Transcripts

Semi-structured interviews for campus sustainability experts at Delft University of Technology.

Interview #1

00:00:07.320 --> 00:00:37.800
R
Uh, for your participation? Uh, I'm gonna read a small introduction and and then I'm going to ask for your consent again. So to you, Dale has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particularly complex and real State Department in charge of the management and development of the real estate and sites of two delved seeks to reach carbon neutrality, circularity and to contribute to a campus that develops consider considering health. And well, being ciary has elaborated different policies for this challenge. You are being , invited to participate in a research study, title policy, coherence analysis are carbon neutral in circular campus by 2030. This is study is being done by X and copy from TU Delft. The purpose of this research study is to check whether CRE policy are well aligned and contributing to carbon neutrality and circularity goals in campus development, and it will take you approximately. 45 minutes to complete the data will be used for checking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this study is entirely voluntary and you can withdraw at any time. You are free to emit any questions as well. Uh, we believe there are no known risks associated to redo this research study. However, as with any online related activity, the risk about bridge a bridge is always possible. To the best of our ability. Your answers in this study will remain confidential. We will minimize any risk by anonymizing your participation and making sure that no statement can be directly linked to you. Uh, do you give your consent to this interview and to record it?

00:01:57.120 --> 00:01:57.830
I
Yes.

00:01:58.510 --> 00:01:59.540
R
And the first one is, uh, are you aware of the CRE policy goals on circularity? Carbon neutrality and better health and well being encompassed development by 2030?

00:02:38.130 --> 00:02:38.970
I
I'm aware of the goal but uhm, that the target, how they are, I'm not. I'm not aware about. How they are going to reach the goal and what is expected from from me as a person and for me as is working pretty good after etc no?

00:03:01.370 --> 00:03:09.980
R
OK, you mentioned that you worked for their impact center right, but at the same time for CRE or is is this is completely for just impact center.

00:03:10.880 --> 00:03:21.770
I
No, I work completely for your impact center. But of course, uh, if if, uh, the goal is to to create to create an Innovation ecosystem, a campus and or an academic campus. So if, uh, we ask yourself, decide that it's a valid value that a company. And it's come coming to live on campus. Then of course I need. Uh, cooperation with CRE because they are. Uh, representing the owner of the campus. So we need either need to discuss. Is there a plot where a company can buy their build their own? A city or, well, a lot of yeah, everything that's it's involving campus development. I go to CRE and and work together, yeah.

00:04:08.410 --> 00:04:19.600
R
OK, so it's directly related to this, uh, first question, how does your job and role at TUD linked to this? Uh, this goals on circularity and carbon neutrality. Is there any link?

00:04:24.140 --> 00:04:33.310
I
Yes, I think so, because, uh, well, you would think that it's it's obvious that if partners of theory of a… Hopefully have the same ambitions and goals as to yourselves. So hopefully if a company decides to locate relocate to tear off campus. Then hopefully they would choose for a carbon neutral facility, et cetera. Et cetera, but, uh. Uh, to make sure that we don't get any misunderstandings from the first moment of contact. I think it's also my my job to to inform a such a party about the ambitions and the goals of TUD Often not because it's real estate related, we shouldn't wait until we start negotiating land prices or something, and it's from the first point of moment of context. I think we should explain what we stand for and it's and then what we stand for is not just about innovation and go creation, but it's also about our goals for a sustainability and circular campus.

00:05:49.920 --> 00:05:55.870
R
I've been notified that the developments in the campus zuid are to be circular and carbon neutral in the beginning and that also that different companies are also trying to sell to settle in in in the in that area. How is how is that going?

00:06:09.670 --> 00:06:18.250
I
Yeah, so what TUD is investing for its own buildings for physics. Q tech. There they have quite clear KPIs on sustainability, so clarity. But we are not so clear yet to third parties, and it's all it's. There's not a a firm clear document that says, this is what we expect. It's all locally for us and our partners. Also think in in terms of at least agree, mexcellent, et cetera, et cetera. But we don't there's not a. And when we when we sent them the other requirements for Developing a building on campus, we explain him about your the prices of course, and we explain them about the the obligation to use the… how we deal with parking, et cetera, et cetera. But we do not explain what we expect from them in terms of circularity and see it in the CO_2. So far it does indeed. It was not a problem because the parties that invested in the facilities on campus had their own sustainability goals and for example, the preferred partner of tied off for, uh, accommodating third parties or the Azure dot change background. They are at least as a ambitious studio office, so so far it's not an issue, but it I think it's a little bit strange. That there's not a clear document where we say we are working on a CO_2, not neutral or campus, so this is what we expect from you. I think we it's time that we fix that.

00:08:24.170 --> 00:08:49.740
R
Exactly and this actually linking me to the next question in terms of what instruments or tools do you use to work on on these goals, or what other instruments do you think are needed? You are mentioning now again, a guideline or in a statement saying we're working towards this so you you can know as third companies where you where should you, why you should expect from us and and and in error development at TUD. Is there any kind of instrument or tool that you use currently?

00:08:55.780 --> 00:08:56.120
I
No. But, before we actually have the conversation about can accompany yes or no build it's own building on campus. We first have the discussion. What's the image of the company? Does it match with the image of the draft? Uhm, what about co-creation? Is the company already working together with TUD? Are they spending money on research and or? Are they willing to get into a an agreement where they spend money on research? And we have a discussion about what are they adding to the community, so we don't want parties that just sit there

and take what they need and and don't communicate and don't work together. So on these three items a image. A community. And cooperation we are. Really, checking on a company. How are they doing and are they or are they willing to invest? And then 4th UM Criterium is is. From them, or the spatial and economical point of view, are they willing to pay the the right length, price etc etc and I think. Not so much direct, but more indirect of course. And when judging? At this company about image and in their goals, then of course indirectly, most of the companies have sustainability goals as well. And but I think we should make it more explicitly as a part of the conversation. Instead of, yeah, doing it afterwards or not at all.

00:10:51.900 --> 00:11:03.990
R
You mentioned co-creation as a tool and I know that TUD has the ambition to also use a lot of living labs as as as a way to co-create and collaborate in these processes. What's your opinion on on the leading lab approach? This is working. It's a tool that's being completely explore and and when you when do you ask for for third parties to come in? Collaborating maybe called create that's that. Also include Judith partners like the the two dev community or departments or it's normally between the impact center CRE and and the third party.

00:11:31.670 --> 00:11:42.740
I
So we have our field labs like Robo House and and like the Green Village. Of course those are really important for vehicles to collaborate. Literally places where you can collaborate, and of course in UM, when talking about sustainability and and circularity, green villages is great. Great place. And when we discuss collaboration Co-creation with companies. Then the main goal is to get money for research to support PhD research. For a lot of companies that's not so that much interesting, because it it doesn't guarantee them anything. After four years. Where do I get it so long? It's four years is not long way, etc.So the next best thing is the company willing to invest, for example, in projects that are going on at Green Village or at Robo House? And and then companies doing projects on campus as a living lab, so not in the in the restricted areas such as green village, because Green village of course there's less regulation then in the in on campus and in the rest of the world. So doing projects on our campus? Uh, in and meet the definition of living campus. There's not so many projects. I think there's various reasons, so like for example, at the moment the plastic road is being constructed near Echo. I think that's a great example of how our camp should be used as a living lab. But we, but so far I think there's a still sort of Mismatch between the KPIs of CRE and facilitating campuses living lab. Because the KPI's are about making sure that all the buildings function for the lowest at the lowest costs longest time. And heist, comfort, etc. Et cetera and and experimenting may not come. We have not achieved these KP eyes. So what we experiences and for all the good reasons, is that a lot of good ideas to use the campus and to use the real estate of TUD as a living lab. A lot of good ideas never get any further because yeah they don't meet the KPI of CRE. So I think it's time that we have a, uh, organizer, I call it a table. Where it's not just CRE that that criticizes the proposals, but, maybe ANNONYMISED in his role as being the ambassador of a sustainable campus, or Innovation and Impact Center representative or I don't know. One of the Deans or that we have the discussion. OK, it does not meet the KPI's, but are we willing? Is it worth to take the risk or is it worse to ingest a little extra money? To make a campus into a living lab and now it's it's always a good idea. And then we ring at the door of CRE. They say sorry it doesn't meet our KPIs true and there goes. Uh, a great project. And I can understand but it yeah we, I think we miss quite a lot of opportunities.

00:15:52.540 --> 00:16:19.840
R
yeah definitely. I also have heard about about this intention of of creating such a collaborative space for the beyond and then jcrew for this kind of development because it's a really required. As you point out, the sustainability strategy by ANNONYMISED is trying to work into that direction so it's good to know that all the people outside CRE because I've been hired by CRE, also think like you in this sense and and are willing to to do this as such. Now so I, I already asked you about the policies themselves, the instruments I would like now to ask you what implementation measures have been taken or proposed to achieve the CRE goals to date or what are the measures do you think are needed? So this is more into is about like that? The practical stuff, not not the living labs or or the Green Village as a tool to mobilize people, but more like really managerial implementation decisions

put in place has anything changed in your perspective since this goals for sustainability, circularity and carbon neutrality have been put in place?

00:17:02.160 --> 00:17:02.540
I
No. I don't know you read about it in the newspaper and that's it. Uh, so I think there's two things that need to be done in the end. We have to organize projects where we as an individual working for TUD can contribute. A few years ago we had the the pilot projects travel to campus the other way. We want less people to take their car to come to campus and we want more people to take a train or bus. Uh or the bike? So, to stimulate that, UM, somebody, the mobility manager of CRE, started a pilot travel to campus the other way and people were offered to use the E bike for free for eight weeks. Or end or were offered to use a train card for free for eight weeks. So you could experience what it is to leave your car home and take another means of transport. Uh, without having any extra costs. And then a through that, uh, researches of civil engineering monitored the pilot and from that pilot actually quite a lot of people. Uh, we changed their their their way of behaving and they they from that moment on they stopped using their car, bought their own E bike and that's that's not the way they travel to campus. So that's, uh, that's it's not just CRE has to invest in in sustainable buildings. It's also us. They have to. We have to change our way of behaving. So I think in parallel their projects should be started to come to work on that, so. If with all due respects, if ANNONYMISED is very proud of making the the restaurant of BK vegetarian. It's it's like it's his achievement. OK, well congratulations. But it it's not an uh achievement that stimulates me to also contribute. So what can we do to make sure that everybody starts thinking about? What can I do? And in the end, at the same time, uh, in our daily work. Especially from the from the Department of CRE work. Can we do to a sense? Of course, real state has a big impact On our goals and ambitions, what can we do to? And improve our real estate portfolio. So I think it's in parallel. It's 2 two different processes. And then it's not a then, and we must not forget that it's not just People working for two adults and students from TU delft. By now it's also four and a half thousand people working for companies that are located on campus. Yeah, so it's also about how can I have what can a campus and we will stay do too? Uh, present the KP, their KP eyes and and also Yeah, express OK, we cannot do this by our own. We need you, to contribute, and I think that's also forgotten. If we don't get the support of of these four and a half thousand people working for companies and and the other students that are on campus. So I think there's also something to do there.

00:21:47.340 --> 00:22:16.770
R
I would like to go a bit deeper into this question about implementation to know if you know about any. Well, I guess the impacts at the center is well because I see you fully aware of what's going on in terms of circularity and in carbon neutrality because it's in policy. As you said, it's everywhere, you can read it. It's normally in LinkedIn. It's in the university briefs and everything. But have you already seen some institutional setup, new roles being allocated or responsibilities being allocated or any kind of financial human? New resources for this purpose? In particular, you said everything is on paper, but when it comes to implementation, have you seen any changes in that particular matter?

00:22:40.890 --> 00:22:50.260
I
Uh, yeah, well you can. You could see that the focus on research from TUD researchers, and so that's very good. You can see the the number of projects at Green Village. It's exploding. Uh, you can see also at at, uh, projects like in our other few labs like Robo House. So there's a really good focus in thinking about research and working on research and doing projects that in the end, uh, helped to reach our goals. But what we now have to work on is from that research and from those projects in filling gaps. How can we connect the TUD daily life on campus. Come in my daily work. I work a lot with startups that for example, they often. Uh, we we are working on. No, I'm creating a building up for startups that we have become. Too big and too grown up to be in, and yes after we want them to move so the building is ready in spring next year. And the building is BREEAM excellent. So it's also good working environment. But yeah, uh, it has a price. Uhm, and creating new real estate, which is yeah meeting all of our standards. So the startups they are mostly working on sustainable development goals as well, but they are not willing to pay for real estate that is very sustainable. So they rather choose an old barn somewhere which is full of

holes. There's something to do in making people aware. It's not only about the product that you're working on. It's also your daily behavior and coming to campus. We expect you to be more aware and to contribute when you want to work on campus, I think yeah, there's something to do there. So using our campus more as a living lab instead of doing it in the safe environment, or field Labs or in the safe environment of our faculty buildings. We need to be more outgoing and hopefully then create more awareness.

00:25:51.540 --> 00:26:12.970
R
Uh, also implementation when he comes to monitoring and evaluating what's going on in the overall accomplishment of the goals, do you already mentioned that we would like to have this space of collaboration between CRE in all departments, so to have a more thorough and systematic approach, right? Besides that, do you know if there is any space for exchanging of experiences? How to incorporate new knowledge, as you say from researchers. What happens at campus into new policy or into new ways of approaching these goals?

00:26:29.920 --> 00:26:32.380
I
Yeah, I think so, At Green Village and people that are and all the people that are working there, I think there's a lot of knowledge and I think already we try to in a few projects, for example, How much more single or the cars St for the cache on the South campus it it's going to be renewed. Uh, next year and and we try to come to think through can we come? Can we offer or create an opportunity for all of those startups and the that are on campus and the great ideas that were tested on Green Village. Can we create an opportunity to implement all that in a product? If CRE does it according to its standard KPIs and according to procurement processes, then we ask for the lowest price in combination with that we ask for a company that has done all these kinds of jobs for like hundreds of times and it's very secure, etc. But then we don't give an opportunity to these startups that have great ideas or great products because They have this products, but the whole project is this big so they cannot guarantee realizing the whole project. So we have to think of different ways to make sure that these individual companies can be part of of such a big project. I think that's also campus as a living lab, and we find that difficult because it's not standard. But there's we looked into that, and there's people from innovation impact center that have the knowledge or about what our started are doing about support our researchers working on. But then again, it takes extra effort. It may be a sometimes a conflict with the KPI's of CRE. I would understand if it could not be common practice to do that in all the projects. But decides where are we going to be more experimental? Use campuses, living labs and not have a standard set of tools and and requirements. But I think out of the box and then maybe another projects we do more standards and… but yes, there are already people working together from innovation impact center and CRE just think through what can we do.

00:29:45.740 --> 00:29:56.000
R
OK, Is there any way to follow up the implementation or some sort of reporting process process for this particular processes that you mentioned? It's been like writing down so people can can read it afterwards, or it's more like a how do you say that? Like, yeah, from from ear to ear and in our way.

00:30:07.960 --> 00:30:14.080
I
Yeah, it's from ear to ear and it's also it's very much depending on individuals that dare to think out of the box and dare to saying: OK this is going to cost me a little extra time but I see it's for a good cause. And it's not. Not at all. A standard yet to work like that. I think that what is missing at the start of a projects, somebody asks: hey, this looks like a very standard procedures. Why not implement an innovation? I actually looked into that, but other opportunities. What are the risks of course, of course you have to look into the risks as well. And I know that ANNONYMISED have you met her? Yeah, I think what ANNONYMISED doing is great because then it's also different cultures. Working cultures that have to mingle CRE is very precise. Project definition it has to meet all the KPI so and then move on from that. And people from innovation impact sensor are more of a we have a great idea can we? Can we connect this great idea to you? Have a project? Yeah, let's go. And and then there's frustration because the people from CRE, yeah, you come in at a very late moment and I have to meet my KPI. So sorry I have

to say no. Uh, and the other way around and, and like I say it's how smart single we really explored the opportunities. And there are quite a lot of opportunities to come up in a big project. Bringing in new ideas from started. But then, yeah, it takes extra effort. Not up front that it costs extra money, but it takes extra effort in takes creative minds. And you have to feel the comfort of the organization that you're allowed to do so. And so far I think. Uh, there was not. Yeah, there, there's not enough comfort from the organization to think like that. So that's why in the end the project like how small signal is now quite standard. Which I think is a little bit sad because spending millions on Asphalt roads. Whilst we want everybody to come to campus with a bike or the bus. I can understand but but still I think we can do better than that.

00:33:06.650 --> 00:33:09.810
R
What's it? What's the project that you mentioned?

00:33:10.010 --> 00:33:15.150
I
it's a road on the South of the campus. And it's, uh, it's the quality is very poor at the moment. So it it's being renewed. So that it gets a better functional quality, but also very a better architectural and Environmental Quality.

00:33:32.920 --> 00:33:56.250
R
I understand. Yeah, I'm not now there now that you mentioned, I think I read about it. Well, this is the last two questions I have for you today. Thank you very much again for participating. Overall have these these new policies on circularity and and carbon neutrality had any influence in your work decisions. Have they had any effect on your work on in your role at TUDelft?

00:34:02.150 --> 00:34:04.320
I
That's a difficult question. I think yes. Yes, 'cause in the end we work for a for TUD that has in the mission statement I"mpact for their society". So yes. But it's very, uh, informal, and in our behavior, and not so much in very clear. KPIs instructions manuals ambition documents.

00:34:37.030 --> 00:35:07.070
R
What other goals, instruments or implementation measures would you suggest for achieving the CR equals on circularity? Carbon neutrality? And in a healthy and and and and and healthier campus development from from everything. As you said today, maybe you can just wrap it up or you also have some other thoughts. Things that need to be put there. I think you talk about experimentation. You talk about these spaces for collaboration. You also talk about clear guidelines for third parties and also organizational parties as well.

00:35:26.100 --> 00:35:41.380
I
Get in sync about a few processes or projects where TUD more directly talks to the people that work on campus is this is about your behavior. Think it through, today you came by car. Maybe tomorrow you can take the bus or or even come by bicycle. Are you sure that you are using a new coffee cup or can you use the same owner all over again? Uhm, what can you do about it? And and that's saying something and then the second one is a. Maybe that's a little bit too ambitious, but. Now it's it's ANNONYMISED and his team that OK, it's sort of dare put. It's not my ambition, it's theirs. And it's campus in real estate. Can we organize projects come for the way gaps in real estate works on clarifier? Can we organize that? They are making really sustainable buildings for people from physics, for people from Q TEC. Uhm, wouldn't it be nice if people from Q tech and and physics would explain to their colleagues working at other faculties? Hey, lucky me, I get to work in a few years in a. Very sustainable building. Yeah, make people more aware of what is going on. Uh, already 'cause I think campus is doing a lot of very good work. And we take it for granted. Yeah, well, I saw of course there's a lot of communication about the ECHO building. I read it because I'm very much interested in all that, but I think a lot of people working for it,

period. They are not aware of of all that good news. Can we think of ways to? Uhm, to connect them more to the. And to all the ambitions that we have. Instead of it being a project of words campus in blue state, good luck on for you. But it maybe that's too too difficult or too ambitious, and I don't know.

00:38:00.600 --> 00:38:24.220
R
Do you think that there is a way to to to make living labs more more appealing to people and on the other hand also more like compulsory in in the way Decisions are are made. Would that also need information or maybe new new rules? At the university new incentives. Do you think any? Do you have any thoughts on that?

00:38:25.650 --> 00:38:42.340
I
Yeah, I mean, especially if the weather is OK. People are walking a longer campers having their lunch outside. Wouldn't it be nice if you could read whilst walking passing a building? If you could read? Hey, this is so we did these in these improvements in this building. With the knowledge of the researchers of the faculty blah blah blah or with the knowledge and the product of a startup are XYZ. And I think explaining and and being able to. To see it when you walk around on campus, I think that would be a great as well. And it's difficult. Yeah, walking around on campus, you don't. I'm not aware of what you're passing by. If you, uh, if you would you know what is it in a in in 5-6 months from now, ECHO is a opened for use. But if you pass by a if the if there would be. I don't know signs on the door or whatever where you can read, so that's a it's delivering a energy. Uhm, wouldn't it, yeah. Explain more, make make a make information more visible. Easy accessible or something? I think it's a year you know half ago or maybe two years ago already that so what's your name and developer from CRE? She was dreaming about making the area between May go Park and the later start. Make it into a. A sustainability or, uh, whatever area where everything that we know at City Delft. It's being used making visible et cetera, et cetera, yeah. Also along the the the 1% relative to adopt. I would really love that, UM. at TUD we have, of course, Green Village, but For some reason it's difficult for people who are now is everything is difficult because of Corona but. Yeah, people, a lot of people that work or study at U delta have never visited a green village. And there's so much going on, so maybe if we bring Green Village to the whole of the campus. Make it easier accessible or something I don't know.

00:41:15.540 --> 00:41:45.070
R
OK, yeah, thank you very much for your. For your time. We've reached the the end of our interview. I cannot. I cannot like it. Thank you enough for your time in before you're really enlightening, uh, answers, because I think it's it's something really required for the university and this is is this is exactly what I'm looking for. So I I think it it both helps validating that the question is are prepared. I actually useful, but at the same time that people are to devour. Also thinking about these issues, this new challenges. It's not just issues, it's also challenges that people are willing to take. Of course, I think everyone is quite excited about the the the new, the new goals in terms of sustainability and climate adaptation. But at the same time, yeah, with with with bigger ambitions come even bigger implementation schemes that need to be thought of implemented and put into practice so so thank you very much.

00:42:07.930 --> 00:42:09.210
I
You're welcome, good luck.

Interview #2

00:00:12.120 --> 00:00:42.560
R
Yeah, well thank you ANNONYMISED for your time. I'm gonna read a smaller statement and we're gonna start with the with the interview as it is so TUD has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particularly compose some real estate department in charge of the management and development of the real estate inside TUD to reach carbon neutrality, circularity and to contribute to a campus that develops considering health and well being. CRE has elaborate different policies for these challenges. You are being invited to participate in a research study, title policy, coherence analysis, our carbon neutral in circular campus by 2030. This study is being done by ANNONYMISED from the TUD the purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals and campus development, and it will take you approximately 45 minutes to complete. The data will be used for taking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this this ties entirely voluntary and you can withdraw at any time. You are also free to omit any questions. We believe that there are no known risk associated to this recent study. However, as with any online related activity, the risk of a bridge is always possible. To the best of our ability. Your answers in this study will remain confidential. We will minimize any risks by anonymizing your participation in making sure that no statement can be directly linked to you. Do you give your concern to this? Do you consent to this interview and to record it?

00:01:50.740 --> 00:01:51.630
I
Yes I do.

