 that was stored only a few years ago.

In the long run, technology such as fuel cells and heat pumps will mean that all electricity will be renewable and we will not have to burn raw material, except perhaps waste. A sawmill might have a certain amount of pulp or waste material that gets put into waferboard. It is better to put those materials into plywood or waferboard than it is to burn them, because burning releases the CO_2. It is best not to release any CO_2 made by photosynthesis, but to try to store it in as many intelligent ways as you can.

That was seen differently in the past. Many people invested in pellet heating systems for their homes, thinking that they were doing something good. It is good not to have an abrupt change in strategy. The companies that focus on building pellet heating systems need a transition process; we cannot just change direction.

Strategically, we should not burn timber. We collect the organic waste from all our households and put it in a power plant to produce biogas. We make use of organic waste, but burning timber is not a strategic option for the future.

Mark Ruskell: I have a final question about the links to your work on forests. I see that you are doing a lot of work to develop biomes. I think that, in English, we would interpret that to mean nature networks.

Franziska Breyer: Did you say “biomes”? I did not get the word. What does that mean?

Mark Ruskell: I think that we would call them nature networks. They involve the restoration of nature at landscape scale. What role does the

municipality have in that? Are there issues with land ownership if some landowners prefer traditional agricultural use of land, rather than rewilding or creating new, large-scale habitats?

Franziska Breyer: I hope that I get the word right—we call them "biotopes". Were you referring to a certain area that—

Mark Ruskell: I am sorry—yes, "biotopes" is the word.

Franziska Breyer: I hope that I have understood the question correctly. We have biotopes in the forest, which is easy because the forest is mostly owned by the city, so the forest office is in charge. We have a very elaborate system. Parts of the forest are so-called reference areas, where we do not do anything but just watch nature in order to adapt our management system to natural processes under real-time conditions. We have forest biotopes and areas where we try to leave the old dead trees, because the significant difference between a virgin forest and a managed forest is the amount of dead timber, which is very important for many plant and animal species. Therefore, we have a network all over the forest of dead timber areas, reference areas and biotopes.

Agriculture is more difficult, because we do not do the farming ourselves—we rent the land to tenants. It is not easy to have an impact on the management of that, because the law on good agricultural practice comes from the federal level or the state level and it is not easy to exceed that, so we try to have a mixed strategy, which means that we ask less rent for the land if people switch to ecological farming methods. Therefore, we provide some financial incentives. We cannot prescribe that as a municipal law, because we have to stick to the state and federal laws. However, we try to build up incentives for the farmers so that it is worth while for them to do less intensive farming and to leave more spaces for flowers, because we need special areas for all the insects. We provide incentives because the regulatory framework comes from the state level or the federal level.

Liam Kerr (North East Scotland) (Con): Good morning, Franziska. Earlier, in response to the convener, you detailed some well-established energy efficiency subsidy programmes for home owners. Can you detail how those work? Do they take the form of grants or loans? What proportion of the work is funded by the subsidy? Our councils have some severe funding challenges, so from where does the grant or loan come in Freiburg?

Franziska Breyer: It is not a loan—it is a grant. We have funding systems from the state level or the federal level. It does not work if that measure is funded by someone else. Our local funding system allows for accumulation. Therefore, if you get funding from the federal level or the state level, you can nevertheless get our grant. It is not much, but, sometimes, you have a situation where a little money—some €5,000—creates the impulse to invest in, for example, insulating roofs or putting in new windows. There is free energy consulting for every citizen, and we try to encourage house owners to do as much as they can—not only putting in new windows and insulating the basement and the roof but perhaps insulating the facade. Insulating the facade of a building is tricky and costly work that always involves scaffolding, and there is the totally separate issue of the availability of the craftsmen and craftswomen who can do that job—it is a huge challenge.

We have grants, but it is not very much money. It might be €3,000, €5,000 or €10,000—it depends on what you want to do. People can apply for that money, which comes from the municipal budget. It is the city's money, which is given away for free to people who want to invest in energy-saving measures. The money goes to the citizens. Last autumn, the municipal council also decided on a so-called climate action offensive, which is part of my job. There is €12 million of additional budget, which should be invested in climate action in the administration, the housing sector and companies everywhere. We are in the process of evaluating all the projects that have applied for that funding.

Liam Kerr: I am very grateful for that answer. To reflect back, a grant from the city level pays a proportion, but not all, of the work that is needed.

Franziska Breyer: Yes.

Liam Kerr: On a related note, you have an affordable housing master plan and build in ecological and sustainable factors from the start of your affordable house building. Who funds that affordable house building? Greener materials and modifications can be more expensive, so what incentives are in place to encourage people to build those modifications? Does Freiburg fund those?

