

### 5 to 8 Minutes Introduction

- Collection of information about the interviewee (educational and technical background, field of professional experiences, professional years of experience, involvement in different types of projects).
- Brief introduction about the interview.

### Interviewer

Now I'll move to the opening questions. So [Name of Interviewee 19], in your experience, what is the current level of knowledge in the building industry regarding the application of multifunctional facade components integrating solar cooling technologies?

### Interviewee 19

So for me, which is my main area is thermoelectric applications, I think that it's still in research level. It's not in the market and still is far from the industry itself. We are still....It's not basic research, but we are still in research level.

### Interviewer

OK. Now I'll move to the following question. So in your experience, what are the motivating factors for the application of multifunctional facade components integrating solar cooling technologies?

### Interviewee 19

So I think that mainly, of course, the use of renewable energy source and what it brings, which is also the self-production, let's say, or self-energy generation, which is important....and also the decentralization of this systems. I mean instead of having a centralized system in a building, having small or little decentralized modules, let's say. I think that is an advantage for the building use and, yeah, it's the main advantage in comparison with other traditional technologies.

### Interviewer

OK, I see. Now I'll move to the following question. So in your experience, what are the concerns regarding the application of multifunctional facade components integrating solar cooling technologies?

### Interviewee 19

So mainly I would say that the integration is complex. So the complexity of the integration itself as a construction system, OK, because maybe the integration of the components in an engineering level, it's logical and it works....but as a construction system, the integration is complex....and also the lack of aesthetical flexibility as well. Sometimes that's a problem for the application that I think that we will talk about this also later on.....And in the case of thermoelectricity, one of the concerns is also the low performance, the low Coefficient of Performance in comparison with other vapour compression systems or traditional cooling systems.

### Interviewer

OK, I can say maybe you said about three main concerns. So regarding the complexity, in the key questions, I have a few questions about it, so I'll remind you about the complexity.

### Interviewee 19

OK

### Interviewer

But regarding the lack of aesthetics, even I do have question about it in the key questions, but the low COP [Coefficient of Performance] of thermoelectric, So what are the potential ways....or in your experience in this technology, are there some ways to improve their COP?

### Interviewee 19

So here the point is that, of course, material engineers or chemical engineers that are working in the optimization and in the improvement of the Peltier cells.....they are working on that and they are improving that, but I think that right now the positive things or the advantages from thermoelectric devices or thermoelectric, let's say the Peltier cells, are completely dependent from this basic research, OK. So we have talked, for example, and we have worked also with people that are specialized on this and working in [*an Israeli university*], and they work on the performance and on the development of high performance materials for this application, but still we are completely dependent on that, because right now the COP is the performance that we get from this systems are not....they cannot fight in the market with vapour compression systems. So that's difficult. We have another option which could be....maybe some new applications or specific applications. For example, we have a very high accuracy with the temperature we use in thermoelectricity. We can obtain very accurate temperatures. So maybe for the specific applications, maybe in a lab or in some other places, this technology could be interesting, but to have like a widespread and to have like a general use of the technology, is still.....that's why I say that it's in a research level and still I think it is far from the industry or at least from the market or general building market, let's say.

### Interviewer

OK, got it. So now I'll move to the following question. How can the type of project, such as a new building construction or renovation projects, influences the applicability of solar cooling integrated facades?

### Interviewee 19

Yeah, I think that this question is nice.....because I think that in new buildings the main thing is to start working in an earlier stage of the design of the building when you want to use this kind of technology.....but in renovation building, also it's important that the technology itself and the flexibility of these modules that we have been talking about, these decentralized systems. I think it's something super positive in renovation in general, because sometimes you depend on a lot of things and then we have more and more technologies and systems integrated in buildings, and then we don't have space in old buildings or in existing buildings. So using the façade as the technological part instead of using the shaft or some other places in the building. I think that's the key factor. So maybe....in renovations is the flexibility of the building itself for any kind of renovation...and in new buildings, it's more about taking into account the technology from the earlier stage.

### Interviewer

So what do you mean by the flexibility with the renovation projects?

### Interviewee 19

Yeah, it depends on the design of the system itself, I mean, because we have.....For example, now we are working with thermoelectrics. We are working in the design of the integration of thermoelectricity in the window frame, OK. Instead of integrating in the wall, integrating this in window frames, OK. So we work with an aluminium company and it's difficult to get to a solution that could fit any kind of building, OK, or could fit any kind of design of building. So that's why it requires also being flexible and trying to adapt to different building, different window sizes, different building use and energy needs, OK. So that's why it needs to be flexible.