00:01:52.620 --> 00:02:06.380
R
Thank you. So It's a set of six questions and the first one is are you aware of the CRE policy goals and circularity? Carbon neutrality and better health and well being campus development by 2030.

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Uh, I would say generally yes, but like maybe not. I would not say like I can list all the goals 1 by 1.

00:02:18.620 --> 00:02:27.650
R
OK, and how? How does your job in roller that you left at the TUD linked to this CRE goals in terms of sustainability generally in talking?

00:02:29.100 --> 00:02:35.150

I

Well, I'm a ANNONYMISED at CRE. And uhm, what our department does is we basically connect the the maintenance. Basically the management of our existing buildings too. Uhm, large scale interventions renovations and maybe also the longer term maintenance planning of the of the university. So yeah we have to look at A at a strategic level. What do we want with our real estate? What do our users want? Uhm, what are the requirements from the government or from the building code or whatever? Uh, and yeah, those things have to come together in the documents that we make. So either policies, campus strategy, campus vision, accommodation plans for specific buildings, or sustainability plans. ANNONYMISED is also in our department.Uh, and in my role. Yeah, I like. In the past I've I've supported various activities like camp strategy related things. But also in other policies. Yeah, sustainability always. A pleasure part, and this it's becoming more important, you know, I think in the past. Uh, energy, yeah yeah, as you said before you started, the recording was more something that you had to deliver. Uh, and now yeah, we we are more and more obligated and and we want to report on. OK, how sustainable are we now and and what are we realizing in our project so? Yeah, for me as a policy advisor as well. I'm a lot on the reporting side. How do we report things as CRE? Uh, and this in our department, so yeah, that's where I I meet sustainability, so to say.

00:04:34.760 --> 00:04:49.460

R

The next question has to do with with with instruments and tools. We can probably make a clear difference between the tools and instruments that CRE used to manage all the properties in the in the needed tools and instruments that are coming up. Sustainable approach to the maintenance and building up of or buildings at campus. Have you noticed any any any kind of instrument in that? In that sense you mentioned before the recording is started, like the total cost of ownership as a new way of understanding the value of a building. But are you aware of any unaccounted tools? Or CRE is now working to implement a more sustainable campus or circular in carbon neutral campus?

00:05:19.360 --> 00:05:24.610

I

In your question you distinguish two instruments, right? So one is about related to reporting and decision making. And the other one is sustainability related like I would have products itself. Well, I think if you look at the management side, I think, well, one of the things we're looking at in general is how do we. Hey, uh, how do we report within CRE on the progress that we make and that has that reporting has two I would say like 2 axis: on the 1st Axis, it's a reporting about, I would say, more to product side. So like what are your goals in terms of, uh, I don't know, how much square meters you have or how much energy emissions you have, that kind of thing. So related to the campus and the other thing is more process related. So, you know, do you have enough people capacity to realize your project, or enough money or basically more process related things you know are things going well in the in the process or are you running into delays for some reason and you know so. So I think those are the two sides on

the 1 axis and on the other axis you have. Do you report on something that is? Uh, existing like an ongoing process, like what is happening in the buildings you already have. Uh, you know what is the energy use of those buildings? That kind of thing? And the other thing is reporting on what you're doing to improve the situation so. Uh, yeah, what? What are you developing a new buildings and how will that influence the existing situation? So I think on the reporting side we have. Yeah we are looking at how are we? How can we report better atziri who reports to who? And so on. A total cost of ownership is a is an item. Uhm where? Yeah basically what the reason why we are doing it is to see to what extent investments we do in sustainability will pay off financially in the in the longer term. Uh, but also which other benefits I would say non financial benefits. There are two taking a sustainability approach. And yeah, other well sustainability projects we are doing. Uh, I think, uh there, there are numerous. Once we have the the geothermal well is a big project. Related to, uh, yeah, how do you? Uh, produce energy? Sustainable sustainably. Uh, and we are well, we have those in ECHO where we realized buildings that are more or less Energy neutral in the sense, like in a way today juice energy. No, so they produce as much as they consume. We're also looking at sustainability in the projects that are realized on the South of the campus now. Well, more and more I I wouldn't say it's official yet, but. Uh, I'm working out a plan to kind of, yeah. Now maybe for now it's better to not mention it because it's not official yet. Yeah, let's keep it at this. If you look at ongoing initiatives, I think these are the most important things.

00:10:13.730 --> 00:10:42.180
R
OK, so when in at least in my study, I talk about a policy process in, in the different layers of policies I normally identified goals, instruments and implementation measures. We already gone through the goals and in the instruments I will like to know now what implementation measures have been taken or proposed to achieve the CRE goals in terms of sustainability to date? Is there any decision, any factual actions being taken recently there that makes you feel, well, we already had goals as you said it before the recording is started. There are lot of ambitions, but now we need to make things work and at the same time we need to. What kind of actions? What kind of implementation measures have you seen so far?

00:11:10.080 --> 00:11:12.030
I
Well, I think of like a part of the implementation measures we already talked of as being projects that you realise so. Uh, and that's been going on already since since I started working here in 2013. Uh, that the university was, for example, place solar cells on our roofs of our buildings. While the geothermal well has been going on for awhile in planning but, but yeah, also the way like the choice to develop both an echo CO2 neutral. Uh, we we've done improvements on the way that that warrant is delivered on the campus heat. Basically, those are all ways. Yeah, all measures that have been taken in order to to make the campus more sustainable. So I think that yeah, we've been making steps towards towards becoming more sustainable and that has been kind of How do you say also like both in the policy making and implementation measures, we've taken steps. Uh, like you know the to make the policy more ambitious. And then then implementation measures would would change based on that or we

would. Yeah, basically because of when I came here, for example, we had a, uh campus strategy that was based on renovations and there was a big project plan to do adjustment of the heating system too. Or they would call middle heats were middle warmth. But then the strategy changed more towards new building for awhile and then the project was abandoned because in new build that load temperature can be achieved. Yeah, you kind of see this this adjustment sometimes of OK, you know what? What is the overall strategy? What do we do in terms of sustainability? What? What is implemented and it kind of bounces back and forth. So I think if you look at the implementation measures, I would say that I think also on a policy level you see that. At the university is now it's appointed ANNONYMISED as sustainability coordinator. Uh, and he has made well, basically looked at the campus from his perspective and made a plan of how you could really make the university CO2 neutral, which is a very ambitious plan, I think. So that gives. That gives a lot of Important direction I think to the theme and a lot. Uh, to to think about them too. Yeah, to to look at your implementation measures and say like OK, what more can we do you know? Uh, where I think we should not only be looking at. Yeah, basically producing or or energy in a sustainable way but but also at how are we? How are we as as users using the energy on campus? Because so far, that is kind of. Something that we are not looking at enough yet. I think you know you can also do allowed yourself to to use less energy. And until now we focus mostly on either. Yeah, how do you say optimizing our energy delivery or? Producing energy more sustainably. Or I don't know. In buildings making, you know doing isolation measures or whatever. But you can also do a lot in in on the user side.

00:15:06.000 --> 00:15:35.850
R
Exactly when you mentioned the total cost of ownership and now they also mentioned that they role of ANNONYMISED in the new sustainability strategy that they're working on. This is not approve, of course, by the Executive Board, but that has already been linked to what CRE does in many ways, such as the total cost of ownership. This these two has been already applied. It's something that you are still thinking about trying to to pilot it somewhere or or is it still too too too emergent? In a way.

00:15:40.080 --> 00:15:48.330
I
Uh, cool, uh. I'm not sure if I have an exact answer for you there. I know that like we started working on the TCO, I think. Uh, beginning of 2020, maybe maybe bit earlier even. Uh, and we have. Basically we we are using it now. I think in all the projects on the South of the campus. But I'm not sure. Exactly in what way is used in a decision making, so you know, having the tool and getting the insights from it is one, but I think. After that you also have to look like OK. How do I act based on the information you know? Uh, so I'm yeah I I'm not sure I I don't think I can give you an exact answer on how we're using it at the moment. I would advise asking ANNONYMISED about it when you interview him. In about all the instruments, for example the the carbon price that the university is thinking of is is is. Is there any any kind of a approach? Well, if there was a like if the carbon price was I would expect there to be a policy document decided by the Executive Board. If we say OK, we're going to use a carbon price from now on. Uh, that should be. Uh, so somewhere in policy? I think it could also be in your TCO policy,

because I mean. There you can also say, OK, we're gonna we're gonna. Uh, we start calculating. Uh, yeah, our our investments and operating costs with this in mind. But I know within the TCL group there half term in discussions about carbon price, I don't know if it's being used in there already or not. And I think as to ANNONYMISED 's plan, that's indeed not being decided by the executive port, but I think. Uhm, what it does is kind of ask for a reply from CRE, you know. This is what like what's potentially possible. I think is what ANNONYMISED and his plan lays out. I don't see or hear you kind of have to answer, OK? Like what are we gonna do? How far can we go? Uh, and there you have to look at the budget constraints as well and. Uh, and yeah, when are you gonna do it? What what's helpful related to your plans for a reason renovation and so on. Uh, so you have to kind of. Yeah, hold it, hold it against all the the constraints that we have a CRE and then come back with your own plan.

00:18:24.650 --> 00:18:44.450
R
OK, things going a bit deeper into implementation. As I say we went from from goals through instruments are implementation. Have you have you noticed any new institutional setup, any new role or the allocation of new responsibilities among the organization or within the Organization for Sustainability measures specifically? I mean, you've been around already for like almost.

00:18:49.640 --> 00:18:55.590
I
When I started working at the university we had within CRE we had one policy advisor who was a dedicated to doing just like policies on sustainability and he had a researcher within the university was helping him with aspects, and that was basically what we did on sustainability. And I think what's true, time you kind of see is that, uh, we have on CR on the serious side, we have people or like a group who work on sustainability, and on the two day outside. Uh, and this to delve group is like sometimes it's how do you say? Uh, it's more active, so there's like a sustainability board or. Uh, that really looks at OK. How can we make the university more sustainable? And sometimes it's a little bit less active and it moves more towards CRE. Come. Yeah, I think at the moment we're a bit more in a phase where she or he is the one who is leading because. Uh, because now we have, for example, ANNONYMISED, who is program manager. Yeah, has various people from CRE involved, but also researchers from from areas within a university. And then with ANNONYMISED as more coordinator from his sustainability site. But I'm not sure what ANNONYMISED is coordinating from his side, so maybe my few on the on. The current situation is a bit biased, but. Could be much larger than I think. So I hope I'm not discrediting and even I don't want to do that.

00:20:45.600 --> 00:21:01.530
R
In terms of resources, I mean financial, human resources. Have you seen any changes in those aspects, and if not, or, this is a question on the side, do you think it's enough? What it's there already?

00:21:03.150 --> 00:21:07.600
I
Ah, well, I think over time you can definitely say that, uh? If you would put the amount of attention that goes through sustainability in full time equivalence in CRE, it's definitely gone up over the years. Not only from people were working on it full time, but also if you look at attention paid by project managers, developers, people from the maintenance department. Come. It is definitely more than it used to be. Much more so. Uh, and it's to your question, is it enough? Yeah, and that's hard for me to say. I think what's important is that. Uh, so you kind of like for for us. I think for sustainability we need to go towards. Uh, defining interventions? How do you say estimating or finding out what the effect of the interventions is on the energy performance or circularity of the campus? So I think on on a policy level we have enough direction to say, OK, this is what we want now we have to figure out. OK, what do we have to do to get there and how much is that gonna cost us and what will it deliver for us in terms of sustainability and then make choices? Yeah, that can also. I don't know if we need more capacity for that or if that just means that we need to as a whole focus more on the implementation and on the policy side.

00:22:45.300 --> 00:22:50.100
R
And lastly, your implementation, and it's something we already touched upon previously. If we talk about monitoring and evaluation, is there anyway so sort of having implementation follow-up ways of reporting, ways of exchanges of experience, or incorporating lessons learned, some new knowledge within what you do in? For example in particular projects.

00:23:13.980 --> 00:23:26.510
I
I'm not sure I understand your question entirely, but I would say that one of the things that I would push for is to make sustainability a part of the reporting that you do on. We should have a, uh, let's say quarterly report on our project portfolio. How are we doing? Overall? How are separate projects doing? Uh, well, traditionally you look there at aspects like planning like quality. Uh, finances, and I think you should also look at sustainability, So what what's the combined effect of the interventions that you're going to do and and how is what's the status in each project? Uh, and the second one is for like, I think regular reports on your existing buildings and those are made less frequent. Uh, maybe for maintenance would be more, but for overall less. Uh, where you report on things like, uh, how many square meters producer do you have? What are the annual expenses for the building? But also, what's the annual energy use, you know? I don't know where consumption per user. Yeah, what are the maybe frequency and occupancy rates, those kind of things? I would much rather do it that way. Then create separate reports for sustainability because I think. Yeah, it's basically a requirement for us and we have to wait against the things that the other Things that we are trying to optimize facilitating our building so I would put it always together with everything else. Uh, and yeah, maybe for your program, as long as it's dare you make a separate overall sustainability report or something. Uh, but then you, uh, you draw from the data that you already have in the other reports. I think.

00:25:31.570 --> 00:25:47.810
R
OK, so you so you say there at this quarterly reports that she already has to produce on the projects that they are delivering and and also maintaining and in that report so far as sustainability chapters. Or to say it's still lacking in, could be actually in incorporated there.

00:25:49.090 --> 00:26:01.730
I
Yeah, in my opinion, at least I think like I'm I said that we are working on our reporting approach. I'm not exactly sure how the the reporting approach for the project portfolio looks like right now and what's the the status? How far along are we with developing that? But in my opinion, sustainability should be like it should always be in there.

00:27:46.390 --> 00:27:51.180
R
Where will almost approaching the end of the interview and in the in the next question is. This this sustainability goals CRE have they had any effect on your work on on your role at TUD? Specifically to your personal case, I mean.

00:28:04.980 --> 00:28:13.210
I
Uh, and by influence, do you mean as in has my work changed because of the goals?

00:28:12.810 --> 00:28:14.800
R
Say for example, your decisions, yeah.

00:28:19.360 --> 00:28:26.280
I
To some extent you could say, I mean the the research I did in my PhD, I think. Uh, more and more like it started out being quite focused on OK, how can we? Uh, improve the usage of space. Uh, at the university campus. Uh, which you can say it's a goal in itself, but uh. You can also connect it to to it as a sustainability objective so you don't only want it because yeah, these spaces you know a cost a lot of money, public public resources and not using them as a waste, but also. Uh, a waste in terms of of energy that just goes out of the window. Basically for for nothing. Uh, so that's one, and I think on the on the policy advisor side, uh? I think sustainability comes more and more. Uh, kind of kind of into my work. So if you're talking about reporting or. Uh, I don't know. You know things like the campus strategy or. Uh, almost every kind of policy sustainability place face some kind of role. So yeah, I I think. I, I mean inevitably it it has had an influence, yeah?

00:29:50.050 --> 00:30:05.300
R
OK, so I think I I forgot to ask you in terms of implementation in taking into consideration that

the corona, the corona crisis that we're living in a we've been be living in for the last two years almost the university has has given the opportunity to. That can work for that, right? Is is that taking into consideration in the future, planning over spaces availability? For example, if now people have some sort of room to work from home, would that affect the plans of CRE in terms of? Well, maybe we don't need that many buildings in the in the end, or definitely flexibility as a measure has to be taken seriously. Uh, would you say that's the case, so that there's been any talk about that?

00:30:47.950 --> 00:30:49.060
I
Ah well. Uhm, of course there there has been talk about that, but I think it's not. Uhm, it doesn't influence anything for CRE yet. But it is a discussion that's ongoing at the university. Uh, and that I think at some point will have to come to some kind of a conclusion, and then we can say OK. What are we going to do to facilitate that? Because there is, since I think September of this year or so. Uh, universities has a policy on hybrid working. Uh, which includes some things, for example statements like that, in agreement with your employer, you can decide to work up to two days at home. Uh, so the possibility is there. If a lot of people want that, that means that let's say potentially many people will only work on campus for three days in a week, and then we can ask ourselves, OK, if we have a lot of employees that only work three days in a week on the campus, are we still going to provide each of those people with their own assigned workplace for five days on the week on the campus? Uh, in addition to providing monitors, desks, and so forth in their homes. Uh, I think that's a very legitimate discussion to have. And yeah, I I expect that that is going to happen at some point. And I think at the moment we are still a little bit in in and out of Corona, so we don't know exactly how long this situation will persist. Uh, but at some point we will be more free in deciding OK, will we work from home or not? Uh, and then we have to. Yeah, as soon as we will be free or for a long time, this discussion will be take will take place on campus, I expect.

00:32:57.300 --> 00:33:18.190
R
Those policies that you mentioned by TU in terms of the flexibility of how many hours a day are many days are we people can work from home are those align with any kind of national regulation or something that was born in in in just sent away in a way like policed TUD alone?

00:33:20.540 --> 00:33:25.930
I
Well, initially the first part of the policy was kind of. Uh, there was a kind of exploration done by an external party who do the same thing for a lot of companies and other public institutions so they know quite well what's going on in the market. Uh, so basically they proposed kind of three types of ways that you can. How do you say? That you can act as an employer in this situation from very top down saying OK, uh, you know like the the Twitters and the Facebooks, everyone can work from home in the future, or will. Uh, being very. How do you say very, very principle about things, how things work too? Very bottom up approach, which is much more like. OK, we're going to leave it up to employer employee to make up. How do you say specific

agreements and work from there? Uh, and then you have kind of a middle road in between that where you provide some direction. And basically, uh, the university chose. Which approach to take, which I think was somewhere in the middle and leaning towards more bottom up. Because the university has lots of different, I think you know institutions faculties that work in different ways, so you cannot just have a one size fits all approach. So I think it might be. And that's also logical to do. Uh, and that that has been further elaborated into this policy. So. Yeah, it's kind, I would say. Uh, it's kind of based on on what happens outside of the university as well. It's not like we came up with with this entirely by by ourselves, but it doesn't follow like a governmental standard or anything. So, and I think the university chooses or ferry. Basically we have to find out with each other how this works kind of approach.

00:35:37.840 --> 00:35:40.100
R
OK, the last question now. We already went through goals, instruments and implementation measures. Uh, you've been in the organization for quite some time right now, and so you so you have an understanding of at least yearly what it does. What other goals, instrument or implementation measures would you suggest for achieving these CRE goals on sustainability and more specifically on circularity in carbon neutrality? Maybe there is something that you say like, well, we're actually lacking this to make it even better or this this this decision should be made because I identify this, this and that.

00:36:21.960 --> 00:36:23.130
I
Uh, who? Well, that's a really broad question, I think because the answer can be or many places. Ah, well, I think I think the reporting part is very. A very important. Uh, I think where where we can do more is up in our campus strategy. I think we could do more with with modeling the like a. Uh, how do you say with with decision making models? For example, decision support models where you kind of. Uh, I mean I I did my graduation on something like this so. Uh, uh, we we made models for a couple of cases where basically you, uh? The starting point of the model is the existing portfolio and its performance, and you can also put performance how you define it yourself. So for sustainability or circularity. Uh or whatever you want. Uh and interventions are improvements. Uh, that have a pool or improvements? Interventions that have a positive or negative effect on? Uh, on your your kind of yeah criteria so with with the decision support model you can easily say OK, what happens if we? Uh, renovate this building or build it new and I don't know putting a certain function or. Uh, you know, so you kind of on a high level. You get an idea of of what are the. The trade offs I think, and I think that would really. Really benefited decision making on the on the campus strategy. Yeah, I think that I think reporting is going to help us a lot. Uh, and yeah, projectwise I'm not. I don't think I'm enough of an expert in circularity to give a lot of advice there, but I think that. Or maybe that is circular, that like if you do something in helping. How do you say aligning? Kind of the the building use or how do users use the building to the building itself? Uh, that you can also use it longer. And that it that it stays suitable for use, uh, for a longer time so, well, I did my PhD research kind of form. How how you can can help this process using technology. I think that it is. Yeah, it definitely can help you to kind of improve the life expectancy of your building

so to say. So I would suggest that as a as a measure as well, even though it's not perfect, circular but. Come. Yeah, those are the things that come up in my mind with this question.

00:39:30.880 --> 00:39:51.430
R
Thank you. When you mentioned the campus strategy. Is there any document I can could review? because for me it's been rather difficult to find it.

00:40:01.130 --> 00:40:07.680
I
Uh-huh yeah there is a document from, I think, it is 2019. Uh, like a written explanation of the campus strategy, but the updates have largely been in PowerPoints. Uh, and the that that were company by kind of summaries. A short summaries. Yeah, I'm I'm not entirely sure what will help you the most at this point. I don't know if you have an interview scheduled with ANNONYMISED. yeah yeah I would ask him what is what he thinks is the most helpful. He's the one who is working on the campus strategy now. So I think you can give you the best twice there.

00:40:51.920 --> 00:41:09.220
R
OK, well thank you very much part. Uh, I cannot thank you enough for your time in your insightful responses. I hope to come back to you as soon as possible with some results and and so so so you can also see what's what the output and the outcomes of this research are.

00:41:09.930 --> 00:41:20.740
I
OK, well yeah, you're very welcome. It was nice to do the interview, of course. Yeah, and I'm, uh, yeah, I'm very curious to see what you come up with. But I I yeah maybe speaks for itself, but.

Interview #3

0:0:3.940 --> 0:0:13.900
R
Amazing. OK. So thank you for your time again and willingness to participate in this interview, I'm going to read small introduction and then we jump into the questions.

0:0:14.240 --> 0:0:14.610
I
OK.

0:0:15.220 --> 0:0:42.250
R
TU Delft has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particular campus in real Estate, Department in charge of the management and development of the real estate, and sites of two delved seeks to reach carbon neutrality, circularity and to contribute to a campus that develops considering health and well being. CRE has elaborated different policies for this challenge. You are being invited to participate in a research study titled Public Coherence Analysis, or Carbon Neutral and Circular Campus by 2030. This is study is being done by ANNONYMISED from TUD. The purpose of this research study is to check whether CRE policies are well aligned, contributing to carbon neutrality and circularity goals in campus development, and it would take you approximately 45 minutes to complete. The data will be used for checking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this study is entirely voluntary, and you can withdraw at any time. You're also free to omit any questions or you feel like it. We believe that there are no known risks associated to the research study. However, as with any online related activity, the risk of a breach is always possible. To the best of our ability our answers in this study will remain confidential. We will minimize any risk by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent to this interview and to record it?

0:1:53.700 --> 0:1:54.410
I
Yeah.

0:1:55.170 --> 0:2:8.870
R
Thank you very much. So the first question, ANNONYMISED is rather simple. Are you aware of the CRE policy goals on circularity, carbon neutrality and better health and well being in campus development by 2030?