Franziska Breyer: No. We do not need to fund those, because we have the Kreditanstalt für Wiederaufbau, or KFW, at the state level in Berlin, which funds a lot in the building sector, especially new buildings. Our new coalition Government in Berlin also wants to focus on refurbishment projects, so there is a lot of funding.

We had expert research done that looked at how costly it really is, in the context of the life cycle of a new building, to build to a reasonable energy standard. Our experts found that it is not really much more costly. If you look at the return on investment that you get in a city such as Freiburg, where prices are so high, you see that it

is really affordable for investors to build to those standards.

It is difficult to be on a confrontational call, so we had a round table with all the real estate people here in Freiburg and reached an agreement about certain energy standards in the new building sector. We think that, with the funding that comes from the state level, there is not much more additional cost for a standard that uses up to, I think, 15 to 20kW per hour per square metre per year. We call it our Freiburg efficiency standard, but it is funded by the KFW from Berlin, at the state level.

If you count in that funding, the additional costs for reasonable building standards are not so high. That is the experience that we have.

Liam Kerr: Thank you very much; that is extremely helpful.

I have one final question. Freiburg is almost exactly the same size as my home city of Aberdeen. Aberdeen is traditionally one of the lowest-funded councils in Scotland, so it has to make very difficult choices about where it will spend its money. Can you help the committee understand how Freiburg is funded and, if it has similar funding pressures, how it decides to prioritise green initiatives over some of the other things that are perhaps as important?

Franziska Breyer: Freiburg has always been a poor city, apart from in the middle ages, when we had a small rich period when silver was found in the Black Forest, close to here—that was the time when the cathedral was built. In the past 200 years, Freiburg has always been a poor city. We do not have transformation processes, so we have to deal with industries going broke.

We were never rich, so we always had to be clever and try to make the utmost from limited financial resources. We have the university, which is an employer, and industry in the biotech and health sectors, which are important for our economy, but we do not have big industries. Stuttgart has the car industry and is very rich, so it can really invest money, but Freiburg never had much.

Nevertheless, we do city marketing and try to achieve something in the field of sustainability. Climate action is also a marketing thing, because we see that people are very interested here—people and small start-ups move here because they think that it is a favourable environment. Being sustainable, or trying to achieve sustainability, has an economic return on investment, although it is not as large as other things.

We have a new soccer stadium, because our soccer club is very famous in Germany—it is an underdog club, which is low funded but very successful—and the old stadium had lots of photovoltaic panels. The issue is also about how you frame the work that you do.

10:15

Trying to achieve sustainability has an economic benefit for the city. It is not a big benefit, but it is there. We want to ensure the future for our citizens. We do not only want to get tax revenue; we try to market these things so that they can be blueprints for other cities. Naturally, we have also tried to learn from other cities and initiatives.

We are always forced to prioritise, and it does not always go in the sustainable direction. We have situations where we say, “Okay, we have to block this area and the carbon footprint will go higher, but there will be so much tax income from this company that we want to do it.” We try to encourage companies that fit in this area, such as those in life sciences, the health sector, sustainability, solar and smart housing. We try to attract such companies to Freiburg, because they fit our profile—they fit with this idea. Then there is—I lack the English word for this, but it is “Wechselwirkung” in German, which means that there are mutual profits from the approach.

However, there has never been much money. There is always quarrelling, and climate protection and action does not run on itself. The theatre wants money, the new ice hockey stadium wants money—everybody needs the resources. It is not an easy debate in the municipal council.

Liam Kerr: I am very grateful. Thank you very much.

Collette Stevenson (East Kilbride) (SNP): Good morning, Franziska. It is so lovely to hear about Freiburg’s approach to being a sustainable city. I also understand that it is the sunniest place in Germany, so it sounds like a lovely place to live.

I want to ask about procurement. Freiburg’s website states that the sustainability of municipal properties and procurement has been a key consideration for many years. What changes did you make in your organisation and your working culture to establish a programme of energy efficiency improvements and changes to procurement practices?

Franziska Breyer: This is a new field of action, and many instruments are working in it. We try to procure things that have a certificate. Sometimes details are provided to show that there is no social injustice or no child labour in the procurement chain.

We try to procure recycled things instead of new things. That is the most popular thing, especially with paper, because although we are online, we

still use lots of paper in our administration—we have not yet let go.

We try to consider how things are produced and where they come from. We try to take into account social and ecological issues in that, and we try to encourage recycling.

