Facilitator: Great. Alright. So I don't know if you Remember Me. I'm [name]. I don't think I introduced myself properly last time. So I'm a research fellow at UCL. And my actual position is in computer interaction. So I come from the computer science point of things.

H13: Excellent. Perfect.

Facilitator: Yeah, we also have partners in this project that come from anthropology and partners from the Bartlett Institute, basically the Energy Institute.

H13: OK.

Facilitator: And I'm also not sure if I introduce the project that the wider scale of what we're working with, um, [..] And the the aim is to use visualization and sensing. So IoT sensing basically to empower people to to not just change their individual behavior, but to see what are the connections to individual behaviors and policy. So that's why we're looking at more collective kind of situations rather than individual situations by themselves.

H13: OK.

Facilitator: About that. We come to where this specific project comes to. So we gave people like you, these sensors to track your electricity consumption and we would come in a workshop. In this case, it's one to one to come to kind of discuss about the situation of having a collective solar panel amongst the series of people. So this is what we're going to be discussing about today and I brought some of your own data to to kind of work with it and some other participants’ data anonymized obviously to, to, to kind of have this discussion.

H13: Yes.

Facilitator: Any questions so far?

H13: No fire away.

Facilitator: OK, I know I'm talking about this. I've had too much coffee, so please free to interrupt me at any moment.

H13: Having my coffee right now I’ll catch up with you in a sec.

Facilitator: OK, I think the first thing we will do is I will ask you some questions that are survey questions. Normally I would ask those in written format, but if you don't mind, you can just answer them. They're a bit the the boring side of things. So how many people are in your house live in your house?

[Redacted for anonymisation]

Facilitator: And you don't have solar panels at the moment?

H13: No.

Facilitator: But are you considering installing them?

H13: I thought about them a few years ago and because there was a there was a there was a grant being talked about, but then it was quite limited money and by the time I decided to take it a bit further than that, the grant was no longer available. But I thought about it. And it does seem a bit futile one house in the street having them. So I am, I am interested in a more collective approach.

Facilitator: Sounds great. Perfect. Uh, you know that currently it's it's more of a few future scenario because currently policy. Yeah. OK, just the make sure and last time when we met you told me about your relationship to the [charity name] but I don't remember it are you members are you a member?

[Redacted for anonymization]

Facilitator: Great. OK, I'm going to share a A link now. Have you ever used Miro do you know what it is?

H13: No.

Facilitator: OK, no problem. So I’m putting a link on the chat.

H13: OK.

Facilitator: And I will also share my screen. So Miro is a platform, Let's see. Can you see my screen?

H13: Yeah, yeah, I I can see it. Yeah.

Facilitator: So Miro is just a platform like I don’t know to what you would compare it with.

H13: You want me to sign into it or just look at it?

H13:

Facilitator: Uh, no, you you can just you don't need to be signed in. For now se're just going to. I'm just gonna walk you through a little bit of the data. So on the top here, if you look at my screen, I think it's easier for now to follow it then later.

H13: OK, so send me. Go back to teams. Right. With you. Yep. Got you.

Facilitator: Perfect. Thank you. so here what we're showing is a a graph of solar generation data, which is actually real in real data from one of [charity name] installation, just a bit trimmed down. So this is a summer day in June where here you have time in one full day and this is how much energy like in kilowatts - power has been generated at each moment in time, hour in the day, it's in half an hour blocks that's why it looks like a stair.

H13: What's the dip at 8:00 AM? Is that cloud coming over and blocking out the sun?

Facilitator: Exactly. That's how it would be. So this is like a actually this is almost the perfect day with just a little bit of clouds here at this point which..

H13: Wow.

Facilitator: Have you ever seen something like this?

H13: No, not for solar energy.