0:2:10.410 --> 0:2:21.320
I

I am aware I don't know exactly what they are, but I'm aware that they want for the total CRE team, carbon neutral and circular by 2030, yes.

0:2:23.440 --> 0:2:30.100
R
Linked to that question, how does your job and role at TU Delft link to this to this goals?

0:2:31.10 --> 0:2:52.120
I
Uh, being the ANNONYMISED and preparation for all the larger maintenance activities. well maintenance is of course a big influence on carbon neutrality and also circularity. So that's mine involvement or from that point of view.

0:2:54.160 --> 0:2:58.950
R
Is that maintains concerning old buildings on campus or what kind of buildings?

0:2:59.560 --> 0:3:5.890
I
All buildings on campus, but maybe a few exceptions but not that I'm aware of for. Now it's all buildings on campus included maintenance.

0:3:16.650 --> 0:3:26.620
R
Do you have as ANNONYMISED your own goals in terms of circularity or carbon neutrality, or are you trying to follow CRE policies in this sense?

0:3:27.210 --> 0:3:33.40
I
Uh, and what they have done is asked us, as a derivative from the policy from TUD, to think about, OK, what could there be for your team? And so I'm with the team we have been working out some some goals and achievements which we want to reach this year. And of course we will do that next year and the year after that. So yes, derived from the CRE policy we are making their own policy or any of those goals for this year. Yeah.

0:4:1.730 --> 0:4:10.420
R
But your work and the work of your team are related to buildings once they are built or you will also participate in the designing phase?

0:4:12.80 --> 0:4:12.590
I
Both. So I have a few other people that we called our maintenance engineers that are involved that participate in the project teams during the design phase, so all the steps during the design phase they participate in and they challenges teams on, OK, how maintainable is this insulation

and do we have incorporated all the standards and all the requirements that are needed by law or the the requirements that TU Delft has stated themselves, and of course those requirements are also durability and energy, and now all the things you can think of if we are talking about carbon free and circular in 2030. And so we try to be involved from the beginning of the project. Yeah, yeah.

0:5:13.320 --> 0:5:15.380
R
As this interview is about policy, the first question was about goals. The second question is going to be about the instruments you have to operationalize those goals and then we're going to talk about implementation more deeply. When it comes to instruments or tools in terms of regulations, economic incentives, information, whatever you can think of, what are those tools that you manage in your work that relate to this to this goals in terms of circularity, carbon neutrality, etc. Do you have to follow any kind of rules or it's more? Has it been written down?

0:5:52.770 --> 0:5:55.920
I
Uh, he wave this thing called the handbook PNO, in which we have described as much as possible all the new requirements as we want them within the TU Delft. So that's a tool. If you look at maintenance planning for the coming years, then we have "open Genus" who knows which is a software tool for planning of all preventive maintenance tasks over the coming year. And so and that which is based on the campus strategy, yeah. So we have the camp strategy every every year. From that strategy we see, OK, what do we need to change? What can we adapt? We have asset managers that want certain things with their buildings and we have. A regular or interviews or in meetings with them to see, OK, what if this is your plan for that building mode? Does that mean for our daily and more yearly maintenance plans. So asset management is then for us to also. Ah…other tools?... The "life cycle vision" is a software tool which is being looked into. Leaf build is something that we want to then we have the Department TIB, which is technical information management, so they cooperate with us. They also have all the information now and do we have the asset database which is also causing PERF tool all the drawings et cetera, et cetera. So that we have all the information as far as we can know and have from all the buildings on site, yeah. Globally those are the tools. And lots of other elements which I can lots of other developments which I can't keep track of because as brief builder. We have dolphin, a software to lifecycle Vision is a tool for total cost of ownership. Lots of ideas and developments going on for that, yeah.

0:8:16.70 --> 0:8:30.370
R
Really interesting. So the total cost cost of ownership that is being talked about in, in the sustainability plan by ANNONYMISED over time that that idea is already being applied. You already have an idea of of total cost over.

0:8:29.860 --> 0:8:43.930
I

Total cost of ownership if you look at maintenance total cost of ownership is a term that I know already and work with already for more than 20-25 years. Total cost ownership in maintenance is old news. Right? Because if you're looking at about maintainability, then you want to know if I buy an object, what will it cost me to maintain energy costs as much faster? So in maintenance it's already a known, very known tool. Yeah. So it's not new. It's total cost ownership. Uh, I think it's getting more and more into society because, yeah, we have told costs. We own the building and we want to know what will it bring us and what will it cost us. And then if you take those costs ownership a step higher than you also can check, OK, whatwhat does it bring on carbon and carbon neutrality and what does it bring on circularity, et cetera, et cetera. So you can widen that view on protocols.

0:9:39.210 --> 0:9:49.30
R
The total cost of ownership, do you manage it in terms of like applix and CapEx, OpEx and CapEx or is it, is it more it's another way because I don't really know how to.

0:9:50.770 --> 0:10:1.180
I
If we look at total cost ownership for because we are working mostly in existing buildings, we only can do optimize or adept a small part because that's what you do within maintenance. OK, receive I for example we have this air treating facility. Yeah, for the AC in your rooms, etc. And then you have. OK, there's a certain life expectancy. So then we say, OK, we need to exchange. And so we replace it with a new unit. So the old unit goes out and we design and and develop OK we are going to exchange it with a newer unit which is more economic in energy use. Which is better if we look at the materials we are using. Which has at least the same or a better performance than the one we take out. And then of course we want to have it at the best price so for what we want. And of course we look into what does it mean if we have to maintain this apparatus because it still costs us and maintain and then we want to know what is total cost option for that piece of equipment. But we do not look at total cost ownership for the complete building. Then of course because you can only optimize for that piece of equipment that is being replaced, yeah. And how do you roll and how durable is that? Because I'm exchanging an old equipment for a new equipment so. Something to think about it again. If you're talking about a durable maintenance, do we want to replace or do we want prolong the lifetime of the machine then? Good question.

0:12:5.550 --> 0:12:13.930
R
I guess from a circular perspective, repairing an existing asset, it's it's better than buying in all over again, right?

0:12:14.400 --> 0:12:24.770
I
Yeah, it depends on what you can do with the old equipment, of course, yeah, if it, if it's the old

equipment is a throwaway. Yeah. If you say. Yeah, then not very circular about depth, of course, so something to think about in the future.

0:12:32.80 --> 0:12:38.650
R
So we already went through goals, instruments and now I would like to ask you questions about implementation.
So first, what implementation measures have been taken or proposed to achieve this circular than the CRE goals to date and what are the measures do you think are needed? Of course you you've been working on on, on maintenance for long period of times. Before CRE posed these circularity in carbon neutral goals two years ago in the yeah, in the in the past two to three years ago. What implementation measures have you seen? What has changed in terms of how do you, how do you think do you think things?

0:13:18.150 --> 0:13:21.620
I
So, since I'm only working here for one year, that's a little bit difficult to answer. But if you look, if you're looking at durable and so energy consumption and other materials then I think, like I said, within maintenance that is more or less a given than a question, because any equipment I replaced nowadays is 99 out of 100% hundred times better in energy users, so more efficient energy use. Probably, Also much better, if you look at the material choices in durability and circularity. That is still I think the main issue about yeah. You need equipment and equipment has been made how carbon neutral is the equipment? Well, I don't think so. There's nothing changed. Like do we look at the carbon footprint of the company that's been making on building these equipment? No, not yet. Something to look into. Can we do that? Is that something we want to do? If you're looking about that kind of issues. Nothing has changed. What we have been doing is looking at the equipment and saying how durable and how cost effective can we replace the old equipment with new equipment, that I think has been changing Last years within maintenance, in my view.

0:14:58.70 --> 0:15:12.820
R
Yeah. Have you in the past year since you just joins here ready for this for this purpose in life last year, have you been invited to, even though things haven't changed, think about how the future may look?

0:15:12.210 --> 0:15:14.780
I
Yeah! One of the things they asked me, so how can we incorporate durability within maintenance. And that is I think the biggest challenge we have now to to 1st. Define for TU Delft. What is the durability within this maintenance plan. And if we are in and then again I'll show you as we see now we are trying to exchange all the equipment we we renew with the best Ootion I have: durability and materialize etc. But the best option is not to exchange. Probably, maybe, I don't know. Right? But we never look into that. So that's maybe a change we

have to make. Also related to TU camp strategy, because he cannot postpone and endlessly prolong the lifetime expectancy of a machine, there is an end to anything. Also, by law, if you look like for cooling equipment or like a air conditioning. There are fluids used that are not allowed anymore. So you have to, uh, because of environmental issues, you have to replace those units with newer units which use another fluid which are environmental friendly. Yeah. So sometimes you don't have a choice but to do so in that respect, there also comes with other restricts or or or legal guidelines and etc etc that sometimes narrow your options and choices in renewing or maintaining your equipment. So in respect to more look at environmental and durability, I think yes, there's been a lot of changes, in the last year even. In the scope of what is durable and what is carbon neutral and full circularity. There could be a lot of improvement still.

0:17:37.750 --> 0:17:43.280
R
Continuing with implementation measures, I would like to talk about implementation plans. Have you noticed in the last year any new institutional setups, new roles or new allocation of responsibilities maybe being allocated within CRE? within your department? Has anything changed in that sense and how things are going to change in the future plans?

0:18:5.830 --> 0:18:9.260
I
Yeah, of course, as we look at the CRE Plan for this year. Yeah, so durability is really key and a keyword also a focal point for CRE. From the management team from CRE also has asked every department to have a few targets or number of targets on durability, so I don't have to think about what is that, what is durability and mode we can we do as a as department or team on the subject of durability, so yeah. That hasabsolutely changed. Then I don't know how long ANNONYMISED has been in his position, but I think that's new, uh or relatively new on the campus. I think if you look at the whole sustainability team and so we have all these people thinking about how can we speed up the thinking and and and the visibility of everything that is durability on campus, et cetera, et cetera. So I think that's, yeah, yeah, I think that's changed, yeah.

0:19:22.510 --> 0:19:27.470
R
Just continuing with implementation in now in terms of resources. What's your opinion about the current situation, in terms of human resources and financial resources concerning that the goals will circularity carbon neutrality in your job, in your team as well. Is that enough, do you think is there is a need for more people for more resources for what you do?

0:19:48.750 --> 0:19:51.610
I
For the current situation, I think we are OK. Cannot really see into the future. But there are so many other developments also going on are like all the new developments on on campus South so. And that also takes a lot of extra capacity so… If we look at durability if and the extra

Resources that are now given uh, with, with consultants, etc. I think we are OK for now. Yeah. Yeah. So now we are, OK. Look at money wise. Honestly 95 million is a lot of money, but is it enough? I don't know. I don't know whether you know. In terms of in terms of the goals themselves, like circularity, carbon neutrality, do you think you and your team have have the knowledge in sufficient knowledge to about what? What circularity, for example, entails?

0:21:3.730 --> 0:21:5.160
R
Do you think they might be, perhaps, some oppurtunity for you to learn more about that. Would that be I I concern in terms of human resources? Maybe maybe no more human resources, but more capable could be something.

0:21:20.250 --> 0:21:28.60
I
What is circular? I had because that's the question. Do people know what is circularity and what is circle? I think they all have an understanding of what's your clarity means. Is it something that they can use on this large scale and because that's what you're talking about, I don't know. I really don't know. But then again, you need to have a good definition on what do we think as the TUD is circular. if it says we want to be carbon neutral and circle in 20-30, what does that mean? The fact, though, what? How does it translate to? What do we need to achieve in in? Because that's what the because we can say, yeah, we want to be carbon neutral in 20-30, OK. But what does that mean for me as a person coming to work every day? What does that mean? How am I, as a person, carbon neutral in 2025? Working for that? Are you deaf? I don't know. Does that mean that I'm going by bike or does it mean that I'm coming by public transport, or at least not by car anymore or? Uh, because if I buy a electrical vehicle, it's not carbon neutral. At least that's been manufactured that has now whatever you can think. All kinds of thing. Why Tesla is not carbon neutral at all. I mean, yeah, let's be honest. So that that is what does that mean? And how can I contribute to being carbon neutral? Yeah, being as you delve being carbon neutral, does it mean that I have to travel differently to my job? And can I change this? Yes I can. Hey, if I'm living close enough and I can change that. If I'm not doing it already, yeah, going by bike or by foot or by public transport at the lower as much as possible, the impact on the on the environment. How can I be circular? I really don't have a clue. I think that's the biggest challenge. I really don't have a clue. I have ideas but. I I don't know. Does that mean that for for example, if you if you're looking at circularity doesn't mean that I have to divide my trash and the four bins that we have on every floor in every building. Is that my contribution to circularity maybe? Must be it must be more possible better now. There's also big challenge here because uh, everybody has now focused on all the things that are going to be new on the on the campus, on the South side. But me and my group, we are maintaining all that is old.I mean, you are now in, bouwkunde which is one of the oldest buildings we have. Do we want a new building? Yes or no. Yes, if I'm the user. No, if I'm the same user saying I want to be circular and carbon neutral, then you want to reuse the building. OK, but if I'm going to reuse the building then we need to have a real good renovation of that building.oh, carbon neutral is that. Uh, yeah, so. Whatever you do in terms of work a huge usage of the of the environment and the resources of this beautiful blue globe, so, impact. All matter. Oh, So what is carbon

neutral and what does that mean and how are we going to do? Work today and what is circularity and what can we do and and how can we use that? Don't know?

0:25:17.960 --> 0:25:34.600
R
Do you do you maybe this is an extra question is not among the the official ones, but do you? Do you have any idea who should take that decision over the questions that you did, you just ask yourself it's it's just one person is is the organization to well she is.

0:25:33.120 --> 0:25:40.460
I
No, eventually that is TUD. That is a responsibility of the organization TUD. Which of course is embodied by the CvB. Because they make the final decisions and put the…yeah, as we call it "a step in the whole" uh, they, they have this strategy and vision what they want with this beautiful campus. And we as CRE we have to participate in creating that vision, but also realizing that vision. That's the challenge, I think for the future. So what is that vision and what is achievable and? What can we contribute? But then we need to have. This is what this is the goal. And then being carbon neutral or being fully circular at 2030 is to gray of an area. And so you need more concrete goals to work on. Which is what we are trying to do now, and so it's not, it's no. But it's still very difficult if you don't have a next step. Small steps.

0:27:3.470 --> 0:27:8.980
R
The question on implementation measures it's about monitoring and evaluation. Do you see in your team and also related to the CRE goals on carbon neutrality in circularity any way for any implementation follow up or reporting or the exchange of experience, or the incorporation of new knowledge, is there an official way to report what you doing related to these goals for example?

0:27:37.650 --> 0:27:40.10
I
Yeah, of course we have that now we have the new $100 again and the dashboard. There's a new dashboard in CRE and all the dashboards, of course, out of financial things, but also sustainability is one of the 1 clear point on the on the dashboard, Safety and environment is is also on the dashboard. And the dashboard, of course. There is a sum up of older. Dashboards of the different. Teams, so yeah. And there is a Clear reporting line to the dashboard. OK. Are we in the green or are we in the red? If you're looking at the goals and achievements, we wanted to do this year. So it it, yes, there is a. Yep, Yep.

0:28:32.260 --> 0:28:50.860
R
You also mentioned that, uh, in in the South part of the campus, new developments are coming up. Is there a way that with your expertise and knowledge on maintenance have any influence

on how the decisions of those new things that you actually have to maintain in the future are made or done?

0:28:51.780 --> 0:29:5.320
I
That is because of the the my main engineer said that's their main role in to participate in those project teams to look at sustainability but also maintainability. And currently I'm in a Group of people that are looking into OK, if you're if you're. If we are going to build 5 new buildings on The campus South. What does that mean for maintenance and how are we going to… How are you going to do that? Are we going to have another Company for the maintenance of all those building or are we going to do that per building or are we going to do what kind of strategy are we… anything thinking about maintaining and on the on the new part of campus, so that, yeah, that is also something that I have been through so much at the moment. Yeah. So yeah. So it has a small project group thinking about how are we going to do that when it is there. That's all this building, right? So there's there's making the building and but there's also exploitation of the building, which also means maintaining the building right now, not even that, but als Facility and It's still kind of being censored at the toilets are clean, then there's something to eat and to drink in those buildings, etc.

0:30:23.60 --> 0:30:33.210
R
We're we're approaching the the the end of our interview with the last two questions, which are really like just overall questions. So it's like the first one is that. Have these policy goals had any influence in your work decisions since you are at a hotel or you were hired for maintenance you got to tell when circulating carbon neutrality are, I think. Maybe maybe this question that you can relate to your previous experience. Because of this of this of this new goals, is there anything that you would now have to do different? So you said that you put an accent now on durability? Well, I guess maintainability is something that always is there, but is there something new? Maybe something that has affected the way you make decisions because the the goals are?

0:31:24.500 --> 0:31:25.450
I
That changed. Such that I challenged my people more on these issues. Whereas in former jobs it was more like a standard question. Did you think about? Now I really challenge them. Did we think about this, this, this… Also, we are more and more thinking, uh, if if we are. Thinking about total cost ownership and then we have all these things we. Life cycle costs is also. Something so we may recreate it sheets so that when we are going to ask for a new equipment, we asked the the manufacturer filling this lifecycle costs sheet because we want to know What are the cost during the lifetime of this equipment, next step probably is that we are going to ask all these Manufacturers also. What is your carbon footprint? Could be a next step. Or I'll circle you. Anyhow, dear Mr manufacturer. So those are things that we want to incorporate in anything we do regarding exchanging or new equipment on campus. Yeah, yeah, absolutely. But also for our main contractors in the maintenance. We have to think about if we want to be

carbon neutral in 2030 how, because every movement they make on campus or off campus is, of course carbon related. So how are we going to monitor that? How are we going to challenge them in being because they are working for us and creating uh making things Possible. Uh, yeah, but how are you going to help them to help us also big issue I think or even when we are building this, this news buildings. How are we going to all incorporate all this? Yeah. Wishes because it's still wish, but it is so strong wish into all these new buildings and how can they facilitate us and how can we facilitate them to achieve the best possible outcome at the moment. Because we're developing now with the knowledge and things we know now but Maybe next year there's something new which is much, much better. You never know.

0:34:21.990 --> 0:34:27.970
R
Yeah, definitely. Yeah. So it's always a possibility that's really interesting and exciting at the same time because, yeah, even though you're trying to be driven by technology and science, because we're TUD of course, technology and science also develops and goes further, and sometimes maybe a good decision today is not really a good decision tomorrow but you have to play with.

0:34:48.790 --> 0:34:50.250
I
But and for the same Idea or for the same development maybe do you think we have something we just the cutting edge and then, two buildings further on they are developing something totally new which is already in place or usable and we just don't know it. Which is of course stupid, because we should that be the living lab we want to be, and using technology if possible Challenge.

0:35:20.910 --> 0:35:21.760
R
The last question. And as I mentioned before, we went through, we started with your role and in occupation at two delved. Then we went through the goals, the instrument and different implementation measures that you can point out related to your job and the goals I would like to know how. I want to ask what other goals? What other goals, instruments and or implementation measures would you suggest for achieving the CRE goals? I did goals already said enough it. Do you think there is something lacking? Maybe at yeah. As you said at the at the level of vision or maybe at the level of implementation that would you suggest to CRE to improve the the whole process?

0:36:14.780 --> 0:36:17.550
I
The goal said if you look at the goals at the moment. I maybe you have heard it before because we had this discussion already opened in the in the Thursday Group I am with you. I don't know if you would add that I'm. The goals are very high. Meaning carbon neutral and a full suit full circular in 20-30 years is a challenge to say the least. But I once had a had a boss and he had this

saying like If you reach for the sky, you will never reach the sky. If you reach for the stars Maybe you will reach the sky. So if your goals hold high enough Maybe you achieve Big things.

0:37:7.570 --> 0:37:11.330
R
Yeah. Which? Yeah. So on the one side you need if you want to really want to change or revolutionize because that's why you want a revolution on on these things. Then you have set high goals on the other on the other side if you want to be realistic and not disappointed, Then you have to set realistic goals. Yeah. So that's the choice. So if you're looking at the goals, I think, wow, that's a really big challenge. I mean, I think somehow if you want to reach this stars and maybe you risk I if you want to reach the sky. Somehow we need to have the steps there. Yeah. What does that mean for this year and next year and next year next year? And it's only seven years. Yeah. And then it's then we should be there. Because this year already gone here. In February, with this year, it's already. Gone every because what we are going to do with maintenance for this year is already planned. All the other things are shared. All the projects have been defined for maintenance. Furthermore, if if we're looking at maintenance in September the plan for next year is ready. Alright, my goal is to have ready all the things we need to do next year in September I want to have for me 80% of all projects we are going to do in 2023 will be defined in September. So that's 23 is already challenge if you want to real real changes in what we do on this campus. So you will see that it takes time to. Incorporate all this new stuff in in your thinking and planning. Because we are doing a From the planning over five years. And we can change and shift and do things in the planning. But remember, we're looking at the strategy of the campus, which is a strategy for 30 years and from that 30 years, we go back to 10 years and from those ten years, we're going to tactical planning for three to five years. That's what we're looking at every day. And then we say to our main contractors, OK, this is what you have to do next year is and they do the fine tuning of the daily planning for all the main is activities on this planned for next year. But this September this year. We will tell them this is what you're going to do next year. How flexible is that? So we need we need achievable goals, put it in the your future. That's something I would love to see the vision alone is not enough. And that's what I see now. There's a vision. The document and it created as a vision document. It's not a strategy, it's not a, it's a vision. So good vision, but now we have to make it something that's workable.

0:40:39.670 --> 0:40:45.650
R
OK. Thank you very much ANNONYMISED for your time and willingness to to participate again. We have arrived to the end of the interview. I hope to come back to you when the results are ready. Of course I'm going to present them in front of the sustainability team at CRE in a few weeks. Uh, and if you have any other inputs in the meantime, if you have this as a food for thought in, no, no, you're going in the bus or indoor bicycle thinking. Well, maybe maybe I forgot this and this is really important. Please just mention it to me on email. Uh, yeah, I hope you have a really nice evening today.

0:41:16.500 --> 0:41:21.50
I
OK, I hope it was helpful and I'll send in the form, yes.

0:41:21.550 --> 0:41:22.470
R
Thank you very much.

0:41:22.720 --> 0:41:23.850
I
OK, see you.

Interview #4

00:00:04.610 --> 00:00:07.930
R
Yeah well guess, thank you very much again.