It also comes down to how we use our working space—how efficiently we use our offices and our public buildings. If people go to a meeting at another town hall, they can use bicycles that are owned by the city. We have electric cars—e-mobility—for going to and fro. We try to have an infrastructure for the people who work in the administration that is as sustainable as possible.

I work in the town hall, which is a new building. It is climate neutral, having been built with a mixed concept of heat pumps and panels. We try to encourage all the employees here not to have the temperature too high in their rooms, in order to save energy, and to share offices as much as possible. Naturally, we always have to weigh those things against social preconditions so that we are not putting too much pressure on the people who work here.

The approach of looking at procurement and minimising the carbon footprint of the sector is one strategy, but there are many smaller strategies that combine in this field. As an administration, we have the power that comes from being a big consumer and what we consume has an impact on production. We try to use that power. We use as much organic food as possible in the canteens where people go for lunch. They are not 100 per cent vegetarian, but half the food is always vegetarian and we always declare where our meat comes from. It has not gone round the world three times.

Many small actions combine to make our administration's procurement footprint. We try to combine small measures. We could be better; we are not 100 per cent yet.

Collette Stevenson: It is great to hear that. Do you measure how much of your supply chain is procured locally so that you have supply chain visibility?

Franziska Breyer: That is very difficult. I can explain that by using the food that we buy for our town hall canteens and schools as an example. I do not know what it is like in Scotland, but we have a law in Germany that says that, when we ask companies to make us a procurement offer, we can ask for all the potatoes to be organic, but we cannot say that they must be regional. That would go against the European law that says that every part of the European Union should have the same opportunity to sell its products.

At the moment, we are racking our brains about how to stress regional production. We want to support farmers in our region, and transport costs have a huge CO_2 impact on products. An organically grown carrot might come from Peru. It is easy to ask companies to offer us only organic carrots, but we are legally unable to say that they must come from our region because that would discriminate against all the farmers who do not farm in our region.

At the moment, we are trying to operate a system in which anyone who runs a canteen or caters for schools must offer food education for the kids. They must organise field trips to farms. We hope that that will have the effect of encouraging products from our region, but that is an indirect and creative way to do it because we cannot say that we want to buy only vegetables that come from our region. At the moment, that is discrimination. The law might have good intentions, but it should be possible to organise regional supply chains.

Collette Stevenson: That is very interesting. Thank you.

The Convener: Natalie Don joins us online.

Natalie Don (Renfrewshire North and West) (SNP): Franziska, your evidence so far has been really useful and helpful. Thank you.

I will touch on transport issues. I find it really impressive that 79 per cent of all trips in Freiburg are made by bicycle, bus, train or on foot.

Franziska Breyer: It is 80 per cent.

Natalie Don: It has gone up. Wow! How was Freiburg's co-ordinated urban development and transport policy initially developed? How did you ensure that the required shift away from private transport and towards eco mobility was supported and accepted by all your citizens?

Franziska Breyer: That is really important. The way that transport and mobility are organised has a huge impact on climate balance, but it also has a huge effect on safety in relation to accidents in the city, and on quality of life, because of noise and air quality. The way that we organise mobility and traffic has many impacts. I am most interested in the energy impacts, but other people are interested in how we organise mobility.

After the world war, there was a decision to be made about whether we would tear up all the tramlines that had been in the ground since the 1930s, before the war. Freiburg decided to leave the tramlines. Trams, or light rail, are the backbone of our public transport system. Is "tram" the right word?

Natalie Don: Yes.

Franziska Breyer: Other cities, such as Strasbourg in France, which now has a Green mayor, have had to put trams back on their streets at very high cost. That is a big investment.

Freiburg never abandoned streetcars and trams. It is not only an ecologically sound means of transport, but a fast and comfortable one. At a crossroads, the tram always has priority. Most people use public transport not because they want to save the world but because they want to go from A to B in a fast and comfortable way.

Giving trams priority means that it is faster to travel from the outskirts of the city to the centre by tram than it is to do so by car. People can really feel that—they live that experience and find that public transport is fast and comfortable. Naturally, we have to combine the inner system of tramlines with buses in the outskirts of the city.

In addition, since the 1980s we have had a regional ticket, which has had a huge impact on the behaviour of commuters. With one ticket, someone can use all the transport systems in the two neighbouring counties and in the city itself. With one ticket, I can take my whole family up to the Black Forest on Sunday, then go down to the Rhine valley, close to the French border. That is very comfortable for people, and it convinces commuters in particular to make the change.

In Germany, using your own car is something like a religion—it is like bearing arms in the US. The ease of having one's own car and being able to go everywhere is a difficult issue to address. We can see that at the state level, where we still do not have a speed limit on the highways. Not even the new Government with a Green minister—well, they are green, but not on traffic—will do that. It is psychologically not easy for people to switch from their own car to another means of transport. Buses and trams must be fast and comfortable, and there must be intelligent connections between them.