Facilitator: OK, so this is a new representation. Normally the the original installation is uh, it goes up to 12 kWh, 12 kilowatts. But we're kind of trimming it down for these purposes in the workshop what we would do is we would bring people's data, your annotations that you created. Like these boxes here and we make people place them on when they actually were doing this activity on that, uh, graph. Here I don't know if you will notice. Let me just put this one second. This is a a March day. I will we will work with the March ourselves here. So if you notice it's March because it gets daylight much later, not at 4:00 AM, but at 7.

The day is up up till 6:00 PM and actually this is an intermittent day with clouds. So it goes like sunny clouds, sunny clouds, sunny clouds, sunny cloud. Does that mean on a completely cloudy day it wouldn't really get over 1 1/2 kilowatt?

H13: OK.

Facilitator: Something like that. Yeah. But it I mean it, I think it's also interesting to note that even with clouds, it still gets something like if if you can see it in that perspective as well. So this is this is to scale. So this is an the actual data from that installation in in that we it hasn't been modified. So this is real.

Facilitator: UM, so here. Each color represents one other participant. Rather than yourself, and you would see the activities here. So this person, this household is not a person. Uh would have breakfast 8:00 AM to 10:00 AM. Yeah. Another one would have laundry 10:00 AM to noon. 12 and a half and and so on and so forth. And the things that are on top are the things that are overlapping in time.

H13: Right.

Facilitator: And I I have here.

Facilitator: This is 1 busiest day. It's a a model day. It's not every single day of the annotations and I chose here the annotations from the day that you were annotated as most busy in terms of power consumption. So what you had written here? I don't know if you recognize it as your oven, laundry, TV. Dinner and two question marks that you were unsure what was happening, I guess then.

H13: Yeah, I just didn't recognize that. Yeah, I, I, I can't remember what day it was, but.

I'm guessing.

Facilitator: This is in the format of a table, yeah.

H13: That looks like it's a Saturday.

Facilitator: OK.

H13: Yeah, I think so. That looks like we were watching the Commonwealth Games in the evening.

Facilitator: OK. Interesting.

Facilitator: And so what I would like you to do is actually now, now you're seeing my screen, but go back to the link and literally just drag and drop these and in the correct hours I brought, I have the hours that you had mentioned here. But if you think that these are not correct, you can also place them where.

H13: OK, right. Just quickly go back to that link then.

Facilitator: And it's just click and drag.

H13: It's really massive. I can't say I'm just gonna make it a bit smaller. That's better. That's better, right? Maybe a bit bigger, 50%. So the oven. I'm gonna put the oven.

H13: Got there, I think. Does that look about, right? Bring it down there.

Facilitator: Yep.

H13: Laundry. I would have been doing that in the daytime, so I'm gonna go from about there I think.

Facilitator: Here in the table you had written 9:00 AM, yeah.

H13: OK. Yeah, cool. There you go. 9:00 AM.

H13: Our TV 7:00 PM. Alright, so we we actually cooked earlier, OK, alright.

H13: And. Heating. Probably spans that space there.

H13: I really don't know what these are these two.

Facilitator: Yeah, this was at 1:00 PM and at 4:00 PM until at least that's how you have.

H13: Alright, OK, I think I was hoovering.

Facilitator: OK.

H13: Yeah, I I did a lot of hoovering that day. I'm surprised that there's a lot more of it actually.

Facilitator: OK.

H13: Yeah, there you go.

Facilitator: Great. Uh, I'm just going to drag them to the bottom on top of the rest, if you don't mind.

H13: That's cool.

Facilitator: So now if we zoom out a little bit.

Facilitator: Yeah, that's. That was here, yeah. This would actually represent the the collective energy use of of the three households.

Facilitator: Right.

H13: Yeah.

Facilitator: And the scenario we're bringing here is that imagine that together with these other actually four households, sorry, four households with these other four households, you have, uh, purchased the PV installation which is let's say relatively large uh, well, to have this kind of connection. And the way it works is that every, every, every all energy that is being generated from the installation, then it gets distributed amongst you three equally. And everything that is outside of the curve. So this this mostly these here on in the evening for instance you would you would pay us as normal like individually?