TUD has decided to become carbon neutral and circulated by 2030. This decision introduces changes at the organizational level, particularly Campus and Real Estate Department, in charge of the management and development of the real estate inside TUD to reach carbon neutrality, circularity, and to contribute to a campus that developed considering health and well being. CRE has elaborated different policies for these challenges.
You are being invited to participate in this research study, title policy coherence analysis on carbon neutral circular campus by 2030. This study is being done by ANNONYMISED from TU Delft.
The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals in campus development, and it will take you approximately 45 minutes to complete. The data will be used for taking policy gaps and improving the overall policy, implementation and effectiveness. Your your participation in this study is entirely voluntary and you can withdraw at any time. You're afraid to admit any questions as well. We believe that there is no known risks associated to this research study. However, as with any online related activities, the risk of a breach is always possible. To the best of our ability. Your answers in this society will remain confidential. We will minimize any risk by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent to this interview in to record it?

00:01:39.660 --> 00:01:40.380
I
Yes I do.

00:01:40.920 --> 00:01:56.740
R
Thank you. The very first question I have for you is that are you aware of the CRE goals on circularity, carbon neutrality, and better will well-being in campusdevelopment by 2030?

00:01:57.880 --> 00:01:58.390
I
Yes I am.

00:01:59.070 --> 00:02:00.850
R
how is that you are aware of him?

00:02:01.860 --> 00:02:02.420

I
Two ways. It's actually it's always my job has been a public space management, so we take care of management of the green areas but also on sewer, sewer system. Rainfall roads. Constructions. Besides the policy of the campus, goals already existed along time, and especially when you are in urban water management, It's always focused on sustainability. Especially going back for the carbon dioxide which is not a very big issue in public space. There is the CRE program of course, which was pronounced by the management team and the director. But, It's a bit silly to say, oh. I just heard this last year and now I'm going to reduce the carbon use 'cause it has been the theme for decades already. So I was familiar with it and then. And I'm glad we're getting attention at the management now.

00:03:39.710 --> 00:03:51.040
R
And specifically on the on the goals of CRE. How is that you already mentioned that you're in charge of that? But how is that the the the your current work related to those sustainability goals?

00:03:48.830 --> 00:03:49.060
I
No. On CO2 reduction first, it's your cars and equipment. We change them to electric vehicles, those kind of things. That's not, that's not very much. The energy is being used to warm, for heating and cooling. We don't use that a lot. What's important for us is, for circularity. What we've done is we have four or no 3 hockey fields but made of plastics. We renewed them, and all the old plastic will are be reused. And they make small plastic walls from it to put around the fields, so we used all plastic from the old fields. And that is quite a lot, there's probably tons of plastic. Those things. Reuse of stones. I said in the in the strategy: we're not going to lay new stones until the old ones are completely finished. That's in 60 years and not because we don't like the color of the size of it anymore. Now with we use all the breaks and stones that are for pavement. We use it over and over again and of course. Everything has gotten an end of living. And then we will break it and we can reuse it again. Asked foundation of approach that we did not. The public lighting we are changing our our lamps into LED. Only LED lamps, but 50%. So we have now and I think within but three years we will have 100% of LED lighting.

00:06:26.080 --> 00:06:51.410
R
OK. This is about the goals and now I would like to scope a bit the question into the different instruments or tools and maybe do you have available for working on this goals. In terms of are there any guidelines? Are there any new rules that you need to comply with or it's more just so we have this policy in from this policy where taking action? Or is it really you have a certain document that you need to follow or something like this?

00:06:51.200 --> 00:06:53.780
I

No, no. There are goals and I'm free how to implement those goals? I do reach them, there are no guidelines.

00:07:01.900 --> 00:07:18.600
R
I've heard that CRE is also working on KPIs for different aspects like energy, circularity. I think that there were also trying to work on some KPIs for for ecocampus or biodiversity. Are you aware of those? Do you know any any? Do you see development in that sense?

00:07:21.820 --> 00:07:26.180
I
I know that they're thinking about this, but I don't know those those KPIs. But I don't know. No. I put my online for the for the for the lighting within a couple of years, but we must be 100% on LED. I started removing grass and put bushes and herbs instead. We introduced every time trees have to be removed, we put in a species that are from here and are contributing to the ecosystem. That's because I told them, not because there's a guideline.

00:08:18.080 --> 00:08:21.950
R
And have you been asked to to contribute to those KPIs, for example? if you wear to to provide something something like a a key, a performance in the. Well, what would you suggest if you could?

00:08:34.730 --> 00:08:38.080
I
I think the main things here are, on the water management is infiltration of water. I don't know. I've been water management for decades. And we've done that on on a large scale.That would be percentage of rain water that's being infiltrated. Instead of being transported to the canals, that would be one thing. If the everything in LED, we do that. And for the green areas. No grass fields but brushes, bushes, herbs. And this is mainly for insect live and birds and choose the right so you can have. If you want a certain butterfly, you need a certain plant. If you need it if you like. Specific trees, you need the right place. You could do that. I do it, but it it's not because it's a hard KPI. I think those are the three. That would be my top three.

00:09:53.640 --> 00:10:23.220
R
OK, thank you. Have you heard of this climate agreement by the VSNU that talks about carbon carbon reduction the the so called trias energetica. And in those things is is when you talk about LED lights it does it? Does he have to do with that particular document or this is strategy for you Dutch universities or as you said it's more because, well, you know the over the importance of of changing the lining system. And if and and therefore comes from you and your team or or is because also, you're following these guidelines somehow.

00:10:31.200 --> 00:10:32.890
I
No, it's not related to the guidelines. We do it. It's more kind of common sense.

00:10:41.160 --> 00:11:03.590
R
When it comes to implementation measures, you say had your sort of guidelines of common sense in what has to change on campus and they already. It's are saying, well, we already have some measures going on in terms of what we are not going to replace this stones. We're not going to replace the brakes as long as they they can still be used. Changing this, and that's what other measures have you. Have you taken all your team has taken?

00:11:10.540 --> 00:11:14.050
I
Now, those are the most important, most important is the recirculation of large amounts of plastics. Electrification of all equipment. Reusing stones. Better green spaces with better ecological structure in there. Infiltration of water, of rain water. Well, that's about it.

00:11:55.220 --> 00:12:04.150
R
And if we go deeper into into implementation, I would like to to talk about three different things. So first and foremost. About implementation plans? Have you noticed in the last few years at a change in institutional setups or new roles being created or new allocation of responsibilities? Maybe you have had new responsibilities or someone has been hired. Have you noticed any changes at the organizational?

00:12:25.740 --> 00:12:26.190
I
Yes. It's especially the atmosphere that has changed and it's within the last year. 'Cause when I talked about other kinds of trees or more flowers make it visible. Because when it looks nice, people will help you. And I have a plan of improving water quality in the ponds so you can see plants and fishes. But one and a half year ago they would hold me for a tree hugger. And then all of a sudden I hear other people explaining my ideas to me! And that's good. And then I think we with the startup, with ANNONYMISED. And, what's his name the other? (ANNONYMISED?), yes, there's been a change of director at CRE I think that this is done well.

00:13:52.580 --> 00:14:08.250
R
In your particular area with yeah with the management and maintenance of green areas, have you have you also noticed any change in terms of your organization? New people have come or new responsibilities are being created?

00:14:14.470 --> 00:14:17.510
I
Yeah, It's growing from something new to common sense. So this is a normal way of behaving. It's not something extra, it's the way you should do things. First, it contracts with contractors. There's always a chapter on sustainability. Now, for instance, for the green maintenance. We already did it, but you cannot use poison anymore. It's also so you come with new ideas or new ideas actually implement the ideas that are already there for 25 years and and they tell you to do it. And then slowly that becomes normal.

00:15:10.200 --> 00:15:30.270
R
Definitely yeah. Have you? Have you also noticed? Or this is? Yeah, this is related to we talked about implementation plans now about resources and resources in table, financial resources and human resources. Have you seen any change in those aspect new people? More money for your tasks? Maybe new budgets assigned?

00:15:30.970 --> 00:15:35.720
I
No, but that's not necessary because there is enough money and there are enough people. If you have a good plan, you get the money in the people. This is helpful.

00:15:45.330 --> 00:16:17.670
R
Good to know and in terms of monitoring and evaluating what what you've been doing. Is there any way of of of following or following up the implementation or or reporting what what you've been doing? Or to actually exchange experience? And this is something you you mentioned like some two years ago you were you were seen as a tree hugger and now definitely like everyone is talking about your ideas and embracing them which is a good thing is. Is there a formal way to exchange experiences or to actually monitor or that what you're doing is is going in the right direction?

00:16:20.660 --> 00:16:22.110
I
Not specifically, we don't report on it. Yeah, once a year I should say how many? What's the percentage of LED lights. And it's it's a little bit you could do it with. Of course, with trees or tonnage of material that you recycle. I think there would be a good thing because it shows that your measurements are worth it. It's always a big heart on the biodiversity, What are you gonna answer? The bees, the birds, the buggy? But then, why no?? It's not a big job and it's important to see results. I think we've shown them that.

00:17:24.910 --> 00:17:35.840
R
We we already talked about the goals of this policies. We talk about the different instruments that are there and implementation measures specifically for ecocampus in green areas. I would

like to know, specifically related to to the goals of CRE, carbon neutrality, circularity have these particular goals have any impact in your role or job at TUD? Of course, you've been taking care of of the green areas in this new campus for a long time. But now that these new policies in the last two years have been introduced at what's the influence of these policies in your work or John role?

00:18:05.150 --> 00:18:10.430
I
Not so very much because we already did it, but now it's it's more accepted. All of a sudden. It seems like it tipping point. We reached a tipping point and all of a sudden. Which is good. So that's the major change. I think it's a good change, yeah?

00:18:36.130 --> 00:18:57.990
R
No, yeah, I mean it's good that you refer to it as a tipping point is something that we don't completely get. Well, I guess it's also because the media is talking a lot about climate change, right? It's really taking being taken seriously. Finally and now people will start to feel like, oh OK, this is not just a is a little concern is actually about me and in our future and everything, right?
We're actually coming coming up to the end of the questions that I have for you. As I said we went through the goals, the instruments implementation measures the influence of of all these different measures in your own work. Are there any other goals? Any other instruments? Any other measures that you think you would suggest to to make the the the overall policy a bit more consistent for example?

00:19:30.190 --> 00:19:30.580
I
Yeah, and I think this this especially on a Technical University. And I would say for TUD as well. And it has to do with the belief in technique. And I don't have a believe in technique, involved and it has brought us tremendous good things. Or we can beat every disease also. You have to die of something at the end, but in the meantime it goes well. It's plenty of food, display it, but the basis for technique is comfort. How do you say in English? And we still we translate comfort as doing nothing. Comfort is the king. Sitting in a chair with nice food, nice girls doing nothing, then it was. And this is a wrong idea of comfort. And technique is there to increase comfort? And that's why I technique will not save you. It's because of this way of looking at technique as an instrument to increase comfort, we will go and do less, less, and less. It's not far. The next step is we have the word yeah, these masks. You sit on the couch you doing nothing. There is no relation to the real world outside. I study philosophy and at night. What's the English word for alienation? The technique alienates us and it's not because of the technique, but because how we handle the technique, but that's I don't think that's the that's the good. There is a famous experiment where they ask people: Would you like to be in a coma? No, but but we can give you only nice dreams. And you do nothing. It's especially important for students of technique to see nature.To see clear water and officious and and docs in swamps? So nice to see the plants. I'm gonna make a herb garden now and you can. And not being in their

rectangular glass buildings like or even worse, behind the screen or even worse, go completely alienated in your screen. Still, the technique is going there. Those are the developments How silly is it? 100 years ago you needed 50 men to do the agriculture on a couple of acres and now it's one man. Why do I have to work? 50 people still have to work 40 hours a week. For what? If I can do my work on one job and one day a week, I have 66 days off. It's great, it's a better world. And and that's a technique in a economical system. And if you don't stop that, it won't get very much better. In technique is try to. What's the opposite of alienated? Being in contact with the world.

00:28:25.790 --> 00:28:31.030
R
The newest buildings they don't have, for example green grooves or green walls, or jus….

00:28:30.810 --> 00:28:31.360
I
They do. I think they do, yes. Not all of them, but I see green walls on every new parking building. Parking cars. On the new roofs of logistics. That's completely green. But not all of them. And of course it should be a green roof with a with solar panels. That must be the standard. You're right, it's it's. It's not a standard, it's done, but not everywhere.

00:29:25.700 --> 00:29:29.080
R
do you think is that you said is it? Is there a way to to link them better? So and so it becomes a rule and it becomes a a standard.

00:29:33.370 --> 00:29:39.730
I
Could be or you can directly link it to the to biodiversity if you have your green walls. Then there will be birds in there. Yeah, of course I can propose it, but there must be a guardian. Uh and wildlife guardian here, right? Yeah, it's nothing that you need to propose. I was just exploring that because it's sort of my feeling as as you say, yeah I, I know the new the new parking parking space with these green walls but… Maybe also, renovations should go into that direction in a way. Of course, not all buildings can be renovated in a way that they provide ecosystem services, or they're they're more linked to nature that just by having a green area surrounding them. Uh, yeah I was just trying to to trigger a conversation.

00:31:02.780 --> 00:31:13.560
R
When those walls are are put there, or when those green green roofs are put their? Your role has something to do with them, or who maintains those spaces?

00:31:13.710 --> 00:31:14.450
I
Yes we do. The green walls most of them. Yeah, but that's just that's just watering and giving water and nutrition and I have a plan: small cages were birds can, uh, going for nesting. We now have about 50 extra, but you could have 1000 extra without a problem.

00:31:55.790 --> 00:31:57.830
R
I've seen the ones for for bats. There's some of them for bats. I I love those ones. I was living in in their student housing in there in Leeghwaterstraat. And every time I went out I I saw them with a little. It was like the Batman sign outside. I was awake and yeah, around 7:00 PM you can start seeing like the bats going in and out is like Oh yeah, this is so good yeah.

00:32:19.990 --> 00:32:21.730
I
They are there, yeah? So we are done. Good point there every 'cause man. Now, I think 50-60% of the area of the campus are roofs. And and that will increase rapidly, and the southern part of the of the compass they call it development. But it's just they have done since the last time 100 years. It's really shaming that they are telling about sustainable development, but there's no place anymore or serious space for the ecological structure There should be a green path for north north to South. Well, I discussed this with ANNONYMISED. Yeah, you can laugh and cry at the same time. Then they call one road of 5 meters on the said which is your main ecological structure. There's nothing. And of course I. I know that there won't be running deer over the campus. Although I've been in Japan in Temple and there were hundreds of deer. And you could tell them and feed them. They were tamed yeah and and and that's quite extraordinary. Just dear, don't get tamed. To do then is is is built less. Yeah yeah you need the square meters. Let's get all those also say well when we build: we focus on birds. So it's your obligation. To make your birds all your rules nesting place or or a temporary place for birds, whatever they need. And then you integrate your rules and and and probably green on the ground. And of course you could do it with with water. It's technically a bit harder, but then you focus on areas that you don't need for building. Then you say I want a green stretcher for 100 meters wide meandering through the campus. Which would be by far the best. And not only for the animals, but also to go walking or with your with your mountain bikes, very popular at the at the moment. Everybody wants to go through the woods with his mountain bike, so make more wood. The second point is also shame. Shame we get rid of the old housing facilities on the northern part: the Bouwkunde. So those are the most beautiful buildings we have. So, those are the building with some culture in it. And we get rid of those and we build new rectangle blocks. And they say we want to be a top university. We are and we we came in circumstances that we didn't have that we have those old Buildings are not the new ones I have looked on this.

00:46:05.570 --> 00:46:33.660
R
Well ANNONYMISED, thank you. Thank you very much. I can't. I can't thank you enough for for your for your willingness and your time. Also, for you very insightful responses to all the

questions. I hope to to come up to you in a few months. Went with the results of my research and hopefully in in in in the short term because it's needed we we can see a better campus development happening. One that considers biodiversity version for most.

00:46:06.820 --> 00:46:07.220
I
Thank you very much, friend, interesting. Keep up the good work.

00:46:42.080 --> 00:46:43.020
R
Thank you very much, yes.

Interview #5

00:00:16.250 --> 00:00:26.590
R
This is this is small introduction to you, dealt has decided to become carbon neutral circular by 2030. This decision introduces changes at the organizational level. Particularly campus and real estate department in charge of the management and development of the real estate inside TU Delft seeks to reach carbon neutrality, circularity and to contribute to a campus that develops considering health and well being. CRE has elaborated different policies in these challenges for these challenges. You are being invited to participate in a research study, titled "policy coherence analysis are carbon neutral and regular campus by 2030". This is study is being done by ANNONYMISED from TU Delft. The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality in circularity goals in campus development. It will take you approximately 45 minutes to complete the data. You will. The data will be used for taking policy gaps and improving the overall policy, implementation and effectiveness. Your participation in this study is entirely voluntary and you can withdraw at any time. You are free to omit any questions as well. We believe that there are no known risks associated to the research study. However, as with any, as with any relay online related activity, the risk of a breach is always possible. To the best of our ability your answers to this study will remain confidential. We will minimize any risk by anonymizing your participation and making sure that no statements can be directly linked to you. Do you give your consent to this interview and to record it?

00:01:59.390 --> 00:02:00.150
I
Yes I do.

00:02:00.840 --> 00:02:24.040
R
Thank you very much. So the very first question and I would like to you to understand that I'm I'm asking you and I was also asking ANNONYMISED for the participation. Although you're not part of the CRE department you have an overall idea of what the new ambitions for circularity and carbon neutrality are. So in that sense you are completely perfect with the information you already managed. But as the first question I would like I would like to ask you, are you aware of the CRE policy goals on circularity, carbon neutrality and better health and well being and campus development by turning 30?

00:02:37.510 --> 00:02:52.260
I
Well, I think so. If they are, they should be the same as the policy goals we mentioned in our sustainability report. So that means that the campus needs to be circular and carbon neutral by 2030.

00:02:57.760 --> 00:03:03.300
R
How does your job in and role at TUD linked to these to these goals?

00:03:04.750 --> 00:03:24.790
I
Well, I work together with ANNONYMISED who is the ANNONYMISED, he's appointed since January this year, and I'm actually appointed together with him because he can only work on this project two days a week and I work full time on making the campus more sustainable. So we look at everything that is done on it from the campus. For example, the construction and renovation. With this more in scope of CRE, but we also look at mobility, food, ICT, energy systems, etc.

00:03:40.800 --> 00:03:49.180
R
So specifically to the team of construction and renovation. How does your job related to to those goals? How do you see that happening?

00:03:50.050 --> 00:04:13.230
I
So in those in this team, for example construction and renovation, we collected several people. So some are researchers with specific knowledge about buildings. Some are known as policymakers could from university surfaces as as campus in real estate or in… I think that's all in that group and other groups we have people from HR, but that's not the case in construction and renovation. And actually me and ANNONYMISED. We kind of lead those meetings and we make sure that everything that we need to reach those goals that we can also CRE developed. So we make sure that those meetings are just going on. We really discuss certain projects and actions that we need to reach this goal. And then if we we have, for example, a list with actions that can contribute to making the university carbon-neutral, and we search a certain project team and together with CRE we find the finance and we really try to make those projects happen.

00:05:16.210 --> 00:05:27.260
R
When in the field policy science, we talk about policy processes, we normally can distinguish three different layers, so you have the goals, you have instruments, you have implementation. What kind of tools do you use or or are there for you to use to achieve these sustainability goals?

00:05:37.010 --> 00:05:40.640
I
So I think we first made ourselves aware of the goals. I don't think they're ready tools yet, because maybe the tool is us is that team that we developed and together we're searching

actions happen that contribute to those goals, but I don't think there are certain tools already that we can implement 1 by 1.

00:06:11.120 --> 00:06:19.560
R
OK, but in the in the new sustainability plan that I already checked the you and ANNONYMISED provided and ends in suspecting to be approved. You mentioned things like a carbon tax, carbon price. All those things that I we could consider it in tools or instruments for for achieving these goals right what? What other instruments do you think are there?

00:06:43.190 --> 00:06:53.200
I
Especially for construction and renovation, and for campus and real estate, finance is a really important aspect because that's actually their main driver. To make those actions or projects happen that we now use the tools indeed of carbon. The carbon tax, or we trying to implement carbon text. You can do this on on different levels. You can just use it as a shadow price, so then you're not really paying the carbon tax but you just use it to see what the price would be if you implement the carbon tax and it a later stage. We proposed to really pay the carbon tax in, for example, invested in sustainable research again. And together with CRE we also looking into TCO. So that's total cost of ownership. And that's very simplistic. When we buy a product or a service. We pay a certain amount of money and in the end people from finance always say that the value is zero. But a lot of sustainable products and materials, for example for construction and renovation. Yep, biobased building materials that you can reuse them, and at the end they don't have a value of 0, but a certain amount. Take that value into account. So the product becomes more attractive to choose because. Your financial picture chains, because perhaps in the beginning, this sustainable material is a bit more expensive than the non sustainable material. But in the end this sustainable material has a higher value left, so that can change the scale to the sustainable product instead of choose a not sustainable product.

00:08:54.370 --> 00:09:01.860
R
I know that there there are two there there to say goals are quite clear in their scope in terms of energy and and circularity, because of of carbon neutrality and circularity at quite present and you can like to some extent really identify all those are clear goals. But you also have goals and in terms of ecosystem or renovation or regeneration, right? You have a climate adaptation as a goal. How do you see those all their goals? Linking to to circularity and carbon neutrality link to construction and renovation.

00:09:47.250 --> 00:09:58.100
I
Yeah, so I think construction and renovation has the most connection with indeed ecocampus and energy systems, because that's more on area development. So for ecocampus, for example, we have certain goals at biodiversity, a healthy living situation implementing more green and water. And of course the buildings which fall under construction and renovation are placed into

the campus and the campus is ecocampus. So you cannot really see them separated from each other because. The the building flows over into into public area. And especially when you look at climate adaptation and climate mitigation, we really have to design our surroundings that in the future we can or the campus can withstand certain climate change. So for example, floods Swarm extreme droughts. And in that way, the area surrounding the building needs to work together with the building itself. For example, collecting rainwater into the ground, but also the building can collect water into into itself and reuses it. So there's definitely a strong connection between the ecocampus and construction and renovation, and then on the other side you have energy systems and every building needs energy for your electricity for, for example, for your lights, perhaps for your labs and you can yeah, this energy on building level. So for example placing PV panels on the facade or on the rooftops. But not all the energy can be produced by those systems, so there needs to be a general energy system which can provide all the buildings with sustainable energy. And for that, now we're looking at, for example, geothermal energy. But also those two teams indeed who work together so I don't think I'm the truth that answers your question.