### Interviewer

OK, I get your point about the flexibility with the renovation. So now I'll move to the following question. Since you a little bit....you just now you raise the type of building. So how can the type of building, for example office, residential, healthcare, educational, etcetera, influences the applicability of such facade products?

### Interviewee 19

Yeah, it depends.....That's why.....Well, it's also related with the modularity that I was talking before....That, for example, or at least from the thermoelectric point of view that I think that this could be applicable to other solar cooling technologies.....but from our side, for example, offices are the main application and because usually they have very modular façade. Their indoor space usually is flexible. So they are a nice application for this modular systems. If it is a residential, like a residential complex, I mean it's not like a one family houses....If it is like a huge residential compounds, maybe also could be interesting....and then some other more complicated applications, like healthcare or maybe educational. That could be more interesting. So I think, for example, in thermoselectricity, I think that offices could be the first or the initial application to try to widespread this this technology.

### Interviewer

OK, got it. So now we talked about the type of projects. We talked about the type buildings. Now I'll talk about the location and the climate conditions. So in your experience, how do locations and climate conditions of buildings affect the performance of solar cooling integrated facades?

### Interviewee 19

Yeah I think that they affect completely the performance and this is the bad or the disadvantage of solar technologies. They depend on sun and that's difficult because I think that it is super positive.....and I'm talking from Spain....but for example in my city in Spain, in the north, in the last autumn in November, we just had 24 hours off-sun because it was like very cloudy autumn and rainy....and in the news was that we had in a month 24 hours off-sun, right, and we are talking about the façade. We are not talking about roofs. So it's very dependent and of course I think that any solar system, in general, maybe in some of the locations could be feasible....but needs to be supported by some other system at some point, if you wanna be kind of decentralized or kind of disconnected from any other.....I mean not from any other network because you can be connected in your neighbourhood or in your country or whatever, but right now the problem that we are having in Europe depending on some other, like huge energy suppliers....I think that at some point the positive things of renewable energy is to be dependent on yourself, right? So I think that when you consider just solar cooling technologies, I think that it should have some other kind of support from some of the technology, which is not depending on the sun.....and I say this from Spain and yeah

maybe this is not the best thing or I mean.....Yeah, it's what I think and it's the reality I think. At least here in the north of the Spain, OK. So if I say this from the north of the Spain, I think that it could be applicable in most of Europe, right.

**Interviewer**

Got it. So to summarize, do you have something in mind about which locations and climate conditions would you suggest to apply such technologies?

**Interviewee 19**

Yeah, of course....Locations.....it's important the city and the density of the city itself. If you are in a very dense part of the city, you cannot depend on the façade or just in some part of surfaces on the façade....that of course you need to be southeast or southwest or South located, right.....and then also it is.....I don't want to rely on roofs because we don't have roofs for everyone, but then that's why I think that facades are the key for all these things....but it's true that it's not always possible to get energy from the sun in the façade. So yeah, I think it's super dependent on this and that is the truth, but it doesn't mean that it's not the technology that it's not working. I mean I think that it works, but it should be supported also by some other technologies, right? It's not just putting all our effort just in one way.

**Interviewer**

OK. So what do you mean by supporting by other technologies? Do you have something about...

**Interviewee 19**

Yeah, for example, right now that....We are talking right now and trying to avoid the gas and trying to avoid some other things.....we're talking about hydrogen or talking about some other renewable technologies that don't depend on the sun....or maybe wind power or from water or whatever.....but what I mean is that this is nice and I think that in a building level and for architects and building construction industry and sector and companies, I think that this is something that they need to take into account, but it's not the only way or it's not the only technology that we should consider, right? I mean it's not going to cut your dependency on some other energy sources.

**Interviewer**

Got it. OK, so now I'll move to the last question in the opening questions. So it's about the different technologies. So mainly you have experience with thermoelectric....so how do you see the choice of the solar cooling technology, namely electrically-driven or thermally-driven, would affect the application of such facade products in a particular building projects?

**Interviewee 19**

Yeah, I think also it depends on the demand of the building and the use of the building. Yeah, it could affect and also it's relies on the cost-effectiveness of the technology and depending on the demand. Yeah, depending on the demand of the building.

**Interviewer**

OK, so I see. Now I'll move to the key questions.