H13: OK. But there's no way of storing the excess energy from the daytime and then using that in the evening.

Facilitator: There is a battery option, but we are going to discuss that a little bit later. So now we're going with the direct usage. So you would pay the extra energy for 30p per kWh and anything, any solar that isn't used, it would be going back to the grid for 5p for kWh. So knowing this and knowing that you're the four households kind of together, are there some activities that you think that you can kind of shift?

H13: Wow.

Facilitator: Or would you like to at the mean? Obviously it's not an obligation.

H13: I mean, this is a slightly unusual day for us. We've normally got the oven on from about 7:30 to 9:00 in the evening. So that's something I've I would really like to shift earlier if if not only for the power consumption, but also so we eat earlier, I think it would be better for my diet and . I don't think there's anything we can shift there from the evening because you know, seven o'clock realistically, is the earliest we are going to eat as a family. We normally eat about 8:30-9, which I find too late, but anyway, that's what we do.

Facilitator: Mm-hmm.

H13: And and I the the TV was on in the evening because that was the Commonwealth game. So we were watching that and that was a live event. What we could do, you know that long thin one where where we're actually eating. We have some incredibly power hungry light bulbs in the ceiling of the kitchen that I'm going to swap out for early days, but I'm not answering your question. There's nothing there that I could move earlier in the day.

Facilitator: Can I ask you if I may? The television seems to quite big in terms of consumption.

H13: Fair enough. Yeah and.

Facilitator: Or did you expect that or?

H13: No.

Facilitator: OK.

Facilitator: OK.

H13: It may be the whole house. Actually, there's a couple of things going on with the TV. My TV's also hooked up to very HI FI for for the sound, so that that produces a much better sound and it may be that there was a lot of streaming going on in the house with the kids upstairs at the time.

Facilitator: OK. OK. Just uh, so it's like the TV, but it's not necessarily that everybody was around the TV at that time and that was the only device that was working.

H13: Right, yes.

Facilitator: OK.

H13: That was the only device I knew about at the time.

Facilitator: And is there something that surprises you seeing this graph like this?

H13: Not really, no, because it doesn't surprise me that we're currently using more power in the evening that at any other time. Our oven seems to be using a lot more than other people's ovens. But that's because we often cook with two ovens.

Facilitator: OK.

H13: So, so that might explain that.

Facilitator: And what about other people's consumption? Is that something that?

H13: I was gonna ask about that. Are these. I mean we we've got a three story house here are are these from flats are these from other houses?

Facilitator: So they're all families except the the red. Yes.

H13: OK, so these are all family houses like the wow, OK. Maybe we just use a lot of power.

Facilitator: OK, well, not necessarily. Why do you say that you think that you're it looks like you're using more than the others?

H13: Yeah, I think we are.

Facilitator: OK.

H13: I am. Umm. Maybe our washing machine doesn't, but certainly the oven and the kitchen activities look like they're using more than other people. This is really great. I've been on it everyone to try and cut our power consumption. But you know I've been honestly the people in my family they just leave a room and keep the lights on behind them, but just don't turn the lights on when they go out the room. When they leave the room.

Facilitator: Did you you show them the the graphs that visualization graphs that you had?

H13: OK, I'm going to now. No, I but I've been talking about this for years. People just ignore me. But now I've got the evidence that's a little bit of all.

Facilitator: Interesting.

H13: Yeah, I mean, I mean it's it's we spend, we've been spending 160 pounds a month every month.

H13: Four years and now our power bill in the in the summer is what it was in the winter two or three years ago. So I I have no, you know this this winter is gonna be very, very expensive thing so.

Facilitator: Yeah, of course.

Facilitator: OK.

H13: I've got really good table. This computer here is on a really good table, let's say infrared table it's it's got a little switch on it and then it kicks out heat.