00:12:14.830 --> 00:12:39.720
R
The next one would be well, as I said in policy science we normally talk about goals, instruments and implementation. Of course, this new sustainability plan and vision has not been implemented yet because it's not it hasn't been approved by the Executive Board, but the departments as CRE have already decided to be guided by the principles of the sustainability with the plan itself, even though it's now being confirmed yet. Have you have you noticed any implementation measures being taken or proposed to to achieve these goals on construction and renovation already from your point of view.

00:12:52.900 --> 00:13:02.600
I
Yeah well so together with a CRE and some developers we set up some KPI. So key performance indicators. And especially for campus South, that's the new develop new area where a lot of developments are happening. And together with the team of ANNONYMISED, me. But also some researchers from the Faculty of Architecture. And then the the developers and some consultants. We set up several KPIs. And those are already in place at the moment. So now when we are talking to the project developers or the project leaders of other buildings that are currently built or being built on campus South, they need to comply or or strife to those targets because we already developed them and CRE is already taking them into account.

00:13:50.380 --> 00:13:54.900
R
Besides this set of KPIs are there any other implementation measures that you can think of?

00:13:59.250 --> 00:14:04.400
I
Well, actually we do everywhere we really work together with campus and real estate so

everything that we do or every tool that we implement. It already checked with campus and real estate and they are taking that into account So I'm not really sure what kind of tools I can mention at the moment.

00:14:30.800 --> 00:14:49.580
R
Well, I I guess you all you've been appointed by the university to team up with ANNONYMISED and work on these sustainability goals. So of course it because and I'm saying this because the next question is how have this policy goals have have had any influence in your work. But of course your work depends on these policy goals to be planned. let's say like sparce with within the organization. As you talk with every department and every faculty. So I guess he's rather a hub. Say that in English, a question that is answered by itself. Have you noticed in the last year that since you've been working on this new policy goals for sustainability at the TU Delft the very process of developing the goals have creating new influences in your work. From the beginning from what you were doing by saying the beginning of this year it so now have anything changed from what you saw in the beginning.

00:15:33.940 --> 00:15:41.200
I
Well then of course me and ANNONYMISED were appointed with the idea that the university wants to do something on the sustainability part. Well, let's say it this way. In the beginning we established certain teams. We created our theme teams with our faculties in university services and from bottom up we really saw that there is a lot of interest in sustainability. There's already a lot happening and we notice that it wasn't controlled, so there were a lot of things already happening bottom up and there was a lot of energy to work on sustainability.

And so we kind of took it at that moment or our role to control that bring everything together, register what is already going on but currently we also see a change from top down in the beginning the management levels were kind of holding back with sustainability, perhaps in the beginning, but you can really see the the the switch happening that it now comes from within certain people that already are also on the top layer of the university, so that's that's really good to notice that the little things we already done this year we trying to create more awareness. That it really helps, then people are switching and also looking at their own behavior and that their own work. The university is really, really working on becoming sustainability and it comes from a lot of people from within and not because they have to.

00:17:32.680 --> 00:17:52.190
R
This is normally the case right I? I mean you you have you have two options. Either you are trying to comply with certain policies, national policies, and norms that are that are like kind of obligatory to you, or you. On the other hand, are actually willing to make those changes and actually thrive for something better than what is ask for, right? That's really interesting so at the moment, I think the university aims for higher goals than that the Europe order Netherlands is

asking for, so they're really trying to get a lead position into this, and given that and set an example for others.

00:18:09.750 --> 00:18:14.620
R
I, for example, reviewed the the the climate agreement by the VSNU. In terms of like the trias energetica and and how it's actually supposed to be implemented at every university, and then you see how do you tell if it's actually approaching energy demand in trend in three different scopes, there is actually a bigger scope than the one proposed by the trias energetica and they already told me like OK, probably to Ralph at some point. If all these plans and goals are achieved, it's it's actually going to comply with something that is cannot even be translated into these trias energetica framework because they're basically centering themselves in the first two scopes and the third scope or about indirectly consumption of energy is is not there, and it's of course very important. Depending on what you do and the kind of university and the kind of focus of university and everything. So this is that's on my side really interesting to see and in talks as you as you say about how TUD is actually thriving towards this goal. If we go a bit deeper into implementation and about all these goals that the instruments that you have to operationalize those goals and implementation measures, Have you seen any any new institutional setups at the university level and in any new roles being created? Maybe the allocation of new responsibilities among different stakeholders.

00:19:38.090 --> 00:19:43.110
I
But of course we propose in our ambition plan that we need more people that are aware of sustainability in, for example, all the management teams. And we propose that every faculty has their own sustainability coordinator, so some faculties already appointed one this year because we asked for it. Others are still searching for someone or still thinking if they should appoint one within our core team, we connect all those sustainability coordinators of all faculties. And together we talk about what is happening on university level, how the faculties themselves can help with that, and how the students can help with reaching our goals. So I think a new rule is then the sustainability coordinators on faculty level. And for example, a few weeks ago someone reached out to me from DEMO that's also an organization at the university. And they just appointed someone who needed who's going to make a sustainability report and she wanted to get in contact with us because she wanted to connect it of course, to the general report. So I think more jobs are created also on this topic to make sure that every department is really taking it into account.

00:21:09.260 --> 00:21:23.950
R
The flower of governance that you've developed is. It's it's something that is is temporary, it's it's something that's just for his inability or you think it's going to break into the the governance of the university, be something more permanent.

00:21:25.160 --> 00:21:32.490

I

So the flower that we created is of course represented with every faculty in university surface. We developed it for, of course, for our own projects, so that's focusing on sustainability. But you can see that by connecting people from different faculties and university services on one product, some steps can be taken sooner because you have different people with different backgrounds but with knowledge on the same topic on the same table. And normally they don't encounter each other in in the university world because all faculties and university services are kind of small islands. But now they're on the same table and you can really see that when, for example, with mobility we created this plan that within 700-800 kilometres or within 8 hours you have to take the train. So two faculties are testing this pilot but now HR is already coming to us so we see that indeed these pilots are happening. We want to investigate the general policy about it because they're on the same table with those people that are doing the pilot at the moment. So a lot of steps can be made quicker I think because everyone knows from each other what is happening at the moment and how they can contribute. If you take it broader to your question and if we should also implement it to other structures. I think it can be really beneficial if the university works less in islands, but more as one.

00:23:27.400 --> 00:23:40.940

R

If if I ask you the same questions but now related to construction and renovation, have you seen any changes? Any institutional changes? People being maybe hired to new rows in terms of these new connections about sustainability?

00:23:42.150 --> 00:23:44.300

I

So for construction and renovation, you can see we within CRE that they were they contribute in in that team that we set up and appointed people to take the lead in to that team. And, uh, they really made it their project as well, so they avoided someone that really took the lead in which buildings we have to tackle. What is best? How? What is the road map for the coming few years on that theme? and she has a team around her. And now she's with pregnancy leave, so it's a bit. But when she comes back, I expect her to fully take that path. That path she developed back on. And you can also see that compassion real estate hired someone from RHK and she is really focused on sustainability and every project leader. Uh comes to updates about the project of their building. Uh, they update it to her and she tries to check if they're really following those KPIs if they are reaching toward goals and if something goes wrong. Looks like they're not gonna meet those goals. She tries to find us or someone else within the university to find out if there are ways that you can help them or. So you can see some changes I guess, and some uh, but also within CRE I guess you can see also this mentality mentality. Change that in the beginning it was only finance, let's say now they're still really focused on finance, but they're slowly. Also thinking about sustainability. So that's maybe a good.

00:25:51.590 --> 00:26:00.410

R

Really linked to the t do List? This last question in terms of resources. So when when when it's every sources, I mean financial resources and human resources. What do you think, is it enough what we have so far should be more, more more money and more people putting to you into work for this. For these goals, maybe specifically to construction or renovation in your opinion.

00:26:22.030 --> 00:26:23.700
I
I, I think money for CRE is a really important topic, but sometimes. It can also hold them back because they think it only it can only happen if there's money. But sometimes it perhaps doesn't cost extra money, but you can implemented within the budget you already have, but I am. I think they find that hard to believe. Well, I think there's a good base we didn't see every or within construction and renovation, but of course it helps if there are more people that focus on sustainability, but I think it's also the company, it's more about the contracts you have and the companies or consultants or architects that you hire because from the beginning, you need to make clear as an organization that you want sustainable or circular or carbon neutral buildings. And if you give that specific assignments to your architect to your supplier, they know from the beginning what they need to deliver and set certain rules that, if perhaps they do not meet those agreements, the contract can be I'm a broken. I don't know the proper English word. Because the same is when someone delivers a building that is not where the construction is. God not good enough. We also don't want to continue with that party. So I don't think that it's fresh. We need more people and more money. Or maybe indeed a certain policy or certain contracts that make in the beginning clear what is asked from your suppliers and that they know. OK, this university wants a sustainable building we need to do everything that we can. To make sure that that happens because that's the question or the task that they give us. For that you don't need an extra person because they just need to know what they need to do.

00:29:07.590 --> 00:29:23.670
R
In next question also in terms of implementation but it's strictly about monitoring and evaluation. I I know there are huge ambitions. Becoming carbon neutral and circular by 2030 is not going to be easy whatsoever. Is there any way, in your opinion, that you have seen maybe any sort of implementation follow up, or a way of reporting, and also ways of exchanging experiences or or learning from what you already done? Is there something already there for the full for those purposes?

00:29:41.460 --> 00:29:51.700
I
So we're definitely take taking into account that we're piloting, so we're the first ones who are trying this. So from us from ANNONYMISED, me also ANNONYMISED, from others. We try to pinpoint people on the process right down, why you are making certain choices? Because then we know what you did and how you came to this for construction and renovation, then how you came to this design for this building. Because we have this certain goals, but sometimes perhaps it is impossible to reach these goals, because for this moment we aimed just too high for this building because I don't know there are certain labs or whatever that makes it

impossible to use bio based material. Then you have to report that and then we can at least as an organization can see how they made this and this decision because it's really impossible to use bio based materials, but they really try to implement it. Then we can say OK. It's OK, we didn't reach this goal because this of this of this, and we did reach the other goals by implementing this and this and this strategy, and then the next time when the next building comes, we can look at this first project. OK, we can definitely implement those things because we already made that happen in the previous building. There's another thing we were in a possible to do that in the previous building, but now we're really going to look into why didn't that? Why didn't that work in that building? And can we perhaps learn from? Why didn't that work in that building? And can we implement it in the new building? So, uh, definitely hasn't university you should really write down what is happening or where you're learning from, because there are a lot of new things happening. And that's what you also teach your students to evaluate, so you should do it as an organization as well.

00:31:58.780 --> 00:32:02.370
R
Exactly, but it's all these things and you say, are those reporting processes being being compiled in an official way or or so far is it, say, lobbied, informal and it's more like well we have we have some. We have some notes here and there.

00:32:15.580 --> 00:32:29.820
I
For now, I know that at least for one building, uh, someone made a report of the decisions, so I hope that by this first example we can perhaps make it a policy, or perhaps give yeah that others are being enthusiastic about it as well so that we have more reporting more cases.

00:32:40.020 --> 00:32:41.240
R
Which building is that one?

00:32:48.560 --> 00:32:50.460
I
I think it's logistics and environment.

00:33:01.290 --> 00:33:11.340
R
We're now moving to the to the last part of the interview. Thanks again for your time in this this well, we already made that question. So this is actually the last question of the interview itself. 'cause you know we went through again goes instruments and implementation measures and all this deeper processes in terms of implementation, is there like resources, implementation plans monitoring? Are there any other goals, instruments or implementation measures that would you suggest for achieving construction and renovation goals particularly? Is something missing, maybe? Maybe there are goals or or instruments that you would like to be part of of a overall policy because of time you couldn't put it there because it was too

ambitious because it was a bit out of the scope. Is there anything else that you actually would like to put?

00:33:52.460 --> 00:33:54.600
I
Uhm, that's difficult question. Let me think about it. So for construction and renovation we want to make sure so the campus need. I'm just going to try to think out loud to see if I come up to something because at the moment I don't miss anything. But for construction and renovation, and we of course want to achieve carbon neutral carbon neutral and circular Perhaps circular is a bit too ambitions at the moment, but we're definitely gonna work to it. So then things we were talking about are for example for this circularity aspect is a material hub, so when you're transforming a building or you some or tearing down a building. You can collect those materials in kind of a central hub, so that when we're building another building on the campus, you have to look at the materials we already have and try to reuse them, but I think that's more a tool and not really, like, a policy. So that's more something that you can really build on campus.

00:35:25.060 --> 00:35:32.720
R
this is somehow connected to the material passport idea, right? That you have tried to obtain materials we've components, or you can reuse them locally.

00:35:31.920 --> 00:35:32.240
I
Yeah. So we're really focusing on making everything that you can separate all the materials again so that you can reuse them. But at the moment you cannot store anything at the university, so it would be interesting if the campus itself, or perhaps with the surroundings. You can kind of create a marketplace where all the materials from buildings but also furniture is stored and when you see you need certain materials or components. You can first look at that material hop, perhaps. Is there something that I can reuse and then buy new stuff? But again, that's a very specific example. For now, I don't know anything that I can do. Nothing pops into my head, but if something pops into my head I will. I will let you know.

00:36:32.770 --> 00:36:48.220
R
Yeah, no worries. Yeah actually that that answer is is quite interesting because it is super relevant for construction and renovation. As as a theme but at the same time for CRE internal processes that they've been also talking about this more and more. But even the basic idea of a materials passport in these material depo is a work in progress like nobody has actually implemented such things. You know, of course we have researchers out of faculty or some of my best friends, as colleagues, their work and posterior passports and data infrastructures and data pipelines. Also TPM very sales, just a theoretical theoretical approach, right? In that sense that this whole idea of turning TUD as a living lab in in actually doing what you preach could

actually contribute to to kind of link this theoretical background to a more grounded implementation, so definitely it's it's. It's a tool that is lacking, yeah.

00:37:38.440 --> 00:38:08.100
R
tThank you very much. I cannot thank you enough for for your time in in in your answers as I've repeated today to the other two. Interview is ahead in the morning and in the afternoon. It's really interesting to see how people are tiered elf. Have both. This is really encouraging mindset of we are going to do this in a way you know we really want to thread 2 towards these goals but it and you're still preserved a critical perspective on.

00:38:02.360 --> 00:38:02.680
I
Yeah.

00:38:08.710 --> 00:38:19.380
R
Well, maybe we're not gonna get there in in in these are things are actually causing problems. Some minor or major issues in achieving these goals. You know, that's really cool because.

00:38:13.960 --> 00:38:14.240
I
Yeah.

00:38:19.440 --> 00:38:40.620
R
Yeah, I was expecting something different. My hypothesis will be like people were really into like doing things but not really being reflected on or what they were doing. But so far everyone is actually aware of. Well, these are the limitations in our quite clear. Of course there are. You know there are solutions I I don't have completely political when it comes to management. How to do things.

00:38:34.490 --> 00:38:34.830
I
Yeah.

00:38:41.100 --> 00:38:55.300
R
What would be the criteria so follow and in in in things like that, but it's really. It's really interesting to see to see how people actually are thinking about these issues because, well, it's a challenge. But challenges come with issues in in the end, so it's it's it's nice.

00:38:53.600 --> 00:38:53.860
I
yeah. And you're in the University, of course, so we have to take all those challenges and we have to try to overcome them. And it's OK if if one project or one pilot doesn't work, because because it's a pilot and we're OK, it's OK to make mistakes. As long as we learn from it, and indeed if wait what did go wrong? Why did it go wrong and how we can prevent that from next time so that we in the end achieve our goals?

00:39:25.710 --> 00:39:26.110
R
Indeed. Well, thank you very much again and I hope I can. I can come to you with with the results of the analysis as soon as possible. Most likely is going to be by the end of February.

00:39:36.890 --> 00:39:37.230
I
Yeah.

Interview #6

00:00:03.260 --> 00:00:29.300
R
TU Delft has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particularly campus and real Estate Department in charge of the management and development of their real estate inside TUD to reach carbon neutrality, circularity and to contribute to a campus that develops considering health and well being. CRE has elaborated different policies for this challenge. You are being invited to participate in a research study titled "Policy Coherence Analysis or Carbon Neutral and Circular Campus by 2030". This is study is being done by ANNONYMISED from the TUD. The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circular radicals in campus development. And it will take you approximately 45 minutes to complete. The data will be used for checking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this society is entirely voluntary and you can withdraw at any time. You are free to omit any questions as well. We believe there are no known risks associated to their research study. However, as with any online related activity, the risk of a breach is always possible. To the best of our abilities your answers in this study will remain confidential. We will minimize any risks by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent to this interview and to record it?

00:01:59.820 --> 00:02:00.320
I
Yes.

00:02:00.970 --> 00:02:15.580
R
Thank you ANNONYMISED so that the very first question I would like to to to ask you is are you aware of the CRA policy goals on circularity? Carbon neutrality and health and well being campus development in 2030?

00:02:16.140 --> 00:02:19.620
I
Yes, I'm part of the team which defines and make their definitions for energy.

00:02:33.270 --> 00:02:41.690
R
Second question, how does your job and role at TUD linked to these CRE goals?

00:02:34.800 --> 00:02:35.070
I
Yes. Yes I am. I'm the ANNONYMISED from Team Energy and dependencies is subdepartment of

CRE and so I'm responsible to make the connection between policy and operation for Team Energy and CO2 too, especially on the energy goals. And how can we? And what are the action that we have to do with them too? Yeah, to help reaching that goal, the goals and so, uh, I'm partly we are involved in making the policies but also translating them into actions and also the monitoring and the energy monitoring and so, and in that way I'm a. It's a big part of my job to have to help reaching the goals.

00:03:59.270 --> 00:04:02.140
R
What are those goals is specifically?

00:04:03.290 --> 00:04:26.130
I
The goals, specifically is the local energy production, local sustainable energy production. That's the the main goal for us because team energy is responsible for the energy purchase, energy production, energy transport, and energy storage of course and so our Responsibility ends at the facade of the building. On the energy level. The other part is a of our team is building management systems and the energy management energy monitoring systems and those are also within the building. And so for us, that combination also is really important to do we can kind of monitor and kind of manage the comfort in the buildings and the energy supply into the buildings in that way.

And I'm sorry, what was the question again? Oh what what are the goals? And that's why the we are focused on the local energy production goals of 50% of the energy demands should be locally produced, sustainably produced. And so, one of the the big projects here at TU still geothermal source. We are heavily involved in that in that project of course yeah, and the and the high temperature storage which connected to that. But also the PV implementation plan and the research team for PV. energy production and also the smart grid smart, smart building smart grid. This brain for buildings, those subjects, that's our focus. We are also involved in energy reduction for the buildings, but that's if you talk about responsibilities, that's not the responsibility of team energy, but for us, it's. By reducing the energy demand, that's really a big influence on what we what we have to do, what we have to deliver. And that's why we also. In a way you are involved in in in the in the goals for the buildings, but for us, in fact, it's more we now counting with of web account on that the energy will be reduced by 50%. And the oldest of our scenarios are based on the assumption that the buildings will have an energy reduction of 50%.

00:07:41.540 --> 00:07:50.250
R
OK, so on the one hand we we want to produce 50% of energy locally and on the other one buildings need to reduce the energy used by by 50% as well.

00:07:45.740 --> 00:07:46.030
I

For us, and that's in a way kind of hard to say that we as a team and we have a kind of different focus than CRE. For CRE the buildings and the building related energy use, that's their responsibility. But we are responsible for the energy delivery to the to the building. So for the complete energy so also th use of energy that he uses used for research for for education, for the kitchen, etc. So we can't limit us to a building related energy use. And so our responsibility for making the energy supply. Uh, sustainable. It's in that in that way it's it's a bigger amount of energy then CRE is focusing on. And I just said a bit of a. Yeah, different different perspectives and and it's in that way difficult because we're part of CRE and so that can beat dark lashes (?) and big word, but at CRE. We, people often forget tat team energy has to deliver a bigger picture on energy than that CRE the rest of CRE needs to have.

00:09:45.730 --> 00:09:52.480
R
Is this related to the the scopes that you work with, right? It's got one two or three in this sense?

00:09:55.000→
I
No, yeah, in a way. But it's also the goals that we are setting up from CRE point Is building related because CRE is only responsible for the buildings and not for the energy use of the users or energy use of external parties and but for the for the energy production and delivery. It's for the whole campus and for every every kw/h with our that's used here. And that's why for me as an energy transition coordinator, sustainability is a part of my job. And for like ANNONYMISED he is the ANNONYMISED it's a part of his job. So that's and that's kind of the difference between ANNONYMISED 's role and my role. As for me, my role is, my goal is to create a future proof energy system and sustainability is a big part, but it's mainly the main focus is on reliability. Had That it's cost effective, cost effective and sustainable, but also that we support research and education. Those are the those are the four kind of themes on energy transition for us except for the for the. Yeah, the futureproof energy system.

00:11:45.870 --> 00:12:10.550
R
OK, thank you ANNONYMISED next question is considering this this energy goals right? What instruments or tools do you use to work on this goal set specifically or by this I mean I either set of new rules for energy, either setting incentives, are there certain information or guidelines, and if none of them exist, do you need which which although? Orinstruments do you think are needed?

00:12:13.230 --> 00:12:22.790
I
Yes, I think what is needed most is to have a kind of a decision(making) framework based on the on the goals and from the goals and the vision, we need to create a this I think decision framework with criteria. Uh, which represents the goals of the vision on sustainability and energy transition to make a decision OK? solution one or that we can choose between different

solutions for reaching the goals. And now we are and I think it's needed also because you want to achieved the most. Like CO2 reduction , with as less money. For example. Uh, needed. so we really need and and now it's kind of how to say that to say that there's an opportunity and someone is like oh, can we do something here and then everyone? So yes, let's do an acqua thermal source over here. And there's no kind of analysis of why we should do acqua-thermal energy and not like getting cooling from the drinkwater pipeline. And there's no comparison. We we asked for the the Board of Directors or the management team says OK we. We think you're this project will our goals, but in fact we don't know how much we don't know. And and I think we really need kind of a red-threat from from policy, to execute the operations to projects, and that that can in that the choices that are made that we can monitor them and that we can see. OK, these are the best choices, but also these are these are. These are the. The CO2 reductions. Uh, that's we are. We're aiming for or if that project isn't going that well or something like that so that we can really monitor and that there's a good yeah, consistent story to tell. And I think that's necessary also to attract people to the Energy transition or to the sustainability transition.

00:15:28.830 --> 00:15:41.940
R
OK. You already mentioned this. The need for this decision making framework as a tool in the future or in the near future, if possible. But what are the tools or instrument that you already have now?

