

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

So I'll start the opening question.

Interviewee 8

[Name of the Interviewer] comes here to be honest in fact the PVT that we apply is a new area in the options you just showed because it's the combination of photovoltaics and thermal. That has not been done yet. Not on a bigger scale and there is a strong synergy between them.

Interviewer

OK. So yeah, I think in question eight, you can elaborate more about it and I'll remind you when we reach. Also now with the pointing questions you elaborate more. So [Name of Interviewee 8], according to your experience, what is your opinion about the current level of knowledge in the building industry regarding the application of multifunctional facade components integrating solar cooling technologies?

Interviewee 8

The building industry is typical very traditional. The first question when we propose a system is the first question is do you have any reference project? And this question in itself seemed to inflict that the building industry is only wanting to adopt innovation when it has been done already. And then it's not that innovative anymore. Yeah. So the current level of knowledge in the building industry is people only want to do things that are proven technology and are completely a safe. So the level of technology of knowledge is not such that building industry can easily adopt new techniques or combination of existing techniques.

Interviewer

OK, got it. So in your opinion, what are the motivations and concerns regarding the application of multifunctional facade components integrating solar cooling technologies?

Interviewee 8

Can you?

Interviewer

Yeah, sure. So first of all, let me start with the motivation. So what are the motivations to apply multifunctional facades components integrating solar cooling technologies?

Interviewee 8

Yeah, OK. Well, the motivation should be operational cost. They want to have a building that is durable regarding a long life and a low carbon footprint. Not only for building but also for operation. And what we typically say is that the biggest motivation when we have a party asking us if you can

supply a PV or at least an energy generating facade system, whether that is PV or PVT or only T. But the question we always ask is your operational horizon only the next five years or the next 30 years?

When it's only five years, what we typically see in building is by developing a building, put a tenant in it and then sell it on to a financial company when there is the business case. We stop further investigation and conversation because then the party is typically only involved in the lowest price for the building and it's absolutely not interested in operational cost. As soon as there is a situation that the project developer is having a long term horizon, then it's completely the other way around. Then we're talking about active façade, energy generating façade, smart building integrated energy systems. That's when we get that in operation.

Interviewer

OK, now let me move to the other side. So what are your concerns regarding the application of multifunctional facades components integrating solar cooling technologies?

Interviewee 8

While the concerns is that like I said short term investment horizon. There is a concern. Other concerns is the level of technology at installation companies and engineering companies to engineer building installations because the biggest issue is integration of technologies. That's why our company is, how I call it, representing us as a system integrator. So we supply the whole facade system, including the mounting system, the energy generating systems. Getting into the building, that's where it stops for us. And we need to work in close cooperation with the people, engineering the building installations.

Interviewer

So this way that the way now you are working you consider that it could be address your concerns or can help in addressing your concerns?

Interviewee 8

Well, the concern is that having these system working fine and creating the optimal situation regarding carbon footprint and operational cost requires a very intense cooperation between us doing the outside of the building and the engineering company who is doing the inside of the building regarding installations. And we see they are biggest concerns at the moment is to find the right parties being able to do that and to work in cooperation, in close cooperation with us.

Interviewer

So what do you mean by finding the right parties if you don't mind?

Interviewee 8

If they have the proper knowledge and the proper open mindedness to get these kind of innovation to the market to realize it.

Interviewer

OK. Now let me move to the following question. So how can the type of project such as new building construction or renovation projects influence the applicability of solar cooling integrated facades?

Interviewee 8

Yeah. Well the biggest influence we need actually the parties involved that need to be open on what they want. That's the biggest influencer. So what to properly innovate and to properly engineer and realize requires open mindedness of every party involved and that includes the developer, includes the architect, includes the engineering, and somebody who's doing the, how I call, it's the orchestra to orchestrate, together, to organize it together.

Interviewer

OK. But generally the type project, either new building construction or renovation project, do you see any differences for applying.....?

Interviewee 8

No, we don't know. It's renovation is interesting. What you have, you probably know yourself, that more important building projects are also in a renovation that you keep the main structure of the building. You start from there without demolishing it completely and start from scratch. Yeah and that is interesting but also being involved in an early stage at a new development added that's also. One of the things that is running at the moment is a development in CLT cross laminated timber. You're probably aware of it. The developing residential buildings at the moment for more than 25 storage height and Woods completely. And the product we have with the PVT façade which is very durable is an ideal product for these kind of new developments.