I can effectively sort of. You know, it's the theory about warming, warming the human rather than heating the human rather than heating the room. So this table will cost 44 P for 8 hours work.

Facilitator: Wow.

H13: You know, so that so that's good. So you know, we're gonna use that this winter.

OK. Interesting. I I didn't know these tables exist, to be honest.

H13: Yeah, in. Yeah, infrared tables.

Facilitator: OK.

H13: Cool. Anyway, yeah, like we use a lot of power.

Facilitator: OK.

H13: And it's just a bit unfortunate that we're using power when after the sun has gone down, but I suspect most households would be like would be like that and most industries would be using energy in the daytime.

Facilitator: Yeah.

H13: OK.

Facilitator: OK, so even if it was in your benefit in a way to shift some activities economically, you think that realistically speaking that these ones that are here then are not able to shift?

H13: Yeah, and yeah, there's there's no way we're gonna eat by 6:00 o'clock in the evening, because that would mean starting cooking at about 4:35, and we really don't get home from work till about 7 - 7:30.

Facilitator: Yep.

Facilitator: OK.

Facilitator: So I'm gonna bring another scenario here. So imagine that you're here with those people with those households.

Facilitator: And there's a beeping sound that I'm not sure if it's coming from me or if it's coming from you.

H13: There's no beeping sound here. I heard it. I heard it as well. Like a low beep.

Facilitator: Yeah, exactly. And I I'm.

H13: Yeah, I thought it was coming down the line.

Facilitator: OK.

H13: But I'm using a kind of a Jabra speaker. I don't have a headset so maybe there's a bit of Howard.

Facilitator: OK, doesn't matter. It's just funny when I talk, I feel like it's only when I talk.

Facilitator: There you go.

H13: Hold on, OK?

Facilitator: Sorry about that. I was.

H13: Tell me how. How about?

H13: If you talk now, does it go away?

Facilitator: I'm going to try to talk now. Yeah, now it doesn't do it.

Facilitator: Sorry.

H13: OK, it's this speaker, then it's sort of howling round. Let me. Umm no, it's OK. Let me try and get some airports and bear with me sec. How am I going to do this.. one SEC.

Can you hear me OK.

Facilitator: Yeah, I can hear you. Perfect. Can you hear me?

H13: Yeah, I can. Excellent.

Facilitator: OK. Thank you. Sorry about that.

H13: No, no. Cool, cool.

Facilitator: Umm, so we were talking about the scenario here. So let's say now that as a group these households it's in your benefit to try to coordinate in order to kind of use as much of the solar energy as possible. And what we are asking here is actually to figure out what we are interested in learning is how would you like to coordinate. How do you imagine actually communicating with each other as households to kind of divide or shift your activities as you were describing before or not shift them?

H13: OK, listen now I've taken a slight pray. I'm gonna go back to your previous question and say yes. There's one thing we can do. We could do a slow cooker thing in the daytime, so that then we'll when we get ready, when we come home at 7:00 o'clock dinner would be ready for us.

Facilitator: OK. Is that a realistically possible?

H13: Yeah, that is realistically possible. It will take a little bit of organising but but after three months, if you could produce the energy bills and say, hey, I'm like, I'm much money we're saving, that would be good. OK, in terms of liaising with other people.

H13: Umm.

H13: Yeah, I mean, I know my neighbours. I am..

I probably don't know them that well enough to sort of start sharing laundry cycles and stuff like that. Well, you know, nothing is impossible.

Facilitator: Mm-hmm.

H13: No, I'm just. I'm just wondering. I'm just, I'm just looking at all that Gray area and the, the the, you know, with nothing happening with power being generated and isn't being used. So I'm just wondering what what could be used during, during that time.

Facilitator: So I can become the other person and say that I know for a fact because we had the workshop that the the people here with this house works from home so they could shift their activities to to come more into the daytime.