**Interviewee 19**

OK.

### Interviewer

So I have in the key questions....I have three main aspects...technical and product related, then financial aspects, then presses and stakeholders. So now I'll start with the technical and product related aspects. So when I asked about your concerns, you talked about the complexity in the integration. So now I need you, if you don't mind, to elaborate more. So in your experience, what makes solar cooling integrated facades complex products?

### Interviewee 19

OK, so in the case of thermoelectricity, OK, and thermoelectric and the Peltier cell integration, it's mainly like, I mean among other problems, the physical construction system integration is not completely solved. I mean we have situations and we have problems with thermal bridges, and today we are trying to make passive houses with no thermal bridges, super airtight and suddenly we are making some holes to put some thermoelectric cells, let's say, and so this integration and the design of integration and the constructive system itself is not completely solved, OK. This is the challenge that we have been working on the last few years and in fact now we jumped to trying to integrate this in windows instead of in walls, right....and because windows are something that you take and you put them instead of building a....I mean our walls were also like plugging walls, right....but that's something that it's not solved....and I think that some other research groups that work with thermoelectricity haven't solved this either, OK. They have been working on the performance but not with the constructive design of the system itself to be completely integrated, OK....And the airtightness and the thermal bridges are two of the main problems with this integration.

### Interviewer

OK, so now currently these two issues haven't been solved yet...the thermal...

### Interviewee 19

No...No...and then...well it's the performance, but the performance is another thing. It's not so much about the product and the technical thing.

### Interviewer

OK, got it. So now I'll move to the following question. So how could we address challenges related to the space availability or interrupting other building services when we integrate such technologies?

### Interviewee 19

I think that this is something that one of the most positive and one of the most advantages that this kind of system have....decentralization.....I mean it's a challenge.....but I think that this is not the main problem of the technology, at least in thermoelectricity because it is just about having a wire or having just something to plug in and that's it.....So I think that this is not about interrupting other building services and this is the key factor that we are not going to interrupt anything because the system itself is going to be in the façade....So we don't need anything else, OK. Our challenge, main challenge was to try to put together the heating, the cooling and ventilation just in this system through thermoelectricity.....So it's not about interrupting.....it's true that when you are talking about renovation and, yeah, just refurbishment of buildings.....the space availability, it's something that could be a problem, but I think that it's not the main issue. I think that this is in fact one of the key things to keep working on this technologies.

**Interviewer**

Got it. So now I'll move to the following question. What are the key aspects to consider for the maintenance and the durability of solar cooling integrated facades?

**Interviewee 19**

OK so I have here two things, which one is the accessibility to the components. For example, the Peltier cells are very reliable and in theory they do not break, but they break and you have problems and at least this is in a research level. So the accessibility to the indoors and the insights of the system....it's important.....And then the other thing is the control system for the maintenance, and I think that a nice control system design completely adapted to the application and to the working conditions of the system that you are designing. I think that this is the key factor. In fact, we are working now on this because we have been relying on other control systems from all the areas and not in control systems, specifically for building application and this has been a problem in the past. So also having a nice control system and having also the accessibility to the inside of the system, I think that's important for the maintenance.

**Interviewer**

OK. Now I'll move to the following question. You talked about the aesthetics before. So now how do you see the role of aesthetics in the widespread application of building facades integrating solar technologies?

**Interviewee 19**

OK, so I think that it's difficult if an architecture Studio is working on an office building design. I think it's very difficult to convince them to try to apply this if you don't have what I was saying before "a flexible solution" that could be adaptable to any kind of design that someone has in mind. So here we have two aspects. One of them is to work from the earlier stage of the design. I mean, if it is a public building....maybe just from the public building....yeah from the beginning, the administration should include this in the building design, OK, because otherwise it's very difficult to convince architect....and so it's important when offering this kind of technology, to try to adapt to different finishes. So, yeah, I think that's a key factor and this is something also challenging for us because usually you try to put us as you want and the finishes or the design of the things, but we need to think that some architects design everything, design their own window frames sometimes, and they design everything themselves for certain buildings. So it's important to consider this from the earlier stage.

**Interviewer**

OK. Got it. So yeah, flexibility....flexible solutions and then to be adaptable to different textures...

**Interviewee 19**

Yeah, textures and also different external layers and finishes of the building mainly. I'm mainly thinking on offices because I think that it's the first step for this kind of technology, but this just in general.