We also have a huge system of bike lanes, and we are enlarging it to include high-speed bike lanes, because safety is an issue, given the current boom in e-bikes. An alternative means of transport also needs to be trendy—the social framing is very important. In Freiburg, we have succeeded in that, and having a trendy good bike has become a status symbol—status is no longer about having a car.

In some countries that I have visited, people say that only poor people and students go by bicycle. If they have enough money, they have a car, which is a symbol of social status; it is sexy. Here in Freiburg, having a fancy bike is sexy. Criminals who specialise in stealing expensive cars from basement car parks in certain city areas now go for bikes.

Changing behaviour is important, not only in your brain but in your heart. We have to frame use of different transport opportunities as not only doing something good, but as doing something that gives people a good self-image of being sustainable, future oriented and avant-garde. Many people, including white-collar workers, commute by bike, and many enterprises now have in their office buildings shower rooms where people can change their clothes. Some people might also commute by running from afar; I do not know. The situation has changed a little bit with e-bikes, because people do not get so sweaty using them, but many offices count on people commuting by bike and offer the necessary infrastructure to support that.

You need a mixture of many things. You need infrastructure and comfort, but you also need a story and an image to promote new ways of behaviour. Human beings stick to old things—we do not have a culture of stopping one thing and changing to another, so we have to think of good methods for promoting change.

Natalie Don: Absolutely. Thank you for that. I agree: when I have been to various countries in Europe, the relationship with bikes there has always amazed me. Having facilities at work so that people can have showers and so on is such a different way of thinking. It is definitely the way forward.

You touched on what I was going to move on to in my next question—the integrated regional ticketing system. Were difficulties experienced in getting that up and running? How successful were you in getting all the transportation companies to accept a system in which just one ticket can be used across all modes of public transport? Are the transport operators publicly owned or are they private? Will you expand a little on that, please?

10:30

Franziska Breyer: The transport operators are mostly publicly owned by the counties or by the city. Naturally, they are heavily subsidised. You never earn money with transport, but the passenger numbers go up and up. Because the system is publicly owned, we have to negotiate with the bordering counties to find the common platform of one regional ticket, but everybody has found that they profit from it. That includes the counties because they have fewer problems with traffic jams and parking places when people move to and fro with public transport. It was not so difficult to do.

The way the money is divided means that the regional pass still costs something. At the moment, we have an incentive from the new Government, such that for €9 a month you can go

everywhere in Germany using public transport. You can go on the slow-running trains from Freiburg to Berlin, for example, for €9 a month. It is an experiment for three months. It is a layer that goes over our regional ticket.

Normally, the revenue from the ticket is divided in a ratio that provides investment in infrastructure. As a city in between two counties, Freiburg has to invest more in traffic infrastructure than the counties. They mostly have buses—they do not have light rail or trams—so the income from the ticket is divided proportionally. We have a committee that meets regularly and discusses which lines should be extended. We might, for example, plan to put tramlines a little bit over the city boundary and into the countryside to get more people on them.

There is a special committee that meets every two or three months at which all the strategic questions are discussed. Investing in traffic infrastructure, especially tram infrastructure, is very costly, but for buses it is not so costly. With buses, we are in a fuel transformation process. I would not say that they will be hydrogen buses, but they will perhaps be e-buses. The question is how we get enough renewable energy, because we do not want to power e-buses from nuclear power or from burning natural gas. All those things are taken into consideration.

It must also not be forgotten that we want to be a city for pedestrians. With the demographic development—many people are getting older and older—we also want to be a city of short paths so that you do not have to have a car or do not always have to go by tram to do your shopping, especially your grocery shopping. We should not neglect pedestrians: they want a city in which the public space has a quality that makes them want to walk, and does not just have a narrow path for pedestrians with cars or fast bikes roaring by. All over the place, we have a growing conflict between pedestrians and people who use small electric scooters or bikes.

We must see that the city is a place where people live, and where it must be comfortable and wonderful to go on foot. If we are talking about health issues, walking is the basic means of mobility in a city. It should be comfortable and safe. Therefore, we are proud that, although from the 1980s to the 1990s the percentage of pedestrians in the modal split declined, it has gone up a little bit again. One goal in city planning is that the city will be a place that people can walk around and that they like to walk around, quite apart from being able to get quickly from here to there.

Natalie Don: Thank you so much for your answers.

The Convener: Our final question comes from Monica Lennon, who joins us online.