H13: They've got a sauna?

Facilitator: Yeah, they got a sauna.

H13: Excellent – I want a sauna.

Facilitator: Yeah. And so it just happens that quite a few households work from home. So they actually said that they would be able to to bring it more in the curve. But even if everybody decides to come underneath there and bring it earlier, then there's the problem that it would still surpass the availability.

H13: Yeah.

Facilitator: So there needs to be some mechanism to kind of coordinate.

Facilitator: Who is going to do what when? Well the not is not necessary, right. This is just who will going to use power at which point. Or do you not think that's necessary?

H13: I'm I'm. Well, it it may become more and more and necessary, I just, I just wonder about the practicalities of trying to organize it. It's it's it's, it's good in theory. But say I come home from a business trip and I've got another business trip tomorrow I need to wash some clothes. I'm just gonna have to wash my clothes, even if it's not my designated time to wash clothes. It's this is this is terribly tricky. This because at the moment we have complete freedom of choice. And by liaising with other people, you're then restricting your freedom of choice. Uh, and that's the sort of the hurdle to overcome.

H13: I I don't know. I don't, I don't know how easy that would be to to organize.

Facilitator: Uhm.

Facilitator: So there are some ideas that, uh, that have been brought up. But I mean the problem you're bringing here is that let me see if I understand it correctly, is that you need freedom of at any moment to be to be able to kind of an instant put the laundry if you have to do it without having having planned it right. So your problem is with around planning?

H13: Yes, and it also depends on what else I'm doing. You know, like this morning today I've actually done 5 wash loads since I got up at 6:00 o'clock in the morning. Since I've been working so hard all week, as was everyone else, but apart from one university student who barely gets out of bed before 2:00 in the afternoon and and that washing just hadn't been done, you know? So I had to do it today. I I don't know. Maybe if I could only do it 2 hours, you know or 1 1/2 hours per day it would force us to be more organized.

Facilitator: OK, because there are other kind of suggestions like one you mentioned already like having a designated time slot, but you say that would not work. Another one is having a booking system where it would kind of you can combine it with a meteorological report. So you can say like if you do your laundry now it's gonna cost you X if you do it.

H13: Yeah, but trust is gonna be a really big issue here as well, isn't it? But you, you you know you it's because if this, this will involve some kind of sacrifice and you just gotta Hope we'll be other people are just playing along. It's tricky. It's really tricky and you don't want any monitoring system showing what house is doing what.

Facilitator: You don't want that?

H13: No, I just, I think I you know, it could easily lead to arguments. I mean that that could work in some cultures, I've just don't think it would work in, in, in English culture, you know. Umm, I may be wrong. I may be wrong. And it may be that's what we need to do to conserve energy in the future. Umm.

Facilitator: But you said you meant. You mentioned that you know your neighbors and your on good terms with them. Do you think realistically that this is not something you could share a panel with them?

H13: Hey I look, I've I've, I've happily give it a go. I really would happily give it a go whether everyone agrees to it, I don't know. But you know, now I've thought about it for one minute. I would give it a go. My knee jerk reaction was no, I don't want that. But now being forced to think about it, I probably would go for it. Well, I would go for it.

Facilitator: OK. What was the the changing factor here?

H13: I’d say the changing factor is the future of the planet and the global warming. You know you you need, we actually, as a species we need to do something about this. And if the if this was sold in the right way that you know this, this is actually helping and this is something tangible that you can help with I think, I think that would help. And even if it does mean having a dial of other people's power consumption in my house or in an app on my phone, you know, damn it, I don't wanna be looking at the app all the time seeing what other people are using and I don't know.

Facilitator: OK, you wouldn't want that because I've seen. I mean, I've heard and I've seen people that have solar panels that they're very, very conscious of their their energy use, and they have apps that actually they're very aware of what's happening, what they're using when is that something? You see it as a.