Interviewer

OK, now let me move to the following question. So what about the effect of different type buildings? So we have office, residential, healthcare, educational. What do you think about the effect of such building type on the applicability of such facade products?

Interviewee 8

Yeah, that's a very good question because the usage of the type of building is largely influencing your possibilities. Let's say the bigger buildings with only one in building installation. That's easy. We're doing that already and the way to realize it is pretty straightforward. The difficulties, especially in Holland, are the residential buildings because by law it is regulated that energy should be paid for per apartment or per house. And you're not allowed, to put some cost some extra cost when you have an apartment building. You rent all the apartments. You can ask a certain amount of rent, but when the building is very energy efficient because the building itself can supply the energy consumption, then you're not allowed to ask a little extra rent and save on the energy cost. Because the energy costs need to be invoiced separately and you not allowed to put a very expensive but energy efficient installation in building. Ask them extra interest to the tenants and in return they get a very low energy consumption. That is by law regulated in Holland and it's a difficulty. So that means there is a lot of difference in which type of building it is. Also depends of course in the usage of the building. Typically at offices you have usage during the day and the residential it's all day and largely in the evenings and nights. Yeah and so in time during the day you had the radiation for energy and to play with, especially for heating. So for residential functions, it's more important to focus on heat storage. And typically in offices, office buildings it's our impression that there is a bigger need for cooling of the building.

Interviewer

Yeah. Now, in your opinion, to what extent do the locations and the climate conditions of buildings affect the performance of facade products integrating solar cooling technologies?

Interviewee 8

Yeah, that's also very interesting question. We have the experience of course by creating energy generating facades. It's a vertically oriented product and what you typically see with a vertical product is that you won't get the power output annually to a certain level. So it's got a lesser output annually, but you get a much better spread of the of the power output. So especially in winter and spring and autumn, vertical orientated panels have a better output in winter even by 4 than South oriented panels which gives the annually the best power output. But you only have the peak in three months a year in a moderate climate which we have in this side of Europe. Of course when you go a bit more to the South it's improving but especially in the in Western Europe or let's say up the northern Hemisphere or lower in the southern hemisphere, closer to the Poles, you will benefit from a facade system because of the low angle of inclination to the sun. So those systems are better performing in winter, which is beneficiary because in winter you need most of the power.

Interviewer

So generally which locations and the climate conditions would you suggest for applying facades products integrating solar cooling technologies?

Interviewee 8

Yeah, It's different. In let's say in more the northern parts of the world, it's better to have vertical use it for a solar and heating in winter. In the southern country, more southern, you need cooling in summer and then of course it's better to fully focus on the on the South oriented panels. Yeah, that's a difference. So we adjust to the geographical position of the building. And of course, the energy need of the building.

Interviewer

OK, now let me move to this question as I told you before that you can elaborate more. So we have different technologies, photovoltaics, solar thermal collectors, PVT. So do you think different types of technologies such as electrically driven or thermally driven would affect the application of façade products integrating solar cooling technologies?

Interviewee 8

Yes, very much. What we've seen is that basically the price of solar cells decreased dramatically over the years. We get a lot of questions by customers who are asking can you make a dynamic facade system where the panels are orientating themselves towards the sun, creating optimal power output. And we always say skip it because you introducing a lot of technology, a lot of cost, a lot of parts vulnerable to breakage or dis-functioning. And so the extra power you get out of it by those kind of techniques is never giving you the benefit and more power output. So we always advise to go for a bulletproof simple static system, which has a long life, without maintenance. Better invest in more installed power in putting more cells in the facade. Yeah that's basically our approach. We've also been involved in louver systems, movable louver systems largely. A very nice, very climate clever. The big downturn is always the maintenance breakage, risk of parts malfunctioning, a very complex direction. Things like that. Our advice is always the only thing you do to the building is cleaning it on the outside. You wash your windows. You want to do the same with the rest of the

building and what you don't want to do is put maintenance on the outside of the building, especially when it's a more than 10 stories high. You don't want to do that.

Interviewer

OK so. To summarize what are the important issues needed to be considered for maintenance. Cleaning, washing, no need for that much maintenance from outside.

Interviewee 8

Exactly. So you want to have it as simple and as bulletproof as possible, and a typical facade system need to last at least 50 years. At least.