00:15:42.300 --> 00:15:49.170
I
I can, with my experience and knowledge, I can calculate what is the energy reduction, so how much it costs etc. So I can kind of set up kind of a business case. Uh, and then in that way, if it, if it's profitable, or if the values are met with the goals that we have, then we can propose them to the management team or to the Board of Directors. So with kind of the general tools for calculating as you two reduction or a the costs of the solutions. We can make kind of decisions now and we can start projects now. And the other tools are.

00:16:51.190 --> 00:16:51.450
R
I know, I know that for for, for this proposal Zuid development area. There are some KPIs have been developed for energy.

00:16:55.350 --> 00:16:55.670
I
Yep. Oh yeah, yeah, we have a a kind of document for rules for developing newly built buildings, but we also have a KPI document for the complete campus. And so those are also our for me is kind of the guidelines, yeah?

00:17:27.010 --> 00:17:45.190
R

And what are those? What are those? The rules that you mentioned? Are those rules something that you are obliged to obey or or its vis-a-vis in terms of if we can apply those rules in this particular case we do it, but if it's not really possible, which is a skip them.

00:17:46.510 --> 00:18:03.080
I
Uh, Its kind of learning process we it's in a way but if you can, I'd say that if you can prove that you can meet those goals of those rules, then you don't have to stick to the rules. To that to that goal, then and so, and also for now, to learn how to get there, get there, uh? Uh, yeah, it's just to reach those goals. How to reach those goals?

00:18:29.510 --> 00:18:32.200
R
Andwhere are those rules written down?

00:18:33.980 --> 00:18:39.950
I
Yeah, in the in the documents and it's also in my opinion, how I see it is what I think it is that the management team of CRE agreed upon those rules, and so in there there in some policy documents they are described.

00:19:02.540 --> 00:19:20.220
R
OK, good. Next question and and and and linked to something you said in terms of when when policies get through operational levels, right when when things need to be implemented. What implementation measures have been taken or proposed to achieve the CRE goals to date? Or yeah.

00:19:20.020 --> 00:19:32.250
I
Yeah, yeah, come for example the energy analysis, the EED the energy efficiency directives analysis. And the outcome, the results of those analysis and some of them will be implemented in the, how do you say that, in the maintenance plans? Uh, and so in that way the the outcomes of which solutions per building can be executed can be done, then connected to the maintenance plan, so it's planning so it can be done on the natural moment for natural replacement moment. So and and that's one of the kind of the tools to implement sustainability into the campus into the buildings, the other one is also input for the campus strategy. And so those are them, and I think the most important tools for to make it an operational and. But on the really operational level. I also think of I also feel that people don't have a decision framework for sustainability. For models like replacing a pump and then and now it's the only criteria is is price and sometimes How easy maintenance is? Let's it mainly price driven, financially driven.

00:21:21.480 --> 00:21:38.810
R
And considering the energy team, the energy transition, the energy goals in general. Have you noticed in the last years any new roles being created, new allocation of responsibilities, things like that.

00:21:34.760 --> 00:21:35.060
I
Yeah, the energy was mainly in operational, were operational roles and energy has to become and it's becoming and has to become more strategic or playing and important role is kind of for me even essential role on strategic level and tactical level, and that's still in development. Uh, ANNONYMISED, my team leader, he is trying to positionning on that level and and trying to find out how and also from the management team, they are aware that energy isn't sufficiently positioned on the strategic level, so they also help finding how can be best done. Uh, and I think. Uh, I ideally, a separate energy company. would be really, I think for the university, be the best solution. Also two separate head and then you can operate really like with customers and with and so that would be the I think the ideal solution. But for as a solution in between I think. Thinking of energy and energy plants etc as an asset and with an asset manager that can then easily that's more easily to fit in the organization of CRE because we are now already having asset managers for different buildings. So that's why I think that would be a good first Step to Energy Company or Energy Department.

R
Interesting. Really cool and in terms of you also mentioned this. Uh, in in terms of monitoring and evaluation is is there any sort of implementation follow up reporting schemes or or ways to exchange experiences and incorporating new knowledge? You also mentioned it is a learning process. How do you make sure that the new learnings are actually put into practice in the next process?

00:24:29.650 --> 00:24:43.520
I
That's still in development in my opinion, and the there is lot said about learning organization, but in practice it's still has to being developed and now it's more, I'd say, It's depending on individuals, that someone who's starting up a new project is it's kind of going to colleagues and try to get the idea, the learnings from the first projects, but for me, not really implemented in the in the process and that there's a really good learning process in the in the organization. And it starts, I think with a good start meeting and an evaluation meeting, and especially the evaluation meeting often are cancelled or, how do you say that? quickly done like yeah, and because next project is coming up and and so, yeah. But we're trying and I think it's we have SharePoint. We have Teams and so we're trying to build up kind of and knowledge and skill system etc. But in my opinion that's so much extra work and it and and that's also not often really working well.

00:26:32.830 --> 00:26:34.680
R
Then last question on implementation. Because of this of this new plans in teams, have you seen any new financial or human resources being applied or being gotten by CRE?

00:26:38.630 --> 00:26:38.980
I
uh new roles on finance or new…? no. I had like

00:27:05:000 →
R
both 2 two different things so new persons, new people, new people, that's resources and also money as resources. Doing the resources, yeah.

00:27:06.000 --> 00
I
Ah yes, for us there are more people and money is put into sustainability, in the transition, yes, but there's more willingness to invest in sustainability and also for as budget but also with with people. But I think it still isn't enough. and that's the differencea when you look at CRE are kind of a supporting departments and so for every euro we're spending that's in euro, which not spent on research. The normal thing to ask to us is: Is it necessary to spend that euro? And so, and that's why when I started here. I immediately started promoting campus as a living lab. Because then you combine the money for research and the final money streams of money floats for research with. Uh Campus real estate and so, then, uh, Duo spent is also partly then spent on research and, and I think that way of thinking and really also then improves the uh, kind of the market. It can improve your marketing and create value, then attracting students and attracting professors to the university. That's also kind of money thing, money flow, and so and So I think that by combining different strengths of the campus together then also the amount of money especially dedicated to. So just to making buildings more sustainable. It can be less than if you combining the complete program as campus as a living lab.

00:29:51.560 --> 00:30:16.350
R
This is really interesting because I I've heard about the intentions of making TUDelft like as a big living lab, and also using living labs as decision making tools to come to certain decisions that otherwise like a rather difficult to make. Or you are always lacking a certain perspective that is fundamental. And now you're opening this way of understanding living labs. Also as a way to bring more resources to the university. Because of course you are researching at the university about the university on things. They're also going to promote savings in that sense. That's really interesting.

00:30:25.550 --> 00:30:43.540
I
Yeah, and it's kinda follow the money. You're seeing it because of the different budgets for CRE

as a different budget for that research you always get that kind of the the battle for money. So when you combine them, youcan come, but that's in a way difficult process, of course, because we are our main focus is reliability. And every experiment which is put in our, for example energy system is putting in the liability in the system and so finding the balance between those two. It's the the biggest challenge in, in in the campus, living lab, and but I really like, I think. And I'm telling this. It's a story and and perspective I now come and your positive reaction and. And yeah, I see that you will smile on your face. I think that's, uh, that's what we need to create here and we really we can we have such an unique plots here and with mainly and it's kind of mine high side, and I often tell this to people because I'm really into testing that we have it here. Uh, I have what I'm saying that our energy plant is private property of the university. Our are the complete energy transport system is of the university. Uh, and he's storage systems are of the university, so uhm. Creating a smart grid here on area level. We have a really unique opportunity to do that, and when you want to try and experiment as smart grid on in the on the public net. Immediately, 25 even 30 stakeholders need to be involved and here. Feist perhaps then(?) And so the decision making around smart grids can be way more easier. And we have the ecosystem of all of the faculties we have. with and they have already all kinds of energy, energy, transport systems. On their plots, so they are. They are trying now 24/7 autonomous so how can Greenfield it's B. Kind of an autonomous area. And so that and and it's kind of a smart grid already there, and it's in that spot multi commodity grade. So I think we can. We can from idea from the faculty from a PhD student or from professor can be tested on a really first practice level in team level in on Greenville. It's upscaling can be on campus campus as a living lab and then we can make this step. To society, to the markets by involving innovation and the Impact and Innovation Center. So from ID to market readiness, we can all create this on our on our campus. I think amazing. That's, but still, but still OK. I'm sorry that's you.

00:34:20.470 --> 00:34:37.050
R
Well, where? Yeah, no worries. We we we are approaching the the end of our interview. The last two questions. So the first one would would be what one more time linked to this new policy goals, energy goals. Have they had any influence in your work decisions? Uh, in other words, have they had any effect on your work or at your role at you delved?

00:34:43.800 --> 00:34:59.270
I
Yeah, the policies of the new policy yeah yeah like I said I kind of started with setting up those policies so for me.

00:34:47.900 --> 00:34:48.760
R
The new policies.

00:34:59.920 --> 00:35:03.610
I
It was the basis of how I was working here. And but I I notice that these new policies are

creating discussions and creating also, that people are also involved with me in a different way, and so from an indirect way. I noticed that I'm differently approach then two years ago when I started here.

00:35:40.580 --> 00:35:56.030
R
Interesting, OK, and the last question and this is more a a closing closing question. What other goals, instruments or implementation measures would you suggest for achieving the the CRE goals on circularity? Carbon neutrality. Uh, in campus development, but you already mentioned that there are certain goals, right? You mentioned that there are certain tools so you work with and there's certain things that need to be implemented or are being implemented. I are there some things that you think, well, this policy would be more coherent and we also put this in the paper or we put this into practice.

00:36:18.570 --> 00:36:26.390
I
Yeah, it's mainly the the decision framework, and that's on all the levels. From a tactical tto operational that framework should be consistent in that way. But also I I can imagine that there are kind of different ways of decision making on different levels, but that framework should be consistent. Uh, good. Uh, consistent efficient and it's also important now I think, we kind of had a really rough global fishing on sustainability and then we immediately too. And setting up a viable goals. On concrete goals, and I think that in between there should be a lot of we didnt have the discussion on what are important criteria, sustainable criteria for the university, and now it's it started with energy, then circularity. Even at the time a man came up and and then also health, and biodiversity. But I think a discussion about the values of the university. What are our core values and how can they and how are they related then to sustainability? Then we can make a really distinct focus on what we are, what we will create on this university. For example, when I was a consultant, I. Always said come pick Max 3 SDG goals. Not a complete 17 because you can't excel on safety goals. And I think also for the university which we can be selective in this way. But then then excel on those on those goals. And now we want to do everything. And so I think, really, uh. Uh and goods vision and and and and then story about also why we picked those goals and we focus on those goals. And because we we can and we can excel on those goals and the other SDG's we are of course also working on for example. Uh, and that's the legislation level. That's the left we working on the rest of the rest of the goals. Because because we all, education is a big part, of course, and so education can be. Uh, our main focus, so campus. As a living lab. It can be really placed on there that that goal so and and that makes it more highly cited that people can understand the story. They can't, and so they understand. OK, that's why we focus on that, and that's why we and that's for for the University of Delft. That's sustainability. And I'm kind of missing that. And the other thing is really on operational level, people really should be helped by again making the decisions, but also may also being rewarded for becoming or for making the transition to sustainability, and now it's in words, and it's kind of cold, but the in the rewarding or in the but also the yeah how you say? In the end, when the at the end they are and it's also a bit in the decision framework. At the end they are said, yeah, but it's not cheap enough. Or something else so. And they really have to

fight for the system sustainability. Uh, and and, and and and it's not really completely implemented in cultures, so I think there's a lot still a lot to be done. The other thing is, uh, don't. Cost of ownership is really, really important way of thinking so that we because the approach sustainability from an investment point of view that doesn't work. We really need to think in total cost of ownership.

00:41:34.290 --> 00:42:03.700
R
Well ANNONYMISED, thank you very much for for your time for your valuable insights, because it's this is really amazing and so far I've got 2 interviews out of 10 that I have to conduct and both of them yours and they want to add. Yesterday I've been really enlightening in in in terms of on the one hand, how how willing people are TUD to do these transitions happen or to make these transitions happen and on the other on the other hand, how how critical you are in your own work?

00:41:43.670 --> 00:41:43.910
I
Right?

00:42:03.830 --> 00:42:22.900
R
In saying, well, we're doing things, but of course we could do. We could do. We could be doing these things better in a better way, or more systematic way, and a more integral way. So thank you very much I I hope to come back to you with some of the results by by the end of February next year so so we can maybe talk about them again.

00:42:16.180 --> 00:42:16.700
I
You're welcome.

Interview #7

00:00:44.180 --> 00:01:14.560
R
TUD has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particularly campus and real estate department in charge of the management and development of the real estate inside TUD seeks to reach carbon neutrality, circularity and to contribute to a campus that develops considering health. CRE has elaborated different policies for these challenges, you're being invited to participate in this research study titled: Policy coherence analysis a carbon neutral and circular campus by 2030. This is study is being done by ANNONYMISED from TUD. The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals in campus development, and it will set you approximately 45 minutes to complete. The data will be used for checking policy gaps and improving the overall policy implementation and effectiveness. Your participation in these studies and tired voluntarily and you can withdraw at any time. You are also free to omit any questions. We believe that there are known there. There are no known risks associated to this research study. However, as with any online related activity, the risk of a bridge is always possible. To the best of our ability. Your answers in this study will remain confidential. We will minimize any risk by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent to this interview in to record it?

00:02:15.350 --> 00:02:15.760
I
Yes.

00:02:16.500 --> 00:02:22.850
R
Thank you very much. So the very first question, it's just six questions, where we're going to try to go from general policy goals into implementation from so from general to more specific things. The first question being are you aware of this CRE policy goals and circularity? Carbon neutrality in better health and well being campus development by 2030.

00:02:29.060 --> 00:02:29.300
I
Yep. On general level so when you would ask ANNONYMISED he can tell you, of course. More in detail how uh, are we maybe can can follow a road map towards that solution, but on a general level? I'm aware yes.

00:03:01.600 --> 00:03:03.180
R
And how, how is that you are aware of it?

00:03:04.970 --> 00:03:07.820
I
In terms of, from which perspective do you mean?
00:03:12.600 --> 00:03:15.360
R
From the perspective of your role at CRE.

00:03:15.520 --> 00:03:30.950
I
Yeah, I work at CRE at the ANNONYMISED. Uh, I'm involved with the development of the strategic cycle, so every other every year there is a strategic cycle in which new requirements bodily requirements but also nice to haves but also certain demands from different faculties and asset owners are are investigated and also weighted on their urgency and the necessary. Yeah involvement in the campus strategy of that year. So I'm involved in the campaign strategy and part of the campus strategy is also the sustainability program for which ANNONYMISED is the program manager.

00:04:10.970 --> 00:04:24.320
R
Uhm, you you just mentioned that the campuses strategy. Can you talk about a bit more about it, but it's it's a it's aim. How does it that every year you have a different campuses strategy? How does it works?

00:04:24.630 --> 00:04:39.450
I
Yeah, they started with the campus strategy, I would say current form in 2019 and every year there is an update because there are new demands from the the different let's say people not only at the faculties, so we have the Deans, they are contact persons but we have also for infrastructure, certain demands and that's not directly related to a Dean. Dean is also looking OK. What kind of research and education are we doing? What are the growth numbers of the employees, but also have the students? And what do we see in the future? What kind of demand is required for for a good process towards the primary core aspects of the tudelft, so that's education, that's a research and that's valorization of course, those are the criteria and we have asset managers who are in contact with those with, for example, the Deans. to make a map of all the different demands and every year we we update that. So we have fixed financial frame of a 650 million. On top of that we have also some extra requirements, so every year we try to bring in those different demands in the program but we have also sustainability aspects which are sometimes positioned not in every situation but in for a big part of that program are positioned outside that frame of 650 million because they have some potential to for let's say also benefits in the operation of part of the offer example of building so lower energy costs. And in that sense, it's it's not completely covering the the capital expenditures, but let's at least the part of it. So their positioned a little bit different from from other investments. But we investigate that we position them inside the frame, the financial frame or outside the financial frame, and then we present it to the board of directors of TUD and they agree with it. So they

say, OK, this is new update for for coming year. We agree on that. We make it official. Pull up through all the different facial procedures and next year we we come up with new with new process.

00:07:32.520 --> 00:07:49.880
R

When, when, when, when you visit the campus, the campus development website up to date? You can. You can see a list of different I guess principles to campus development. Or it's also called like campuses strategy. So you can talk about, well, circularity in carbon neutrality. The idea about university? The idea of co-ownership, right? Is there anywhere I can find the campus is ready written down. It's something that you do manually or it's more like you manage it internally and in in in such a thing as a written down version is not needed.

00:08:05.040 --> 00:08:10.110
I

Uh, when you go to The TUD website to our Campus website, then you have an item about TUD. You go to our campus. Then it's loading and from campus development. You can download the strategy, which is open for the public actually. Yeah so I don't know if every aspect of the campus because we didn't upload the current edition yet, but I think most aspects are in the the campus strategy. Not all the numbers but all the day parts of it will be, uh, definitely involved.

00:08:59.810 --> 00:09:08.790
R

Recently, the Executive Board approved a special budget for sustainability at CRE right out of those 650 million that you mentioned.How is that decision made? How is how is that you end up with that specific amount of money for sustainability? And as I remember why I recall in that particular document, it says it's actually enough for the sustainability purposes or CRE. Can you elaborate on that?

00:09:26.190 --> 00:09:56.600
I

And that was before I started working at CRE, but I I know a little bit of the process. I think there was a rule of thumb. So ANNONYMISED, uh, definitely is able to tell more about it, but it was more like OK, what is normally a certain percentage of the total amount of investment costs for building, for example, and we take that portion and then for certain area we have north the northern part, we have the middle part, the center part and we have thie south part and for that part. What does it involve? So at this certain part we have a lot of new construction, and for the new construction, what what does it mean? What is the percentage and and then it was a certain amount, so we had a 20 million extra investment for new construction and in the southern area, so 20 million for sustainability. And I was very broad, so that's from a more CO2 inclusive design. Or let's say, reducing the amount of of the pressure of CO2 in your construction activities and materials you use to also circular approach regarding materials. That's that's fairly broad, so it was not defined before end or labeled to certain aspects. And it was also an investment of 25 in WKO, so that's more the heat heat called pump-

related system and and energy facilities of 25 million. There was also for the southern part because they they they need an energy system and it was a also where these same approach, an estimation of fifty million forty center. Part of the campus. And that's more renovation renovation activity.

00:11:26.360 --> 00:11:50.280
R
OK, we we already talked about the the the goals of CRE in terms of sustainability you mentioned then that there is a budget that is, uh, campuses strategy. Those two can can be pointed out as tools or instruments to operationalize the goals. Is there any other instruments that you use besides the budget and and the in the campus strategy itself, so you to sort of guide the the transition towards this goal. Is there? Is there any guidelines, maybe rules that you need to follow or that you have? Or do you want to implement as a CRE?

00:12:04.550 --> 00:12:15.980
I
Now of course there is the the the vision and action plan of ANNONYMISED, but that's a campus wide and also, uh, aspects like vegetarian meals. What is what's the pressure off of food that's not involved in the CRE scope at the moment, so they are a little bit different, but they are of course also related. You can not see them independently of each other because ANNONYMISED wrote something about the buildings and the pressure of the buildings and then you come to OK. Are we gonna make this a separation between what's the activities in the building and the building itself. So more user related or a building related. But they also integral related to each other, so you cannot say we only have the building and what's what's happening inside is not connected. So there that's that's you could say a certain benchmark that's I would say the top benchmark. And the lowest benchmark is the the rules and regulation from the government and in between we are now a little bit in between a theory and and we are looking also if we can reach forward level of ANNONYMISED's program next year and how we can organize it, yeah. I think now the program of ANNONYMISED, or the plan and vision of ANNONYMISED is not calculated yet or there is not a financial statement made for that program. So and and we are yeah we have to deal with that so maybe that's the difference between the different benchmarks.

00:13:53.330 --> 00:14:04.150
R
Yeah, that's the plan is actually waiting to be approved by the Executive Board. But every throughout this last four months, I've realized that actions here is already incorporating a lot of those of the ideas embedded in that document. Some of those ideas is like total cost of ownership. A possible carbon pricing scheme or something. It that already being studied within CRE How to how to operationalize those things are actually specifically linked to to buildings and infrastructure?

00:14:21.280 --> 00:14:39.420
I

No, that's part of study, so I think now they're working on that. And and in Q1 or Q2, they are trying to come up with a plan. And also with the what you're mentioning, the total cost of ownership approach? What does it mean? Actually, in terms of of the operational consequences? But there's really at at the beginning of a of its process.

00:14:48.780 --> 00:15:06.210
R
Uh, again we we talk about goals we've passed through the different instruments or tools that are available, at CRE to conduct this transition. I will. I will now like to talk about implementation measures. So the things that they, the actions that people are taking towards towards the goals. In that sense, something I've realise so like so far is that possibly some of the already decided new buildings in the South area, yeah? It's most likely a lot of circularity in carbon neutral goals or targets are not going to be accomplished because of, well, the linear economy that we are living in. Contractors working a linear way. Finance work in a linear way, but increasingly series, it's it's. It's being aware of this issue. Since the the southern the southern part of our campuses already almost being decided in terms of what's going to be there, how it's going to be built? Is there any possibility to make this new development? I'd be more adaptive, sort of in in what? What I mean by this is like that, now that we have more information we can kind of like change their their region of those contracts or or maybe wait a bit longer to those buildings actually take place. Is that possible for CRE? And if it is, so how come?

00:16:15.770 --> 00:16:16.790
I
Yeah, I think you should be aware that the the process to come to how can I say that the two or two or fixed fixed situation with all the different layers, What I said the Board of Directors and all the different parties who have to discuss the strategy and also the plants on a project level. Uh, that that's quite a long process with a lot of milestones. We have a lot of official documents. In that sense, it is also a really a government organization. Of course it's not that private and private setting. It would go faster on the other end. You also have to deal done with governments and municipalities. Uh, so I I don't think that is very easy because when it's on a certain point is fixed by the board of directors then then it's also a document people appealing on you know, so appealing to so they would say, OK, you decided it on that moment, particularly in time after a long procedure that you would go for that option, and so when you make it part of the option to build in flexibility or adaptive approach, then maybe it would be possible, but and we should also go into scenario planning. What are the consequences of different options? And then for example, the Board of Directors could decide and give a certain confirmation on that let's say the different boundaries and between those boundaries you are still free for new interpretations but we don't always know beforehand what those consequences will be, because those boundaries are formed in the future so does difficult thing. I don't know if the organization was already on that level. That they that it would be become enthusiast about such flexibility build definitely it's interesting because we are now deciding on something that is built, maybe a 7 years from now five to 6-7 years. Developments

go fast. Which contractors you select. This also dependent of that. So yeah it would be interesting, but it's not. It's not incorporated that moments.