H13: No, I I would. I would love that. I it'll be just interesting to try and coordinate it across the - I mean how many houses here would you be talking about here? 10-4?

Facilitator: This is the houses. No, no. These are the houses you see here. So we're talking about five people, five households.

H13: Yeah, I'm it'll be really interesting to see how it do it. It's the kind of thing I think, just look at culturally. Without making generalizations about other nationalities, it might be easier to organise something like this in Germany or Scandinavia then it then it would it what? What? And that's what saying gonna get in so much trouble for this transcription. Or than it would be in England.

Facilitator: I'm not going to quote you on that, don't worry.

Facilitator: But I guess I'm what would be interesting for me to know is what do you think are the things that would be problematic, let's say, because you obviously think that some things will be problematic. You mentioned before that would be a argument no, like trust.

H13: I'm not sure.. there's a certain there's a certain to know. There's a sort of a privacy issue around, isn't it? You know, it's. Yeah, I don't know. I just initially just initially I would I think I would find it slightly uncomfortable having a dial say let's say it's a dial on the wall on the wall showing me the power consumption across 5 houses in the street, one of which was mine. You know, I'd, you know, damn it it'll be interesting. It'll just be interesting, you know?

Facilitator: But it would also be awkward or you said?

H13: Yeah, I mean I I think at the beginning a lot of British people would find it awkward.

Hey there I've where is you know. Hell in China they just tell you to do it and you have to do it. I mean, you know, and it would work. And no, no, I'd give it a go. I really would give it a go. Be interesting.

Facilitator: And there's another there, like two ways of of let's say, if you're imagining this dial.

Facilitator: One is where you would actually see who, what individually each house has done, and even their activities like laundry oven the other one more private would be just a house consumption and the third one would be your total consumption as five of you together or five households together in comparison to what is being generated from your common PV.

Facilitator: OK.

H13: OK, so I probably wanna see a total output of the five households and I probably want to see what the other houses were consuming without knowing what they what they were actually doing, because I think the only way of it of you actually knowing what's for other people to know what power I was consuming is if like if we if all the devices in the house were on the Internet of Things so that they were all connected devices and and I just think that's a security risk. You know, whenever you talk to the cyber experts, the one thing they talk about is the the the so-called Internet of Things is is a is a cybersecurity risk.

Facilitator: OK. Interesting.

H13: What have other people said that would they like to see what?

Facilitator: It really differs. It differs. I mean some people have neighbors that they are very comfortable with. So they, they they know them quite well. So they would be a up for it. Others have said that with their specific neighbors not. But in the workshop where they were, they seemed to like-minded individuals and then they would they were happy to do it with virtual neighbors like neighbors that are not necessarily the real ones, but that that could be at some distance. Obviously, that's a futuristic scenario, but again, we're talking a bit more.

H13: Yeah.

Facilitator: Not for tomorrow anyway. Uh, another. Uh, I don't know if you had some thoughts on on those?

H13: And now I'm just wondering if you know if it had to be adjacent neighbors or you could say, like there's probably about 30 houses along this terraced street, if it could be sort of a selection of houses. But I guess that would involve trailing cables across people's roofs. And so that wouldn't work so well, so.

Facilitator: Not. Not directly, at least.

H13: There.

Facilitator: There is another type of now we're talking about. You collectively buying a solar panel and like households buying a solar panel for their personal use, that's something that cannot of happened right now because each panel has to be used individually like policy wise. But there is also, like [charity name] where you buy where you invest, let's say in a panel that gets placed on a school and perhaps like the extra energy that is not being used by the school. Then you can kind of divide that into the what do you think about the other kind of collective use? I'm I'm trying to say like through an organization.

H13: Yeah, that, that.

Facilitator: Yep.

H13: That sounds really good. That's found very, very good.

H13: Here, I'll be up for that.

Facilitator: OK.