Interviewer

OK. So now we'll move to the key questions. I have questions related to technical and product related aspects. Then I have financial aspects and finally process and stakeholder related aspects. So now in your opinion, what would make solar cooling integrated facades complex products?

Interviewee 8

Well like as I said when you put too many technology and intelligence in it, then it's making it complex and it's making it....you will run into the situation with a lot of operational cost, which you don't want.

Interviewer

So to address such complexities, we need for example less technologies?

Interviewee 8

Yeah. What we say make it a static as possible. PV a static of course. You plug it in and it will function for the rest of its life, usually. And the same goes with the thermal. We developed it such that it has no moving parts. It recyclable. It's easy to install. They can cope with a very high pressures, so it has a very wide operating range, yeah, things like that. The trick is to make it as simple as possible.

Interviewer

OK, what are the potential solutions that can address challenges related to the required space availability or interrupting other building services when we integrate solar cooling technologies into the facades?

Interviewee 8

Yeah, like we said when we're talking about building services, it's of course a combination of electrical power, heating and cooling. Those are the building services. That's what at least where we focus on and the combination of that is very interesting. Yeah. What can I tell you more about it?

Interviewer

OK, now I was going to ask about the important aspects you need to be considered for maintenance and you mentioned already cleaning, washing, not that much maintenance, but what about the durability?

Interviewee 8

Yeah, like I said durability, we aim for a life expectancy of at least 50 years. Let's say when you put up a building, especially when it's more than 10 stories high, it will be there for at least 50 years. At least. And you want to have a system that stays in operation for at least 50 years. So it needs to look nice because it's a facade product, so it needs to have its visual quality for at least 50 years and it needs to have its power output quality for at least 50 years.

Interviewer

So the role of aesthetics you think that the visual quality should look nice for about 50 years.

Interviewee 8

Yeah. And it's also our aim regarding durability. Durability is a few items. It of course needs to last long. It needs to stay nice and operate well for a long period of time. They need to be able to take it apart and to recycle it afterwards. And of course you need to be able to produce it for the right price and for the right, let's say carbon footprint. And altogether we're talking about durability and then you run into cradle to cradle project or carbon footprint programs. Things like that. Recyclability. But we strongly focus on a long life expectancy.

Interviewer

Got it.

So now I'll move to the second part, which includes questions related to the financial aspects. So in your opinion, how can the industry develop affordable and financially visible facade products integrating solar cooling technologies?

Interviewee 8

Yeah, that's of course precisely... it will be financially interesting when you can take your investment over a long period of time to our investigation. It's a key factor.

Low maintenance cost. In our case it's basically only cleaning the facade. You don't want to run into a rigorous maintenance program. And it needs to be flexible. That means a typical building installation is...heating installation is not running for 50 years. That's maybe running 15 or 20 years. And when your system is flexible, regarding what you can do with it, then it's still capable after the first run of 20 years to couple it onto another system.

Interviewer

OK, now can you tell me what are the potential financial incentives that can support the widespread application of facade products integrating solar cooling technologies?

Interviewee 8

Yeah, like I said the product we are supplying is a typical glass panel with the ceramic print onto the front glass there. We always use laminated glass. It did last very long but we are also able to render the print. So technically speaking, we're able to apply all kinds of colours and all kinds of prints. So we can print a brick paint on it. We can even print the night watch on it. So to make it also financially interesting means that an architect is not limited regarding colour, size, and pattern to put on the what he wants. In our presentation you will find already some examples, some very fine examples of what is possible. So first of all, the architect gets precisely what he wants regarding size, colour and shape. And yeah also there is also already a product that we can supply for a financial acceptable

price level. And furthermore, we can integrate two extra energy functions, that being the electricity and being the thermal function. So when you look at it with this approach, it will be always financially interesting.

Interviewer

OK. It is good that you started talking about these stakeholders, which I'm going now to cover some questions about architects and different stakeholders. So now you can see that we have different stakeholders that are involved in facade design and construction industry. So in your opinion, which of these stakeholders can support the application of façade products integrating solar cooling technologies?

Interviewee 8

Well, on top you have the five square boxes. They're all of them. Of course like I said the client user or investor. It starts there. Like I explained to you. When you have a short horizon, which keep him out of the equation. When it's an investor that is looking for a long term. That's a different situation.