00:18:44.620 --> 00:19:14.940
R
OK, a bit in depth into into implementation measures. I would like to know if you are aware of any kind of in terms of the goals. Of course we have the measures to TUD want to be more circular in more carbon neutral by 2030? Have you have you noticed any change in institutional setups at CRE? For example, any new roles being created or new responsibility being allocated to someone specific has? Has she already changed in a way to actually allow this changes do happen.

00:19:17.040 --> 00:19:33.020
I
Yeah, first of all, there are they appointed the program manager ANNONYMISED him that there was already a big step. There came more good collaboration between Team Energy so that energy in a broad sense, not only its sustainability part, so they are contacting frequently and we working now also and he's sustainability strategy with ANNONYMISED and ANNONYMISED That's the ANNONYMISED of Team Energy. Maybe you spoke to him too. that's the first thing, but we also see that the program is growing and and the demand for capacity is also growing in that sense. So ANNONYMISED is now taking a lot of different roles in as a program manager, and I think he is his wish would be to to have a little bit more capacity so that he can go back to a more strategic level. And that's also the organizational development we see that within CRE with any program, and that will continue in the in the future from now. Yeah, definitely.

00:20:27.930 --> 00:20:37.020
R
OK, completely linked to the last question and now from from this institutional new setups and rolls and allocation of responsibilities. If we talk about resources in my resources, I mean financial resources in human resources, what's your opinion in terms of the transition is there enough financial, financial and human resources to do so?

00:20:49.550 --> 00:20:53.510
I
Is this a question you have to ask from ANNONYMISED? Hahaha.

00:20:53.750 --> 00:21:24.050
R
No, I I've been asking this the same, the same question. So everyone is just that I need to. I need to make sense because one of the things that I find tricky for which ANNONYMISED or anyone in specific has an answer. It's a pointer finger organizational structure, it's really interesting that I've been asking around for organic grams and those kind of things. And it's really. I mean, you can of course find it yourself organic gram and see the different departments and faculties and everything in the problems as well. But as soon as it comes to

who is there at CRE, who's responsible of this and that I always hear, yeah, team energy, this inability program, strategic planning, maintenance. But it's like I can't see. Let's just put my finger and then it's like, OK, do we have enough resources?

00:21:40.900 --> 00:21:43.090
I
Yes, that happened because the program is growing now. Now, uh, and it becomes more complex. More connections with other type of programs of, for example, we have also a program in mobility and accessibility. Yeah, sustainability is touching to every aspect we are doing now from building from buildings to mobility to a campus flows. But also our position in a broader scope, are we a stakeholder as a TUD over our own campus terrain and the municipality is is also party as a stakeholder, and what do we want as TUD itself? Do we want to be fully self service so that we all have our our own sustainability sources, renewable sources of energy. Or do we want to only educate people to become the new captains of industry and sustainability? That's also discussion which is well we maybe we would like to do both, but then that comes at a price and and are we able to pay that price or do we have to choose so we see coming year a lot of different choices coming towards us. Also in that context, so I'll see that the amount of activities and the questions which are related to those activities is growing and I think therefore also the amount of investments and the capacity of of people it has to grow in the same, in the same way. But in the long run, probably it will be part of every development, so sustainability and it will be part of the developers we have. Of course developers which working on the on the new developments for example at in this southern region and we have asset managers and those asset managers, I think it will become one of the aspects like safety, construction, safety that that's not something we think about separately and sustainability sustainability will definitely become an aspect as well, and then there is not an uh, program sustainability is is not necessary anymore. So maybe let's say with a peak, so we come from this level and then we go up with more capacity, more investments, and then we go to, I think a normalized level again.

00:24:29.670 --> 00:24:58.720
R
The last question is sense of implementation has to do with the monitoring and evaluating the processes of quality processes. In particular, is there any way to to have an implementation follow up or reporting in terms of these goals? I know of course you have to report every year, whatever. Whatever CRE does, not you specifically, but but they're gonna station has to has to comply with with this strategy and and show indicators that actually it's it's happening. Is there a formal way to do so? Is is there a formal way to to follow up this process or to actually report about it?

00:25:06.510 --> 00:25:25.980
I
Yeah, I know they're working now for the new construction in this out and powered on a performance indicators to also monitor and measure the the developments over there, but I don't know exactly how it is our organized for the whole campus now if it is also I, I think the

because the middle part, the center part of the campus will also become is already part of the development in a when it comes to sustainability measures, but will become more when renovation will take place. But I don't. I don't know exactly if they have already performance indicators for that. I'd I'm too short in the organization now to say something very specific about it from the campus strategy focus. I'll look at the OK. Can we do it in a win in scope and within budget? Let's say couple of projec,t but yeah, it it would be really good to have more performance-driven organization than a project-driven organization. We do certain projects like do you termica developments and we do solar panels, yeah, but OK, what does it? What does it mean for for performance indicators? that would be would be interesting, but I think that's also still on beginning.

00:26:26.250 --> 00:26:37.350
R
In terms of ways of exchanging experiences or incorporating new knowledge. How does CRE incorporating for example circular securities is relatively new? You are probably twality as well. How? How is that process of incorporating knowledge into juice?

00:26:43.480 --> 00:26:46.750
I
I know there was a there they contracted consultant, so she taking care of a process of developing the performance indicators for the new construction in the southern part? Uh, so I think when there is a not enough knowledge about certain topics, for example on circularity, like you like you indicate, then they consult and an external party to bring in that knowledge or in a certain time frame of process. And I have to add to that we also try to work together with the academic partners. So the professors and all the people are related to fields or certain professors working in. We do that for spatial development with ANNONYMISED a professor in environment and also dynamic at that campus, so we try to work together with those, Academic yeah partners. As part of the same family you could say, but it's really when it's really operational from of character. Then we we ask ourselves for that.

00:28:05.180 --> 00:28:12.230
R
Uhm, last on implementation measures in in really approaching the the end of the interview. COVID has presented a new a new scenario for campus development right. One thing is of course, the fact that people are not coming to campus and assets of course needs to still be managed. And iit still need to perform us as usual because people make come at some point, but the other hand the university has also invested a lot of money in setting up saying home offices for their work is so you can actually ask for. I don't know a table chair and monitor all those kind of things. It's already a big investment. Would that actually is? Is that being considered intensive campus development in a strategy? Maybe in the sense of maybe we don't need that much space or we don't need a specific rooms for specific people since they're coming less and less to campus? It might be also the case that it's the new normal that people come less and less is is that being considered somehow by CRE?

00:29:07.150 --> 00:29:13.000

I

Yeah, there is now a study to hybrid ways of working. There are 4 pilots looking at different settings of of how you can organise that that new hybrid way of working. So one is focusing on on the interior. How can we organize the interior that people work in a different way? One is focusing on small cabins that you still can have your team calls, so without disturbing your colleague's around you. So there are different perspectives in that hybrid way of working. They're testing it now because they don't want to roll it out for the whole campus for a lot of money, and then maybe the situation is changing and we have to build it back. So there are small pilot projects and when they have the results in, let's say a year from now, or a little bit shorter than a year. It's also dependent, of course, of the development in the COVID situation because you first want to go to a normalized situation and then look how many people work from home and how many people come to campus. Uh, employees and students. But yeah, still worth deal with the lockdowns, it it gives a little bit of disturbed image of the setting but there are pilots and in the end it will come up with a list of consequences for how we developed at campus. But maybe we also need more space because people need their own cabin or more space from each other. I don't know.

00:30:40.590 --> 00:30:49.890

R

Could you tell me a bit more about those four different pilots? You already mentioned one? Is these cabins. What were the other ones that you have out there?

00:30:50.500 --> 00:31:07.280

I

Uh, one is interior design. One is cabins? Uh yeah, and that one of the two that came to my mind I'm not involved in those in those pilots, so I'm not sure about it, but they're little bit, uh, same of character. It's not completely different. I had to to look for it I don't know.

00:31:33.100 --> 00:31:47.900

R

Overall, have the the the this new policy goals on circularity in carbon neutrality have any kind of impact in your role at TUD? How how is that your decisions your daily decisions have been in a way transformed because of these new goals?

00:31:49.040 --> 00:32:01.080

I

Now I think in what I already said actually in everything because all everything we do we have a quite ambitious program exactly, especially when we're looking at the division and actually plan of ANNONYMISED.Then that's really the high end benchmark, but it's also a challenge to look how far we can go, so it is more challenged and a problem in that sense. But it gives some challenges. Also in terms of, yeah, if we can can afford it financially and yet and also in priority, so is is a certain sustainability measure more important than a short term demand or, for example, of faculty that needs more space. So are we going there for for that foreign

investment in more space for research faculty? Or are we going to use that that money for aninvestment in in sustainability? Yeah, that that's also time related. How we look at it now we have a perspective with with glasses from now, but how would do we look at at those trade offs or decisions in five or ten years from now. I think we should try to look at it from the perspective of at least 2030, because we are referring to that time. Yeah, when you had a when you have a very urgent request for for a space in a in a faculty, that what are you going to choose? That's that's also something we have to deal with as a CRE.

00:33:29.060 --> 00:33:42.730
R
Good and and this is the last question of the interview. Considering not just CRE maybe think about the the university because of course CRE, one department and it's in contact because of different reasons to finance your communication, the impact center. What other goals, instruments, or implementation measures would you suggest for achieving the sustainability Goals on sustainability? It might be. It might be not just for CRE. Might be that finance needs to do something else. Might be that I don't know. Communication has to do something. HR has to do something else that maybe could could improve the process itself.

00:34:08.970 --> 00:34:38.260
I
Now what I said that we have to think of the discussion. Well, kind of of university do we want to be? Do we want to educate the sustainability engineers of the future or do we want to be that sustainable campus itself? Or do we want to be both? But yeah, that has certain consequences for forward affordability and and and I'm not a person who can decide. On that, if we can already afford it, it's not sometimes not the intention, but also the possibilities. On the other hand, scenario planning would be a good one, so scenario planning? Or what if we see an increase of sea level rise and more pressure on rules and regulations in the coming years? When it goes more strictly or it goes down a little bit, gives them more time and do we want to have more time or do we take our own responsibilities so that needs a vision of the university itself, again, and we come back to the to the broad vision. And also reality check of the plan of ANNONYMISED. It's good for the discussion, but it has to come together so the reality and the ambition and the intention. And and not in the middle, so that in the end it becomes such a middle plan with everything a little bit on on on half and and nothing really outspoken, but that's my personal perspective on that but I'm curious what will happen. We will see what what the board of Directors will decide the coming years and we have a role in that as well. We are the public so public pressure, maybe.

00:36:00.780 --> 00:36:30.180
R
Yeah, that's really interesting in terms of what I think everyone is expecting about the executive boards resolution in terms of their their sustainability plan, but that's that's something that I've learning achieved. Dealt with this with this particular project. Is that on one hand you have people highly motivated and challenged by this challenges in a way right and on the other side. And the other hand, you have themselves being really critical in terms of Ok, as you say, it is

sometimes their motivation is itself is in terms of well. What is actually what it's actually possible to be done, you know?

00:36:33.420 --> 00:36:39.900
I
Yeah yeah yeah yeah yeah. And and what would be really helpful are also performance indicators. So how can we go with new developments but also with renovation? What is realistic? And benchmark tool that we also see. OK, they do it in in Olde governments. The government development. They do it in this way. They do that. The other universities. In this way they do it in the Netherlands and this way they do it in France, or in the China or in in the states. Yeah, how are we planning? We are an International University. What it? What is our position in that discussion that will be helpful as well.

00:37:19.780 --> 00:37:49.260
R
Well, thank you very much. I I can't thank you enough for for your willingness to participate, your time and I hope I hope to come back to you soon with with the results of the analysis. That's due by the end of February beginning of March. So hopefully in in the coming months. Actually we can. We can come up together. It might be possible that you're also invited to a couple of focus groups in February, so if you receive that email, please try to accept them, of course. It's up to you, because depends on your timing and your willingness as well. But yeah, thank you very much again and hope to see you soon, maybe in person. It's very.

00:37:59.220 --> 00:38:13.140
I
Yeah, ANNONYMISED, thank you very much. Good luck with all the research. And uh yeah. Hopefully it leads to a really nice results in the end and will always leads to results but also result in a really can get can make impact with it.

Interview #8

00:00:00.000 --> 00:00:01.770
R
TUD has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particularly can put some real estate department in charge of the management and development of the real estate inside TUD to reach carbon neutrality, circularity, and to contribute to campus that develops considering health and well being. CRE has elaborated different policies for these challenges. You are being invited to participate in this research study, title policy coherence analysis uh carbon neutron circular campus by 2030, and this is study is being done by ANNONYMISED from TUD. The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals in campus development, and it will take you approximately 45 minutes to complete. The data will be used for taking policy gaps and improving the overall policy, implementation and effectiveness. Your participation in this study is entirely voluntary, and you can withdraw anytime, and you are also free to admit any questions. We believe that there are no no risks associated to the recent study. However, as with any online related activity, the risk of a bridge is always possible. To the best of our ability, your answers were in. This study will remain confidential. We will minimize any risk by by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent for this interview and to record i?

00:01:43.980 --> 00:01:44.760
I
Yes I do.

00:01:45.410 --> 00:01:51.390
R
Thank you very much. So the the very first question of it. It's just six questions after all. Is are you aware of the CRE policy goals, on circularity, carbon neutrality, and better health, and well being in campus development by 2030?

00:02:00.890 --> 00:02:01.670
I
Yes. I'm aware of the sustainability vision,and ambition document, for the basis of that, I think.

00:02:13.220 --> 00:02:18.190
R
So exactly how does your job and role at TUD linked to these CRE goals?

00:02:20.070 --> 00:02:31.810
I
And I'm a postdoctoral researcher, and I sat at my campus research team, which is within the

management in the built Environment Department and because sustainability or because innovation very often deals with addressing sustainability issues. That's why people innovate and think of new things like using PV as to become more sustainable. The link between innovation, implementation in the real estate and sustainability is actually quite close to each other so. One way of saying it is. I I consider innovation implementation in real estate which is 1 aspect but very often it is, it always has the shared goal of achieving sustainability.

00:03:14.570 --> 00:03:23.150
R
And what would what would it be your overall goal in terms of what you have to do as a post doc for for campus development in that sense?

00:03:23.840 --> 00:03:28.500
I
So my overall goal is to help campus real estate clarify and crystallized the criteria they use for inclusion of projects which are innovative but not necessarily safe in terms of, you know, business as usual, innovations are by definition new they are by definition unexplored and a little bit difficult to understand. How it's going to pan out. So my work is to clarify what decision making criteria they are using or want to use to include innovation projects in real estate which last for a long time. So why do they decide to include or not include specific innovations and make it open for discussion by clarifying what are they using to decide on inclusion or not. I hope it's clear.

00:04:39.650 --> 00:04:55.880
R
Uh, next question would be what instruments or tools are there? Or do you use to work on these goals? I I know because of our meetings, everything that you work with living labs and and this and so for decision making and and and different purposes. Uh, can you maybe talk about bleeding laps and and any other kind of tools that you can recognize for this purpose?

00:05:06.480 --> 00:05:16.920
I
For the purpose of identifying criteria and they're alone, they weights that go along with them I'm using two tools, the one is run by a company called Council. They use AI to operationalize, repeat decisions so they are in a process of listing criteria and putting that into a model to build. So we are in the process of listing criteria, that's one company that we are using to do that. On the other end I am using the parse method, which is preference based accommodation strategy to elicit through interviews that I'm also starting in the next month or two, to elicit criteria, what do people use but also to identify which is unique to this process is to identify the specific measurement tool or measurement variable that you would use to measure success for this. So if somebody for instance say, you know, we want to include innovative projects because they are bolster our reputation. Getting down to OK. So how are we going to measure reputation? because it's such a difficult thing to met to measure. But we can also say one of the criteria is reduction in CO2 emissions, and then you. You use CO2 emissions as a as a measurement. So

using the path. A method which is one of the my promoters did during his PhD and develop the whole process, so the pass method and the Council method that I'm using to identify criteria and allocate weights.

00:07:07.890 --> 00:07:11.980
R
When it comes to implementation measures. In relation to these, CRE goals and carbon neutrality's or better well being at campus. What have you seen? What have what have you experienced in terms of things that have been changing things you are here or? In another way. What are the measures do you think are needed as well? Have you have you seen any measures being taken so far?

00:07:40.680 --> 00:07:53.910
I
So I think you are doing this research at the very interesting time. The sustainability document came out end of last year or the beginning of this year, or somewhere it's not really officially approved like stamped stepped. But my perception is that there is a lot of grassroots movement has been a lot of grassroots movement. In any case, in that direction, and that even though this document is not yet approved, people are moving in that direction very fast in terms of any, you know, an organization does not necessarily move very fast in the direction of the vision, but it's like this vision document came as a result of grassroot vision in any case. And so it's giving words and handles to something that is already has a momentum which is different from what I've experienced in the past. Sometimes a vision document really stipulates that vision that's kind of far fetched, and people really need to align. And you know you need to get people to kind of contribute or think about this, and here it's the other way around. There's a lot of momentum. What is frustrating is that there seems to be a lack of governance structures and actual measurements on how are we going to do this so people are very keen and have been doing it in different ways. And in their own work. So because of the lack of guidance, previous lack of guns, everybody kind of found their own way of either doing it or not doing it, or incorporating sustainability in different ways. At now there are many different ways in which people have been approaching it. Actually as a established way of addressing the issue. So the things I come up against is there's uncertainty of who's managing this? Uh, like the process hasn't really been stamped or agreed on, but there is. It's like a wave pushing even though it it's not really eradicated or what it's called yet. Finding it difficult because there's many different approaches and uncertainty of who's the final decision maker or which approach to use. And with that, lots of research going on on which one, and as usual many different methods have many different benefits so deciding which ones or which approaches are based is difficult to do.

00:10:38.890 --> 00:11:01.400
R
in relation to to decision making whether or not it's may through a tool. Have you noticed any any decision making that goes? I mean, I'm guessing that decision making is still goes some sort of business as usual and from that you need to get some sort of repetitive patterns of decision

making. But have you have you seen any any decisions towards more adaptability, adaptation of the of the organization itself towards towards these goals. Of course, nothing can remain exactly the same, and I needs they're gonna station to learn also from what they've been doing. How have you noticed any way of of recognizing adaptation as a driver force of decision making.

00:11:31.920 --> 00:11:39.690
I
I think there is one driving force that's really clear for me and I haven't been here that long, but it's clear that there's finance. Somebody got financing approved with the little green tag on that says sustainability, which gave a lot of momentum for employing external people with knowledge on sustainability and trying to put KPIs in place that hasn't been there before. In order to really be able to manage a project effectively. And I think if I'm talking, if I have to say what's the the driving forces there? There is a financial commitment to drive this which wasn't there before and how this financial commitment is being used is being figured out at the moment.

00:12:35.820 --> 00:12:43.210
R
A bit a bit deeper into implementation measures. Have you have you recognized how you've seen any? Any way of new institutional setups, or any new roles emerging or the allocation of any kind of responsibility. Since you're here, of course, you just arrived a few months ago, but have you seen any changes in that direction?

00:12:52.500 --> 00:12:52.880
I
Yeah. So one big thing that the sustainability team has been working on is to identify and get sign of KPI's for sustainability andprojects assessment and KPI is a really tangible, and measurable thing, and I think that's the ultimate or the in the end, if things don't come down to KPIs, then they weren't really, you know, be measurable, so the one is a hard outcome of driving towards actual KPI's for sustainability. Uhm, having separate funding, the deals with sustainability, having a clear decision on what falls within sustainability or not, and for instance. Uh, maybe they have issues with weather PV is considered a sustainability measure or business as usual because it's been around awhile. So where is that line between new sustainability measures and business. As usual sustainability measures. That's already been in place, so that's A and then. Yeah, there has been new people employed to focus specifically on sustainability and kind of Sustainability Coach, which I don't think is something that existed two years ago.

00:14:33.800 --> 00:14:43.910
R
did you also mentioned intensive resources, both financial and human resources, that they they're being changes? Can you elaborate a bit on those changes both financially and in human?

00:14:44.500 --> 00:14:49.200
I
I think financially it's having a separate budget is a big thing. trying to. Provide a framework on how you spend that budget is something that's being worked on and. Yeah, what's the rest of the question? Human resource? Yeah, yeah. Well, I think there are specific positions that has a responsibility to focus on sustainability, where previously it was a specific position to focus on financial management and sustainability was not part of your main job, so I think that's the change is that there is or there are people being employed with a specific task to ake care of sustainability, which previously wasn't necessarily the case. They were more like a health and safety representative and also deal with sustainability. But now it's not. It's not the case anymore.

00:15:57.240 --> 00:16:08.110
R
uh-huh intense now on off of monitoring and evaluation of this of this implementation is instruments and in overall goals of sustainability for CRE. Have you noticed any ways of having any implementation follow up, for example, or ways of reporting what's being done. Of course you're working on decision making tools, and that's it's at some point. It's also going to provide insights in terms of how decisions were made and whether or not those decisions have been followed and they achieved what they were intending to achieve. But have you? Have you seen any kind of effort since reporting? Maybe a more institutionalized ways of reporting? Or it's more like perhaps? But yeah, we still report, but it's not really official is it's not really systemic. It's more like if we have to write a report. I purchase a little a little appendix when I say like, well, yeah, we have evaluated something that.

00:16:55.680 --> 00:17:13.490
I
I think the the issue with the real estate is also that it takes a long time to really come to fruition. So and the things that you can monitor now was bulked five years ago. Or, you know, has been in the process, so monitoring and evaluation is really something that takes a long time in real estate to do. But having said that, working now on KPI, the KPI is that is that they are working on making more specific, clear, and communicating that to people who actually has to do the work. Forms the basis of the the evaluation structure later on, so I mean, if you are measuring if you are recruiting and measuring with specific KPIs in mind, then you would reasonably use that also as the assessment of whether it went well or not. Because you already, recruiting on that you should do it. Also monitoring on that.

00:18:04.410 --> 00:18:17.240
R
And what are your thoughts in terms of the exchange of experiences or the incorporation of new knowledge due to business? As usual heavy? Have you seen any way of of recognizing this need may be working towards there?