Facilitator: There's another form of coordination. It's would be, so I'm not sure how much do you know about your consumption from their electricity devices. Have you seen this before at all?

H13: No, no.

H13: Right, yeah.

Facilitator: So for instance, in oven is never, it's not an oven, it doesn't consume the same power steadily. So here what we're showing you as blocks in reality is like it goes up and down during the cycle. So usually it will high, it will use a lot of energy in the beginning to heat up and then it will just use every now and then a little bit to maintain it.

H13: Yes, yes.

Facilitator: So that each device has its own kind of electricity consumption pattern. And there are some ideas for like like devices kind of deciding when to do the stuff, when to do your laundry, but that again will would require an Internet of Things. So that appliances kind of a coordinating amongst households together to to figure out what are the best moments to to do that. So it would have less coordination with humans, but a more coordination based on on on automated coordination.

Facilitator: Umm.

H13: No, it will be fine if if there was. If it, yeah, no, I'd be fine with the Internet of Things if it was on a completely separate broadband. So I had nothing to do with our home computers. So maybe we could just have one broadband connection for the five houses that would just be Internet of Things that that would be that that would work for me.

Facilitator: OK. So you wouldn't have a problem like the an AI that would say now is the best time to to run the laundry because of conditions and because the other laundry decided also not to do it right now. So then it would need to run now how does that work though with your planning?

H13: Well, I don't know. I mean, there's was, if we're talking about future devices, I suppose you just get up in the morning, you stick your washing in the machine, and then you just hope cross your fingers that when you come back in the evening, the washing of actually been done.

H13: You know if if is it that kind of scenario.

Facilitator: Well, that's like a very futuristic scenario that's not immediate, but there's an in between version right, where you would get a notification that says, uh, do it now because it's most convenient. And then you would have to kind of decide by yourself if you will do it or not.

H13: Yeah. OK for that. Should be really good.

Facilitator: So you would.

Facilitator: So you wouldn't you would prefer this kind of coordination based on AI rather than like human based coordination through like WhatsApp groups or or whatever, because we've heard that as well.

H13: Yeah, I think this would work well with AI I don't think. I think it would for humans. I think it would work brilliantly for three weeks and then it would just fall apart.

Facilitator: Because somebody wouldn't comply or?

H13: No, because everyone would get bored of it.

H13: You know, but I think if it was AI I think, yeah, I think that would that would work really well.

Facilitator: OK. Interesting.

Facilitator: Umm I have one more thing to show you before we. So can you still see a new screen now? Can you see my screen I'm sharing?

H13: Yeah.

Facilitator: OK, so this is a scenario where now we're adding a battery to the to your core to your collective solar panel. Until now everything had to be used directly. And then here you see in color form the same boxes that there are here, but uh drawn again with the curve of of March. And what what is shown here is how much collective, how much energy has been generated? Is all these two blocks together, and then how much is being used and the Gray is this Gray like it's been unused. And in this case the direct leak consumed, which is everything underneath here. Gives you £4.00 of let's say savings, whereas because of all the evenings you would need to pay like 8 pounds collectively as a as a house, as a 4-5 households together. So then by getting a this was without the battery by getting a battery. Then the larger the battery becomes, the more you can kind of store and use use it in the evening hours. And this is the savings kind of you would get and OK until it reaches some point let's say 20 kilowatt hours, battery is it's huge, it's like half a car worth of battery. So it's also very expensive. But then even with that kind of uh level, you still wouldn't be able to to, to save everything to use it, not to use from the grid.But but it still would allow form for more savings right than before. What do you think about the? How do you think that would change the coordination if there was a battery included like this?

H13: How would it change the coordination and? If it was human beings coordinating, it may be able to carry on much like they did before. Using power when they wanted to and..

Facilitator: Is that preferable?

H13: Probably not for the planet.

H13: I'm rather big on this AI idea. Now that you've mentioned it and go get a notification thing now, it's a really good time to cook or now it's a good time to put the laundry on, now it's a really good time to cut down on your power. There are.