Of course we can serve the architect with a very high end architectural product regarding colour and shape. Of course, the consultants are interesting because they can the advice on a very...Consultants are involved in building regulations and permits but also in energy advice and typically in Europe at least. You will easier get your permits when you're building is more carbon neutral. And that's the latest innovation is not only the energy consumption but also water. Yeah. So it's basically self-sufficient buildings. That's where in the direction is going to.

Interviewer

OK, so now [Name of Interviewee 8] you're dealing with architects and you have some experience with architects. So in your opinion how can we increase the technical knowledge and experience of architects and engineer about the technical aspects related to the facade integration of such technologies?

Interviewee 8

Yeah, well the architect, typical architect, is focused on the visual aspect of the building, which materials are used, how does it look and what we usually see is that architects are not very aware of the energy consumption or behaviour of the building. And of course, it's not all architects. There are also very good architects who are making a very good designs. The buildings are by itself already there are handling energy better by proper orientations of windows, windows sizes, things like that. But there is still a big mission to tell architects in the department of energy what is possible and what they can do. The first reaction we get a lot is that we say, well, we can supply you an energy generating facade and the first reaction is we don't want to have solar cells in the façade. And I said, hey, listen guys, we can make you something that you don't see the cells. So regarding colour and then palette, you can choose anything you like. And then for example, when you want to have a wood look, it looks like wood on the façade, then we tell them, well, we can print something that looks similar. They say but it's not the same. But it's a mind-set.

Interviewer

So OK let's assume that if you'd like to have standards or guidelines for architects or engineers, what are the key elements that should be in the standards or guidelines for architects or engineers related to the façade integration of such technologies?

Interviewee 8

The keywords and this is always cooperation. When the architect usually you see that an architect has an idea about the building, he makes his design and he states which materials to use in what he wants, without looking at what it costs, what the consequences are. That's his design and that's it stays like that. But he can also do it differently. You can also say well, this is what I want and how can I create this and please advise me on the materials to use. Then you get a different discussion. So it's basically go down to cooperation and tell what you want. Tell how you want it and what needs to be done and do it with your suppliers, with your key suppliers or key engineers and they will help you out with a solution.

Interviewer

So OK, you mentioned the word cooperation. So how can we have a close collaboration among different disciplines and stakeholders during early design stages?

Interviewee 8

Well, in this in this graph you put the arrows, which is very good in two directions. All connections are two direct connections. The trick is that it does not always work like that. It should be like that. But it's not always the case. So in this you pointed out properly it should be two way communication. But we usually see and that's because of lack of knowledge that somebody says I want to have it like this. And then the other, when he's not asking something in return. Yeah. Then the other guy says, OK, that's what you want. That's what you get. And it should be the case that you say, OK, I hear what you want, but let me help you out and give you some alternatives. Well what do I mean [Name of the Interviewer] is that it should be a knowledge driven communication

Interviewer

Ok I see. Knowledge driven communication to improve a close collaboration.

Interviewee 8

Yeah.

Interviewer

OK, let me move to the following question. So you talk about different types of products. So generally how can the industry increase the variety of products that would attract customers to apply facades products integrating such technologies.?

Interviewee 8

Yeah, it's very simple. What's in it for me? It's a typical customer react and of course the customer is aware that he needs to comply to building rules and to building regulations but of course look at your own situation, what you typically want...you want to have a nice, comfortable house and living for the lowest price. And it's not only what you pay in rent, but also what you pay in all the other costs like energy, taxes, etcetera. So it should be such that you are motivated to go for the best option and especially now with the increased energy prices, the discussion is completely different.

Interviewer

I see. So now let me ask about...Generally we have designers, we have developers, we have clients.

Interviewee 8

Yep.

Interviewer

So generally, what are the potential solutions that can increase their interest about the application of solar cooling integrated facades?

Interviewee 8

What it is for a façade builder general contractor, what they regard is very interesting. Being able to build it without risk for the lowest price, of course, and for the lowest amount of hours they have to put into it. So it needs to be well thought product. All risks are investigated and take care of, and they need to be able to install it with the lowest amount of hours.

Interviewer

So what type of risks that should be addressed? What type of risks do you have in mind?