**Interviewer**

OK, got it. So now I'll move to the financial questions. So we are still in the key questions. So now in your experience, how can the industry develop affordable and financially visible facade products integrating such technologies?

**Interviewee 19**

OK in here I don't have so much experience because I do not work in the industry itself because I'm looking in applied research....so I think that still for the thermoelectric, if we don't solve the performance to try to have a system that can fight and that can be considered in the market and be with vapour compression system, I think that is still we are not talking about financially feasible façade and these things. I think that is still we depend on the optimization and improvement of the performance.

**Interviewer**

OK now I'll move to the following question. So what are the potential financial incentives that can support the widespread application of facade products integrating solar cooling technologies?

**Interviewee 19**

Yeah, this is similar as the previous one, but here it is true that in related with both of them. If this is not included from the project and from the construction and from the buildings to start with this....if it's not included....if it's not something included in public buildings and administration....working on the renovations and those things, I think that it's going to be difficult to see a lot of this kind of applications in the near future in cities, OK. So that's one of the things....And the potential financial incentives, yes, of course this is like the solar cooling technology, I mean the solar systems in general...Photovoltaics, and all these things, if we don't have incentives.....if you don't have specific policies...I mean this is more expensive than a conventional system. So it needs to be some policy, some economical financial incentives....Otherwise, nobody is going to risk their money on this if it's not that administration.

**Interviewer**

Got it. So now I'll move to the last part before the closing questions. It's about stakeholders. You can see from this chart we have different stakeholders involved in the façade design and construction. So in your experience, which of these stakeholders can support the application of façade products integrating solar cooling technologies?

**Interviewee 19**

Yeah, I think that mainly it's between architects and façade builders.

**Interviewer**

So but why do you think about architects and façade builders?

**Interviewee 19**

Maybe it's because I work with a lot of architects and I know that architects are very stubborn. I think that if you don't convince an architect, it's very difficult to include these kind of technologies in a building. If it's not something coming from the user or investor....but an investor is not going to spend money because.....I mean maybe some people having a lot of money and they want to, I don't know, to invest on these technologies, but just people don't want to play with money and I think that we need to see a lot of projects to support the reliability of this technologies. So it is about administration and public system and public stakeholders. If they are the clients, could be, but otherwise, if you don't convince the architect, it's difficult. Yeah, because it affects the facade and the facade is the final looking of a building. And yeah, that's my opinion.

### Interviewer

Yeah, yeah, sure. I need your opinion. So OK now I'll move to the following question. How can we increase the knowledge and experience of architects or engineers regarding the technical aspects of integrating such technologies to building facades?

### Interviewee 19

Yeah, I think that here it's a bit related with the thing that I said before.....sharing positive experiences and sharing....I think the buildings that already include this kind of technology are not usually well known.....Maybe it's more an effort of dissemination. This is also related always with lobbies and trendy things that come from other lobbies and higher powerful thinkers, let's say, but I think that it's more about trying to disseminate more the things that have been done.

### Interviewer

OK, got it. So now I'll move to the following question. So if we'd like to have a standards or guidelines for architects and engineers. What are the key elements that should be there...to be in such standards and guidelines for architects and engineers to integrate solar cooling technologies into building facades?

### Interviewee 19

It's more maybe about guidelines than the standards.....I'm not very sure but I think that having this in earlier stage for a good integration, it's a key factor.....and also from the other side is trying to ask for modularity and easy maintenance of a building.....and when you are designing something for....when on your top of priorities, when asking for a building to an architect, if it is the easy maintenance, for example, or the decentralization, I think that there could be.....I mean this kind of systems are interesting and are a priority, but if you are not asking for this kind of things, it's difficult to introduce these technologies from the beginning.....and also the modularity of the façade, which is also related with easy maintenance of the façade. If something is broken, it's something that could be easily repaired and easily also fabricate it and manufactured. So this modularity, it's key and it is something important from the earliest stage. So yeah....and also as I said before, I think that it's more about when public administration is asking for a building in a competition, they should include this from the competition requirements. Otherwise, it is difficult to introduce this in the market, yeah.

### Interviewer

OK, got it. So now I'll move to the following question. How can the industry increase the variety of products that would attract customers to apply such façade products?

### Interviewee 19

Yeah, I'm a bit far from all the kind of technologies that are in the market right now, for example, but for us and talking from the thermoelectric application, we need more research. So it's more about keep going with research and of course more investment, and I think of the performance which is.....Yeah....I mean we are working together from a lot of different fields, but I think that we are still far from customers. I think that we research on this.