Facilitator: Pick up because of economic terms or because of like environmental thinking.

H13: But well, I think I think they go hand in hand, actually.

Facilitator: Yeah, in this case.

H13: You, you know, in this case, if it's solar energy, I think they go hand in hand.

H13: And I do wonder where a battery that big would be kept.

Facilitator: Mm-hmm.

H13: And because that's a stonking great big battery. But you know, battery technology will hopefully change. They get smaller and bigger and faster. Yeah. And look, it might give AI more options. You know that the more I think about this coordination, the more I'd say and AI system a computer system is kind of what you want. You. You you don't wanna. I I've got other things to think about rather than you know when's the best time to use the solar energy?

Facilitator: Do you think there's something would be lost by using uh, uh is there a downside to using the AI system, I mean?

H13: I suppose if it was hacked, people would find out everyone's rhythms and when they do things and I don't know, but with with any AI system, I just want it and which is operating on Internet things I'm repeating myself here, but I wanna completely unboxed from all my other if that's the right expression to you from from all my other devices. Yeah.

Facilitator: No, I understand. Yeah, you're for you. It's a security issue as well. Not just the privacy issue.

H13: Yeah.

Facilitator: OK.

Facilitator: So this is what I had to show you. I I I have some still some questions and you know stop sharing my screen if I managed to get back to. Uh, yeah, there we go. Add a few more questions, a bit more more general.

H13: Yeah.

Facilitator: Like, did you learn something new with the? About how your your about your patterns or how about how solar energy works by participating in this project.

H13: No, not really. I've I've just been quite curious to see how much much electricity that oven is using? I mean, I noticed it before this call today and it it it it also confirmed to me what I'd long suspected is about the the bulbs in the kitchen that get quite hot and when they're on they they the the meter whizzes round. You can actually see the meter moving like that and I share it to people like on and off and no one really seems that bothered about it, mind you. They don't pay the bills, so you know. So I'm. I'm I'm keen to I'm I'm keen to I'm I'm also really keen to see what. I'm I'm conscious, I'm using it in a heat wave for for consecutive we're not actually using that much energy in the house. So I'm kind of keen to see what it's like in the autumn in the winter. How long is your studying going on your study? Go on for.

Facilitator: The the whole research project is 2 years on, so we are going to do more projects, different kinds of probably. We're gonna probably make a system of coordination and even try to test it during autumn. So if you're interested in in participating in more things, you're very well.

H13: Yeah, yeah, yeah. I yeah, I would like that very much. Yeah.

H13: Do you want me to ask my neighbours?

Facilitator: Do you think they would be interested?

[Redacted for anonymity]

Facilitator: What do what in this? OK, we used you show you saw visualizations in different formats. So one was the annotation system you had at home. The other one was the the blocks which is more abstracted version that the visualization I showed you today and in the end there was a battery that was had the slider. So can you reflect on on this a little bit? What do you how do you think they worked for you or did not?

H13: I had a slight bit of problem with the annotation cause a few times we had two things going on at the same time, but it wouldn't let me put in two different things and yeah, so I I would have, I think one time it did let me put in two different things and I was surprised about that and what I maybe slightly guilty of is if I couldn't put in two things I didn't then didn't write anything in the box below it.

Facilitator: OK.

H13: So that was good. It was really interesting comparing seeing your your blocks today, comparing our house with the other peoples houses. Uh, we use the oven a lot, you know, for all kind of roast chicken and and stuff from roast vegetables are having gets used a lot. So I'm I might have a think about that and think about how to reduce the usage of that not much. It was good and I thought your battery slider was interesting.

H13: But I thought the battery slider was interesting. Yeah.

Facilitator: OK.

H13: So this this is good. I'm fine. I'm fine. I'm finding it really interesting.

Facilitator: Alright.

[Redacted for anonymity]