Interviewee 8

Risk of the critical materials, breakage of glass, the risk of handling the materials or risk of non-functionality. I put a panel on it. I put a plugged in and it's not functioning things like that. But risk is always is also, somebody says that I can install it in two hours per square meter, but now I'm working on it and it turns out to be 5 hours per square meter. That's also a risk. So parties involved, façade builders and general contractors are always interested to be able to install it with the lowest amount of hours but also that it's certain that somebody guarantees that his people, usually not the highest educated people, are still able to install it without questions in a continuous flow without risk and without stoppings so that they can work continuously.

Interviewer

So but you say about the people who install. So generally what are the main aspects needed to be considered for the assembly including the required workforce? What are the main aspects needed to be considered for the assembly when installing these products?

Interviewee 8

It needs to be clear. So as soon as you take part out of the box, the guy working on the building knows precisely what to do. As soon as he starts working and he needs to ask himself, oh, how does it work and how do I need to handle this? That's where you lose the hours.

Interviewer

OK, great. So now I'll move to the following question so.

You talk about the regulations, you talk about that more than one time. So I have a question about it. So generally how would changes in building regulations affect the widespread application of solar cooling integrated facades?

Interviewee 8

Yeah that's a big influence. Of course we need to comply to building regulations. And that's not only regulations regarding safety and strength and physical engineering quality, but it's also regarding the building, the materials you use with the carbon footprint is...yeah you can say for example, this

product is bringing so much energy but when you need to calculate with it, because current building regulations state that a new building needs to generate a certain part of the energy consumption by itself and you're only allowed to calculate with it when your system has a certified output and this certification is a sort of barrier. For example, we can make a facade and we say this type of facade does so many kilowatt hours per square meter per year, but when we want to apply it to a building and we need to comply to these building regulations. These properties need to be certified by a governing body. And that's a cost factor. So innovating, making new products, a variety in these kind of facades that we make, yeah, it's a big problem to get these kind of innovations and to get PV to the market.

Interviewer

Are there main aspects that can help in addressing these barriers related to the certification?

Interviewee 8

Yeah, it needs to be less rigid in regulations that we say, OK, we got a product we want to apply it here. We have a simple certification method or testing method to show that it complies or that it brings certain amount of power. And we have reported that. Then you should be able to use it, but that's not the situation at the moment. We have very difficult building materials, databases where you need to put in which cost money which is certified. We have certified testing methods to create values that you are allowed to calculate with. Yeah it's quite complex and cost and not very cost effective. There is a huge cost barriers to get that done.

Interviewer

So now I have questions about the energy policies. So what about the effect of changes in energy policies on applying solar cooling integrates facades?

Interviewee 8

Yeah, like I said the building regulations are to motivate any means of self-producing power on a building. Of course it's not saying it needs to be a PV facade or solar cooling facade. It's not saying that. So any means that you can use to produce your own energy is allowed. You can put a wind turbine on the roof. That's also a solution.

Interviewer

Ok got it. So now let me move to the last questions about the processes. So we have the design phase, the production phase. We have the assembly. We have the operation and then the end of life. So my question is which one of these phases are important for boosting the integration of solar cooling technologies into facades?

Interviewee 8

All of them.

Interviewer

All of them.

Interviewee 8

Yeah, but that's also our philosophy especially solar cooling or PVT in facades. To our opinion, it's always bespoke product, so tailor-made. So you're involved in the design phase. Production is tailor-

made. And of course, we also need at this moment, we're thinking about building a new factory which is completely carbon neutral. Which means that we could be a preferred supplier because we can produce carbon neutral. So production is also very important. The assembly phase and the installing phase, like I said, the quality of your product needs to be such that everybody can install it with the lowest amount of hours. Operation phase, there are a lot of things involved like I said, low operational costs but also redundancy is very important. It needs to stay in operation when a certain single panel is malfunctioning, you don't want to run in the situation that you have to dismantle the whole facade to get that done and then start all over again. You don't want to have that.

Interviewer

OK for the operation, I have something in mind. What about the end user knowledge.

What are the aspects we need to consider for the end user knowledge?

Interviewee 8

Yeah. The end user knowledge like I said we always ask how are you looking at your building? How are you evaluating operating costs? That's where it starts and the customer needs to have proper knowledge on what he wants and when he communicate that we can help him out.

Interviewer

OK, so the customer needs to have proper knowledge with what he wants.