### Interviewer

Got it. So overall how can we increase the interest of designers, developers and the clients in solar code integrated facades?

### Interviewee 19

Yeah. So here the same as before which is the dissemination or trying to get to know the things that have already been done, and then the other thing is also to demonstrate the flexibility that I was talking before about the finishes and the aesthetics and saying that if we include this kind of technology, we are not going to have all of the buildings similar or the same because all of them are with photovoltaics everywhere, but we need to go a bit further in the aesthetic thing. Otherwise it's difficult to increase this interest...mainly in designers and also clients, yeah.

### Interviewer

I see. So now I'll move to the following question. How can changes in building regulations affect the widespread application of solar cooling integrated facades?

### Interviewee 19

Yeah, here mainly is if the importance of the decentralization, it's needed or it's asked from the regulations, I mean, and I think that we are.....I thought that we were a bit far from this but now last month it has changed a bit.....I think that we are not so far from this day and because the decentralization.....if we are trying to be self-dependent and if you start feeling self-dependent, at the end you don't want your air-duct to be coming from the office above which the owner is another one.....I mean when you have ducts through all the buildings, sharing with different companies, and if you know that this is like the hidden system that it has to be completely decentralized and you need your meter and you need your everything. So I think that we will achieve some point where you can control just your space depending on the façade and depending on the system that you have on your own façade and you don't depend on anyone else, right....So I think that decentralization, it's something important and it should be as slowly included in regulations or at least it should be considered in, for example, in the competitions that as I said before...it is difficult to change the regulation, but it's easier if public administrations start including this kind of in building competitions....from public buildings.

### Interviewer

OK, got it. So now I'll move to the following question. So it's similar, but it's about energy policies. So how can changes in energy policies affect the widespread application of façade products integrating solar cooling technologies?

### Interviewee 19

Yeah, this is the same. I mean the economical incentives for this kind of applications are necessary in any case because this is more expensive and also we need more money to try to develop less expensive systems, and also.....For example, here in Spain we have been a lot of years without energy policies and without any kind of incentive for solar technologies, OK, and it is Spain. So I think that we can keep going with research. We can keep going with any other systems or other technology development, but if the policies do not go on the same way, it's very difficult to continue or at least not to continue.....it's very difficult to see this in the market and we will continue seeing gas boilers and we'll continue seeing some kind of systems that are far from this.... and yeah, of course, it's basic the policies.

### Interviewer

OK, so now [Name of Interviewee 19], I'll move to the last part before the closing questions. It's about the processes. You can see from this chart, we have different processes involved in the façade

design and construction, starting from the design phase till the end of life. So in your experience, which phase is key for boosting the integration of solar cooling technologies into building facades?

**Interviewee 19**

Yeah, in my experience, in the design phase, mainly in the design phase, and I would say that the assembly phase could be also important, but mainly in the design phase....but also I'm an architect, so I'm more related with the design phase, but, yeah, I think that it's important.

**Interviewer**

So OK, since you talked about the design phase....Now in the coming questions, I'll ask each phase by phase. So what are the main aspects to consider during the design phase of a facade product integrating solar cooling technologies?

**Interviewee 19**

Yeah so I think that here mainly is the orientation of the building and the buildings in the surroundings....When you depend on the sun, it's basic to analyse, well, orientations to analyse well the height of the building and the surroundings.....and then also if it is the renovation, the dimension and the existing connections of building services are also important, but mainly orientation and the surroundings.

**Interviewer**

OK now I'm still in the design phase, so how can we achieve a closer collaboration between various stakeholders and disciplines during early design stages of such facade products?

**Interviewee 19**

Yeah, the this is an internal challenge in the construction sector and I don't have the solution. I would say that also getting to know the technologies and also the dissemination that I said before, I think that is basic because right now we don't need to.....Yeah, I mean, still a lot of people need to have more information about this, OK. I think it's not known in general.

**Interviewer**

OK, now I'll move to the following question. It's about the production phase. So what are the key aspects needed to be considered for the production phase of façade products integrating solar cooling technologies?

**Interviewee 19**

Yeah, this is about the I think the design of the components or I think from the thermoelectric experience, OK....We have been designing like a specific components of the system just for us because we don't have similar system in the market. So I think that the design of the components and trying to see the production of those components and this batch production of this components is important.....and, yeah, but this as I said this is more thinking in a research level. So I don't have an answer for an industrial level system.