Monica Lennon (Central Scotland) (Lab): Good morning, Franziska. It has been a pleasure to hear your contribution, so I thank you. Perhaps the committee could visit Freiburg at some point in the future.

In our inquiry into local government, we have heard many complaints about how slow councils can be in making decisions, particularly in the planning process. I am interested to hear that, in Freiburg, your city planning office is regarded as a think tank and an agenda setter.

Could you tell us a bit more about that? How do you ensure, in your municipality, that your work is widely recognised and appreciated, and that the staff feel motivated? Clearly, you feel very proud of the work that you are doing. Is that a feeling that the staff share? Do people want to work for the municipality?

Franziska Breyer: "Who wants to work for the municipality?" is an important and difficult question, as we are competing with many other employers. The planning office is very important: it is crucial to the city becoming sustainable. Planning is not only about building houses and saying where cars will go; it is also about safeguarding quality of life and enabling all the other fields of action.

In the planning process we must decide, for instance, where we need solar panels, whether we need a district heat infrastructure, or whether we need a little piece of ground for an energy centre or hydrolysers for green hydrogen. The planning office naturally has an ambition for the city to be architecturally beautiful, with innovation and spectacular buildings, but its work also involves enabling the city's being sustainable, because it can provide the necessary infrastructure and combine it with sustainable buildings without neglecting the cultural heritage or the city's aesthetics.

That is not easy. We have lots of discussions, including about green roofs, adaptation and solar panels, which we need in order to combat climate change. There is always a process of weighing up various issues. The art lies in finding a good compromise, and the planning office has to play with all those different things and put together something like a mosaic in order to produce the end results. The planning office is very important; we cannot say that we will just do things at any cost or neglect what houses look like.

Architects face a challenge in building energy-efficient houses. Sometimes people complain that the windows are so small or that the walls are so thick that it is not beautiful architecture, but that is a challenge for creativity, which leads to a new

self-confidence in the planning department. Without us, Freiburg being a sustainable city will not happen. We enable the infrastructure, but we also safeguard the cultural heritage, which is very important in a medieval city. We work creatively in combining the issues.

The work does not run by itself; it needs a lot of discussion, exchange and information. In the end, however, the challenge is being taken up, especially by the people here in this office, in Freiburg.

Monica Lennon: Thank you.

I know that we do not have a lot of time, convener, so I will shortly pass back to you, but it would be interesting to hear from Freiburg in the future about the planning workforce, because we have questions about that workforce in Scotland. We have had a reduction in our planning workforce, so it would be interesting to see a comparison. In the interests of time, however, I will pass back to you, convener.

The Convener: Thank you, Monica. We are tight for time, but I wish to ask Franziska Breyer a specific brief question about how Freiburg's climate plans are financed. Do you benefit from multiyear financing? Do you know what your financing from central Government will be over a three-year or five-year period, or is the finance set annually, so that you do not have a lot of visibility?

Franziska Breyer: Unfortunately, climate action is still not a duty. In Germany, we have a law that obliges local authorities to do some things. We also have the voluntary sector; strangely enough, climate action is still on the voluntary side. That means that the cities are not obliged to pursue climate action, so we do not get regular funding for it. There are some funding programmes at state and federal levels, but we always have to apply for that funding. We therefore had to finance our climate action efforts mostly from our own budget, so it is done in competition with other issues.

The federal level and especially the state level should do more. We now have a climate protection law in our state, Baden-Württemberg, which makes it mandatory to put solar panels on new buildings. That applies from June this year, and from next year for people who retrofit their roofs. Only now, in 2022, is there a duty to have solar panels. That could have been imposed much earlier.

As a local authority, we would like a little bit more support from the legislative level—more funding and more opportunity through the law to push things ahead faster. There is no regular funding. We have to apply to programmes, so most funding comes from the city's budget and must be shifted from another field of action to climate action. That is not an easy debate, either.

The Convener: I completely understand. We face a similar issue with visibility of funding in Scotland.

That brings us to the end of our allocated time. Thank you very much for your insights, which have been extremely valuable. I hope that you have enjoyed meeting the committee. It would be great to keep in touch. We will send you a copy of our report when it is published later this year. It has been fantastic to hear you this morning, so thank you, once again.

Franziska Breyer: Thank you. I wish you all the best. Good luck in your efforts on climate action. We are all in this together.

The Convener: Absolutely. Thank you, and have a good day.

Franziska Breyer: Have a good day.

The Convener: That concludes the public part of our meeting.

10:41

Meeting continued in private until 12:08.

Published in Edinburgh by the Scottish Parliamentary Corporate Body, the Scottish Parliament, Edinburgh, EH99 1SP

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