Interviewee 8

Well [Name of the Interviewer], the thing is that's where it's starting to get a little difficult. Of course a lot of parties involved have a sort of common practice which they preach and when you are end user and you're talking with a lot of parties, everybody has his own story. But do you have the proper knowledge to value that? Do you know what I mean? Well, I can I can tell you how interesting this technique is, but you should have the proper knowledge to ask the right questions. And that's a difficult one because you probably started to develop a building, of course you're looking at building cost and of course you're looking at investment costs, but there is so much more involved. So yeah how are your operational cost? How are your maintenance cost? Things like that. And are you equipped to ask the right questions to get the right answers for what you want?

Interviewer

OK, so now I get some insights about the operation. You mentioned low operation cost, the cleaning, easy to maintain. And even you talked about the knowledge of the customer. And also you told me many things about the installation. For example, it should be a clear to the people who would like to install it. They don't need to ask many questions. So you mentioned many things about the close collaboration. You mentioned the two way communication, knowledge based about the communication between the stakeholders.

And the production, what are the key aspects that should be considered in the production?

Interviewee 8

Key elements in production is of course you want to be able to produce it at low cost, which means you don't want have to buy parts all over the world. You want to produce at a very low carbon footprint, of course. And what you typically see is that low carbon footprint production is now also low cost when you do it properly. So a very cost efficient and your production needs to be uh,

certain. So your process needs to be stable so that your output is guaranteed regarding volume but also quality. That's of course especially with products that need to last for 50 years. That's a very important issue.

Interviewer

So do you have something in mind about important aspects related to the design. You talked a lot about design but what are the important aspects need to be considered during the design phase for facade products integrating solar technologies or solar cooling technologies?

Interviewee 8

Is that the people involved in the design phase are fully aware of the possibilities and the limitations. Especially in that area, the two way communication is very important. So that the design people, the architect and the engineers they come up with their design ideas. Communicate that with the suppliers involved in two way communication. That's where you run into the situation that you use all the possibilities properly.

Interviewer

OK, so a way to be aware about all possibilities and limitations, we should have proper communication.

Interviewee 8

Yeah, for two way communication, absolutely.

Interviewer

OK, now what about the important aspects needed to be considered for the end of life of façade products integrating solar cooling technologies or solar technologies?

Interviewee 8

Yeah. End of life phase.

First of all, it's very good to know precisely what materials you use? What the properties are and what the end of life value is?

We use a lot of aluminium. A lot of parties involved regarding aluminium as a very energy intense products, but what almost nobody knows is that aluminium is one of the best recyclable metals. And the first time you recycle aluminium, the carbon footprints is completely different compared to most other building materials.

Interviewer

So in what way it is different?

Interviewee 8

You should use the metal like this that. Smart in a way that you can easily extract it and you begin.

Interviewer

OK, I see. Now I'll move to the closing part. So first of all, what are your final remarks about supporting the widespread application of solar cooling integrated facades as building products in the construction market?

Interviewee 8

Yeah, like I said, the market is just opening up. There are a few reasons for it, that it's starting at this moment, is that of course energy prices are going up. So everybody's looking for new means of power generation. That's good. New techniques always take time to get adopted, and yeah, we invested quite heavily in communication. We have a good website. We support a lot of people like you. We support [Specific institution]. We support engineering companies like [Specific companies]. So it's getting more generally spread information and knowledge. Yeah, that's the first of the thing that people knows what's possible so they can go for it.

Interviewer

Any final remarks about the technology level. So we have thermally driven cooling technologies. We have electrically driven and you have for example, you're working on PVT. Any final remarks you want to say about the technology level?

Interviewee 8

Technically speaking, we have no remarks. The technique is such that you can apply it in a wide area of situations. So technically no remarks. Like I said, the remarks is knowledge. A lot of people involved still don't know what is possible but it's getting there. It's we get more people asking for quotations, people asking for information. And that's going very rapidly at the moment. It's the market is opening up very much at this moment.

Interviewer

OK. Any final remarks about financial aspects?

Interviewee 8

Yeah, it's sort of the same. It's people starting to realize that yes it costs money, but when you take it over a longer period of time, it makes sense, absolutely.

Interviewer

OK so any final remarks about stakeholders and processes?

Interviewee 8

Yeah, I think we discussed already a lot about that.

Interviewer

OK, now what do you think about the application of solar cooling integrated facades for enabling energy transition?

Interviewee 8

Yeah it's the way to go.

Interviewer

So yeah, we covered many things. Thanks a lot.....