**Interviewer**

OK, now I'll move to the following question. It's about the assembly phase. So what are the key aspects we need to consider for the assembly phase of a façade product integrating such technologies?

### Interviewee 19

Yeah, and I think that this is also related with the maintenance and I think that it should be an easy maintenance system. It also should be an easy installed or easy assembly system. So I think that assembling all the systems or having the option of modifying, changing components, the system itself from the interior, from the inside of the building.....and do not requiring any external whatever system or any external thing to change, to install, to maintain, to repair the system. I think that that's important.

### Interviewer

OK. What about the operation phase....what are the key aspects we need to consider for the operation phase?

### Interviewee 19

Yeah, I think that this is same as any other technology that we have now in buildings. If you have domotics or if you have any other things that people are not used to it.....I think that the an initial information and education thing...it's important.....and here also I'm not in this area of the occupants and occupant behaviour but trying to redesign the user experience of this and I'm pretty sure that there have been projects and try outs on that, but I think that this is not solved. I mean I have friends that are getting new buildings right now and they don't know how the system work and they have been on meetings and they have had like the user manual and they have everything, but they still they don't understand, right.....and they are not elderly people that maybe are far from technology. So this is also a constant challenge and I wouldn't say that this is different from any other technology that is installed in a building, OK, I think.

### Interviewer

What should be considered for the end user knowledge?

### Interviewee 19

I think that they need to understand how a building works.....As you understand that you breathe and you need the oxygen to keep going and you need some kilocalories and you need some energy, I think that they need to understand how a building works, and once you understand that, then you can understand any technology, I think. If you are not an elderly people that do not know how things work, just how a screen can work.....but if you understand how a building works.....I think that's something I have had this conversation with friends that have no idea what buildings.....And people do not understand that much about the building physics, basic building physics.

### Interviewer

I see. Got it. So now we are at the end. So in the end of life. So what are the key aspects we need to consider for the end of life of façade products integrating such technologies?

### Interviewee 19

Yeah, this is a complicated thing, but of course it needs to be considered. For example, in thermoelectrics, right.....it's a very reliable system in theory. It's a very reliable system and so you can count on having this installation for a long time, right, but for example, right now the **pray** that we have....and we have been working a lot with aluminium companies and considering aluminium because of course we need metals and we are working now with window frames, but we also consider aluminium because it's easier to recycle and to reuse, let's say.....we're more than reuse

recycle. So I think that this is important.....Thermoelectrics have some positive things that we don't have any refrigerant cycle in the system. So also that's easier for the life cycle of the system, and for the end life of the system that we don't have any refrigerant, but still we are working with a lot of metals because we have a lot of wiring and we have the system itself.....but for that, for example, we consider more aluminium than other metals.

#### **Interviewer**

Got it. So now I'm done with all key questions. So [Name of Interviewee 19] thanks. So just few points in the closing questions. So what are your final remarks about the widespread application of solar cooling integrated facades as building products in the construction market?

#### **Interviewee 19**

OK, in my area which is thermoelectricity, as I said before, I think that it is still a lot of research, basic research, is necessary to get better performance of the system itself, and in general I think that it needs to be something coming from the public administration to start seeing this kind of technologies in buildings, right.....and the dissemination, it's also important to spread the information and to get to know the real experiences that already have happened. So, yeah, but in our case the research is still necessary.

#### **Interviewer**

Got it. So now what do you think about the application of solar cooling integrated facades for enabling energy transition?

#### **Interviewee 19**

I think that they are very interesting. I think that they are completely logical and that they are part of the energy transition for sure, and for, example, in my case, coming from a South of Europe country that we have in theory a lot of sun and this, I think that, for example, in Spain we are far from where we should be. We need to rely more on solar systems in general and of course solar cooling is an option. So, yeah, it's necessary and it's logical for the energy transition. I also think that the energy transition is not about putting all the effort in one technology. It's about having a lot of technologies that can work together for different demands and weather conditions or locations or whatever.

#### **Interviewer**

Got it. I see. So now I'm done. So finally about potential participants.....like as I heard about you from [Name of one of the previous interviewees], so the same questions I asked at the end of the interview with [Name of one of the previous interviewees]. So I'll ask you the same question. Do you mind to propose potential participants to be interviewed for this study?

#### **Interviewee 19**

OK. Yes, I can give you.....