00:18:18.270 --> 00:18:25.600
I
Well, I know that CRE is appointing people from that from external companies to consult/guide/coach/develop understanding about sustainability and how to incorporate that. So they are making a huge effort to move away from business as usual, but real estate management deals a lot with at risk aversion, so anything that's new or yeah, just knew it doesn't even have to be risky, it's brings with it a little bit of an element of the unknown and the element of the unknown is difficult to manage in terms of costs, time of implementation, so having that element of the unknown is something that they have to deal with in any type of sustainability issues we don't have. We haven't had buildings with, you know, the whole campus full of PV so you don't know what, how long it's going to last, what the maintenance. So they continually have to reassess. Uhm, if the decisions that they made is a good decision and how are we going to go forward using this? But it's not very systemic. Yet.

00:19:51.730 --> 00:19:56.670
R
When when it comes to to to decision making and innovation, the university has been quite open to say that they want to see the university as big living lab. How that comes across with all that you have said in terms of decision making and innovation? Is this developing? It is really going towards that direction or is it still something that is not really decided upon?

00:20:20.590 --> 00:20:28.170
I
I think TUD is actually very exemplary in doing that and have been exemplary in doing that in along for a long time. And it's not. On the one hand, I want to say it's not because of the systems it's because of individuals, but I also know that there are systems that has to support those kinds of decisions. So TUD has the vision and has had the vision for a long time and have been doing that to have field labs and practical places to experiment and I think they are going at a step forward in developing the innovation ecosystem in inviting more participation in order to also stimulate and force themselves to take up more innovation. So, one way is you can be CRE can be an innovation seeker, so they have to go and look for new things. Or the other way is to say that we are in an innovation implementer and make themselves open or open them up and create a system to funnel these innovations. So I think they are going in the direction of opening up instead of going to look for and rather make it a an easier process of receiving and dealing with what they received then going out to actively look for different things to implement because it's difficult. It's difficult to to change, so if if they are, they using other people's already formulated success proven success business success to kind of funnel which types of changes they do incorporate in the longer term at CRE, which I think is a wise approach.

00:22:28.160 --> 00:22:47.140
R
Specifically on decision making. On the one hand, you have a university that wants to be as innovative as possible, right? But in the other hand, you have a campus development strategy

that says, well, we we're we're open to try innovations, but we're just gonna put in place, proving technology and proven method. How that how that tension come across when in your purse is specific work? Because I guess yeah you can say you wanna be normative, but then if you practice, practice what you preach. Sort of. Well, this is kind of like the Motto of of of two drops in a way. So they did. Did you encounter this on paper? They say, well, we want to be innovative, but to a certain extent. How do you see that coming across?

00:23:14.330 --> 00:23:16.100
I
So I think there's a continuous intention to improve and that is, that is all any organization can really have is a continuous intention to improve, and at TUD specifically it translates into money for research, which both you and I benefit from a and a continued. That that tension is always gonna be there, right? People have different needs and different ones of campus. And we always have to balance risk in a specific direction. And I think what is happening is we are understanding risk in a different way. Something might be risky, but if we don't try it, it's also risky and people are developing it that direction of making money available to understand, manage, and study what is risk and how do we progress or how do we build a business case? On trying something that's risky. So going beyond what we've always been doing and building a little bit more of a business case for testing and having money and knowledge for testing new things on campus or trying things that haven't been tried before.

00:24:47.420 --> 00:25:09.700
R
we have you seen anyway, of how living labs in this in this sort of tools for scission making are being it's institutionalized at CRE is specifically. This is still just part of the discourse of CRE. Or do you see also happening as a well in in the coming years in the coming decisions were actually going to implement a living lab approach or is it still something that it's kind of like, how do you say, dubios.

00:25:15.990 --> 00:25:18.950
I
I think it's not set in stone yet. And but they are definitely there is a growing need for communicate that response on how these things will be taken up. So living labs is one way of doing and it doesn't sit within CRE, only to run living labs or to manage living labs. But there is a willingness to facilitate and an openness to work together that I think wasn't previously there. It comes along with a change of leadership, and that's just a perception that I have on what happened in the past. Older people who had a very specific way of working with retired and younger people has more a mind on sustainability. Has more decision making power, so I think that brought about change as well.

00:26:30.890 --> 00:26:57.790
R
So as I said we've gone through the different goals CRE has put for itself. They differ instrument there are there for your work, but also there are also other instruments facility to work with

different implementation measures. I would like to know if you know of any other goals, any other instruments or any other implementation methods that you would suggest to improve the overall coherence or consistency of the policies that you've been working with in the last in the last month. Is it something that is lacking? Maybe that you did well. This is. This is something that should be. There is still not there.

00:27:05.620 --> 00:27:11.890
I
No, no, I don't know. I don't know how to better manage. I can see there's some some things missing. And the very basic thing like a clear organigram on management. That is a very basic tool which I still find a little bit lacking but I don't. I don't know how to do it differently. Mainly also because that's not myknow, uh, focus of study. So in hasn't been, but an organogram is very useful in management and managing all kinds of issues and placing responsibility where it should be, just add on the tools that they are using. I spoke just about the my tools but I know that they are developing with the core process of management and that they are breaking it up into smaller phases and really clearly communicating that both in terms of operations and management or maintenance, but also in terms of strategic planning so that people are a little bit more aligned on which stage are we in and who is managing what and what they envisaged outcomes of that would be, but that's not necessarily for sustainability, just as in theory as a whole for project management.

00:28:37.550 --> 00:28:56.660
R
OK well thank you very much ANNONYMISED. I cannot thank you enough for your participation and also like really insightful responses. What I found so far it's a I think as as as you mentioned throughout the interviews I've done in the last few weeks is that it's exactly what you say. I think a lot of people are now, on the one hand, changing their mindsets, so what's more sustainability? As you said, it's it's not like the the the last thought in the in the wardrobe. In a way it's more like OK, we we open it up and insist. Sustainability today has to be there. On the one hand, you have people have that they want to make these things possible to push their their goals as forward as possible, but the same time. They're also quite critical about what what, what is they. They should be improved or what is that that should be integrated. Or even some people also have more radical thought, since it was like, well, this is not working because we're like in something really, really important terms of. I don't know biodiversity, circularity, carbon neutrality, organizational structures as using mention, so I expect to to come back to you when I have the results of the OR the overall project. And then maybe we can discuss it again.

00:29:49.770 --> 00:29:53.680
I
Perfect thank you also for the articles you sent me the other. I appreciate that.

00:29:57.040 --> 00:29:58.810
R
No worries, happy to help, yeah.
00:29:59.440 --> 00:30:00.440
I
Thanks, ANNONYMISED. Good structured and well thought out interview.

00:30:05.260 --> 00:30:08.130
R
Thank you very much I I guess I'll see you on Thursday.

Interview #9

00:00:00.000 --> 00:00:01.780
R
TUD has decided to become carbon neutral and circulate by 2030. This decision introduces changes at the organizational level, particularly campus and Real Estate Department in charge of the management and development of the real estate inside TUD to reach carbon neutrality, circularity and to contribute to a campus that develops considering health And wellbeing ciary has elaborated different policies. For this challenge, you are being invited to participate in this research study titled Policy Coherence Analysis are carbon Neutral circular campus by 2030, and this is citing is being done by ANNONYMISED from the TU Delft. The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals and campus development. It will take you approximately 45 minutes to complete. The data will be used for checking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this society is entirely voluntary and you can withdraw at any time. You are also free to admit any questions. We believe that there are no known risks associated to this research study. However, as with any online related activity, the risk of a breach is always possible. To the best of our ability we will minimize any risks by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent to this interview and to record it?

00:01:49.050 --> 00:01:50.020
I
yeah yes I do.

00:01:50.340 --> 00:02:02.530
R
Thank you very much, ANNONYMISED. So the first question is rather logical. Are you aware of this already? Policy goals on circularity, carbon neutrality and better health and well being in campus development by 2030?

00:02:02.960 --> 00:02:04.320
I
Yeah yes I am yeah.

00:02:04.910 --> 00:02:09.480
R
Perfect how does your job and role at TUD linked to these goals.

00:02:11.460 --> 00:02:20.380
I
Yeah, so for the past three years I was course coordinator of the ANNONYMISED elective course on site, the last one. So yeah, three years yeah or two years of that yeah, so, and I went down

to my third year, so I will also involved in the Eco campus project. So let's students have been doing now for two years and there will be new on this summer. So yeah, so I was closely related to, for instance, the maintenance people at CRE in the outdoor space. And also how this links up. So that's a big link to the goals. But also I was involved when ANNONYMISED thing started a year ago. Uh, yeah. From the ecocampus part. So I was part of their Ecoampus group, which is one of the 10 or so many groups he has organized. But it's mainly the ecoampus thing I set up as a in the course of its students and doing ecocampus. Yeah, so we we started building stuff. Uh, making plans the first year. It was a kind of, let's say guerrilla gardening style, as we were not allowed to do anything, we were not allowed to touch a parking lot and the second year was a bit more advanced since we were allowed more and the 30 actually well, CRE asked if we could help them create the vision. So that was a nice development. So yeah, I'm looking forward to next year.

00:03:58.430 --> 00:04:27.750
R
Since this is policy analysis, we normally talk about go goals, instruments and implementation measures, so I already asked you about the goals you seem to be quite acquainted about them, what, what? What sort of tools or instruments are there for you to work on on Ecocampus or biodiversity related topics that say for example CRE is working on KPIs for different things like for energy for circularity? Also for ecocampus in our web, but those have not been developed yet. What sort of instruments are there for you to work with?

00:04:32.940 --> 00:04:59.400
I
Well, basically, I made contact with ANNONYMISED when it was about carbon and CO2 and also circularity because I knew they had done something. So basically the ecocampus vision was kind of yeah trial and error way, working towards a known set of KP's which we haven't developed yet ourselves but we have a pretty pretty clear picture of where we would like to go if we would have to do it. Let's say it like that. Uh, although wee never talked with CRE about it, uh? Well, we we gave a presentation of the campus vision, but it was never made next step into OK. So then we have to do this and isn't, isn't it? But it's also interferes with bit now with what the work ANNONYMISED is doing, yeah? I don't know how that works out but but I do have certain ideas about that. How would that should go? I think yeah.

00:05:37.410 --> 00:05:40.590
R
Could you elaborate a bit more on how.

00:05:40.120 --> 00:05:40.940
I
Uhm, well, it's a bit what I I discussed in the in this vision in the I think it was photos has this thing called again the delta had the yeah which I do wanna published. Oh I, I put on LinkedIn as well now I think. Dealing with water. For instance, in the North campus. all the water is being drained to the other neighborhoods around the DoD off campus, but I think there should be

more facilities to store the water on campus to have cleaning mechanisms with the swamps and helophyte filters so that you have swimming water quality. Yeah, let's say slow lanes and routes for students to to enjoy this water. Less parking more park. So instead of parking, park, yeah so getting away. And so these kind of things, but also have kind of vision. Where would you like to go to in in the next decades? You know that? OK, yeah. Especially in South campus, it's very wet. Uh, well they already started building there. There's already new building, so it might be a bit late, but still there are some areas where I think. Basically it would have been best to flood whole place, not to stop pumping. Make making you dikes, stop pumping. Make it into a swamp and then start building, uh, so that you have, you know, you are an example to water Western part of the Netherlands will be in the coming decades. And to show that it is possible to live and work and be mobile in such an environment as well, and how to do that. And I think now it's more like, It's too old fashions. It's not radical enough. I think it's like you make the road a bit longer and build like we used to do. That's basically what it is and have some new sustainability solutions added to the old system. That's basically what's happening right now, and, well, that's nice in a way that they add some sustainability stuff to it, but you know that's happening all over the world and especially in new neighborhoods in the Netherlands. I think if there's one place where you should show. Then it should be different than it's a faculty or a campus area like TU Delft. So I think it the whole development in South campus. And of course, it's already too far gone now because everything has been planned everything. But I think the basis is already wrong if you ask me. It's adding sand, 2 meters of sand in a boulder, which is minus 2 meters deep. If you come back in 50 years, you think what the heck happened here. You know why didn't we build on poles or on mounds or a you know circular or that you can take apart a building and put it on top again. And maybe it's not too late. We can still do that, but I think the discussion of should has never happened. And if you ask me well and I have not worked at serial lot but only from the side. I think there have been too many changes with people. Uh, I think it's too much focused on selling buildings and make the economy counts you know. So selling or buildings in the north of campus so that you can develop in the South campus. I think that's complete crap to be honest. I I if you look at any university in the world you would be proud to have some old buildings, you know, even Richard Floors, Arceus. Creative ideas need all buildings and yet we sell our old buildings to create new ones in a in a polar which is sinking. would I want to study the other students if there's no character anymore? and you know, so I think the whole idea of moving from North Campus to South Campus is completely wrong so that so there's two things I'm very critical about. One is the sustainability vision. How will it develop, but to me there is no sustained if, let's say there is a sustainability vision based on the old fundamental system. So, so there is. Yes, there is a carbon version. Yes, this circularity. Yes, there's health. Yes, there's biodiversity. You can all do that. But if you do that on an old system. Yeah, I think you missed the biggest opportunity already. Uh, you know it's like going on holiday by plane instead of by bike, you know, and they still take the plane and I think yeah, come on guys, we couldn't make the plane, you know you couldn't call their wings and you can do this and you know, yeah you know make sure that the toilet at the plate is still, uh, you know is circular, but there's still a plane, you know, and that is what I doing. So that just so I think that is. And yeah, and it is difficult so I also see that there are new people there and the new ideas, and the fact that I do this research. So I think the fundamentals should be re looked at and can we still do something about it thinking OK? This

pool rest minus 2 meters. It will be more wet. We need to store more carbon in peat areas, so why not have more wetlands? Let it be, grow and see how you can live in such an environment. Live and recreate and I've bio diversity and all that stuff. So that's basically yeah what I would like to I would like to grasp this opportunity, so very critical of what happened in the past. I would say stop that now stopped selling of buildings in the North campus. Uh, we have that link with the old City, so that's one kind of, you know, vision. I have from sustainability in belonging and people who, you know, uh, how you linked to campus and feel at home at university and, you know, they showed how that should be part of the city. That's one thing and the other one is the basics of climate change and all that stuff happening and going against natural systems. We should stop doing that. We should: OK, how can we? Knowing that maybe not yes time there's a water here. Or maybe it's 200 years time. I don't care, but university campus should be the first place to experiment with that. So let the water come and see how we do there. So that is the yeah, that's so so and there's still one one or two spots in South campus where you still can do that. So for me that would be an excellent case study.

00:12:55.070 --> 00:12:59.640
R
After you said, I just can't think of one question where where do I sign? Well, you know you say it makes so much sense to me and I think, well, it's it's. It's this one. Also like one of the reasons why I wanted to do this PhD in terms of circularity in cities in the build environment, because it seems to be too much about just as you said. Like, well, we can improve the seats of a plane. We can improve the toilet. We can improve the plane, but it's still a plane, you know, we're all talking about radical changes, but people think well. Well, I'm from from fossil fuel cars to electric cars is a really radical, and it's like this. This is nothing radical about market progress in a way, but it's nothing. Nothing that we can say. Well, certainly there's a change before and after cars were going to electric.

When it comes to you so we talk about this this this KPIs that are not there, of course, but you also mentioned that with the ecocampus project in the last three years, in the end last year in prolly in the coming days, you've been invited to participate with CRE in developing certain, I guess, sort of guidelines at the vision at least. Are there any any kind of guide, guidelines sorry or or or regulations new regulations or incentives to go more eco in a way?

00:14:19.280 --> 00:14:33.220
I
Yeah yeah the the the people I spoke to were quite, you know, uh, helpful and they had good ideas but you know, I we also want to use sustainable energy and renewable energy and stuff like that and use it. Some news, some areas for storage for energy storage. For instance, making a deep pond for cooling systems and stuff like that and how come that link to eat ecology so we had some good conversations about that. Although we never, It's also my mistake, yeah, but also, uh, you know we never actually coupled back our results very good, I must say. But then there was also never kind of good, there were no good KPIs or whatever so it's like for me it was kind of beginning of a change at CRE. So so yes, I think that but but there's not to like, say. And then I said, Oh yeah, you have to do this and this and this. And, well, I didn't expect that

either. And I think it it wouldn't have. Let's say it. That's it, I'm talking now to ANNONYMISED is one of my colleagues and you know, maybe ANNONYMISED and he's there's now. This new and South campus. I think it's a kind of storage building they are building. Then they ask an architect to come in. And which is good of course, and then. But this architect doesn't know anything about landscape architecture and ecology, so he just those green roofs, like green walls like that, and then a green roof and then, but then they also but but what? What is this green is that is that the Bush over they say it? And then then they don't know anymore so there's no campus ecology is or something like that, or somebody who jack stat, uh, and also the the let's say the people who work on the campus, and so I think it's they have these these quality team to see if the plans are OK. And but to me that is also too old fashion. Let's say the makeup park is done by an architect and you can see that it's it's a nice shape, but that's not. That's also missed opportunity, in a way. Looking at nature and wetlands and you know know it doesn't have to be, especially now with they should open it up to being more progressive I think. There's also one body, for instance, and South campus. You know one of these bioswales. Net between, uh, just bear dresses. Row of trees near that TMA. Techniques, materials, copper you don't like you know it but the body is actually not functioning as a body because next to it there's a deeper pond so we have it. Rains all the water will drain. They are not in the body. So so basically for some reason I don't know if the landscape architect you know it's this. It's this actually the office from Utrecht who is in charge of all the outdoor space. Who does the master plan and has to approve all the other plans. Uh, yeah they did this plan so I'm I don't know any details. I'm not sure how they did a mistake or the contractor or whatever, but it's not a body. It's not functioning as a body and anything. That's a pity that, uh, it's there's still this old way of thinking of, OK, we have. Why not follow the creeks, the original creeks in the landscape and you know, pick that up. But they never did so, but it. But again, I I don't know how this came about. But yeah, I I'm very critical about it, that it's it's still the old fashioned way of thinking of, you know, you know making rules longer, but you know I'm repeating myself. But but yeah, so that's the yeah, that's that's it, yeah. So, so there I didn't see any KPIs. Uh, no, but I had a discussion on some topics, but on biodiversity they don't have KPIs and there's also no ecologist on campus, yeah?

00:18:36.420 --> 00:18:49.350
R
When it comes to implementation measures, you say, well, you you, you participated in division for eco campus from which no, no different instruments or KPIs withdrawn in and they don't exist yet, but specifically probably most probably you've seen some sort of implementation measures anyway, like things have been implemented in a way that maybe go along with the vision that you presented. Have you have you noticed any change in terms of implementation? Has anything is even the slightest thing has changed and in what you've seen?

00:19:19.240 --> 00:19:22.790
I
Well, especially in maintenance. So let's say the maintenance people. Usually it's the other way round, but in this case the maintenance people are very advanced and are very much looking towards ecological maintenance and stuff like that but no, not really. But it maintenance yes.

So it's on the level of maintenance and secretly doing stuff from that way to get things changed. But not for us now we never have as even a discussion I I actually. The person who is in charge of sustainability. What is his name? (ANNONYMISED) Yeah, I've never heard of him. So that that says enough. Yeah, yeah, I don't know. I don't know who he is, yeah.

00:20:18.360 --> 00:20:42.860
R
Bigger plan the KPIs were not there, but they were still trying to push it in terms of OK. Where it's implemented. Circularity, making, making use of the brakes as long as they lifespan enables that, we're trying to to bring that to to avoid grass and and bring him all bushes, species so well. If you want a certain kind of butterfly you need a sip. Business services.

00:20:36.980 --> 00:20:37.420
I
Yeah, yeah, within their own out with the video, not I I am. I'm very quick we app or can we do this this and I mean we but this Mr ANNONYMISED I've never heard of. So on the level of maintenance and what you now say but butterflies and bees and flowers cetera. It works well. But let's say on the fundamental level of getting building companies in. You know all that stuff and how would I do it? I won't have her now, never know.

00:21:20.030 --> 00:21:22.660
R
The next question would be something more more. aligned to what do you do in in in terms of ecology and landscapes. Something I've noticed in in their plans or CRE also coming from these really business as usual mindset as as well. This is real state. We're still under the rules of Real state internationally and also help we do think as if they've been done in the last 50 years in the countries so why changing well of course they want to change in a way, but when when you look at circular economy policies at the national level for example, the first one was launched in 2016, but circular economy in the Netherlands by 2050 when they talk about buildings and infrastructure, they they explicitly name ecosystem services, so buildings need to provide consistent services and therefore you have one grid, green rules, green walls and etc. Yet, and I think this, do you already mentioned a bit of this in in this Zuid compose the new developments? something like it can be noticed, but it's still not clear and the connection is not always So what I'm trying to say is like sometimes you have energy efficiency. You have circularity, and somehow ecocampus. Urban ecosystem services, but it it doesn't come together so nobody is talking about efficiency in inconsistent services. Nobody talking about circularity in ecosystem services. What do you think about that and and what would be a way to improve that that connection so it comes to be a bit more consistent.

00:22:52.100 --> 00:23:00.830
I
Yeah, I forgot the office name and it wrecked a movie so we did the public space and who's also responsible for the use of the bricks in the public space. So if if you do something in the public space, there's specific very expensive furniture, there are specific kind of tiles and paving you

have to order so it has to be ordered and especially made, so that's already very expensive. So there is a kind of let's say this offer somehow choose to have something exclusive on campus or TUD where the both of you know the rector magnificus reasonable of the university things. Yes we got to the office. So you know that kind of thinking. And of course it would appeal to them, and I understand why. Right, so something? Yeah, hang on but. How does this match with the circularity and and you know there is a kind of tension there so that that's one. Then the second point I want to make is that this office. But again, I don't know how this how they act or whatever, but I can imagine thay they have many projects all over the world but also null and so to TU Delft campus is one of their projects so they have a meeting and they go here. But the question is do they have the state of the art knowledge to decide or what what a sustainable campuses or campus of the future. And of course, the Board of directors of TUD doesn't know either. So the question is. But I'm econo architects doesn't know either. Uh, and I don't know either too well, so I'm not saying I'm almighty or whoever is, but there is no tapping into, let's say, state of the art knowledge at their own university from that group, and I think that's that's quite a problem. And I think to improve that. That's a for instance in a campus ecologist or campus sustainability like ANNONYMISED for instance. You know it's a good thing he's now has this rule that is already big improvement, but that's only for last year, so can you imagine what it has been before that and so it's improving a bit now with ANNONYMISED, but I think it needs to be a bit as that I think there needs to be two or three people involved from university said OK. These are the latest developments. Uhm, you know, if you want to be like I don't know, uh? University of Michigan or Harvard or whatever, uh, whatever universities there are round who have a good campus. Yeah, uh, but don't copy what I did 20 years ago. No, we have to do something which you think it's that in time will be the best solution and not copy what others are, not what it's not happening now. We are copying what others did 20 years ago too. And I think Yeah, you're always running behind. Come on me, I'm not what kind of way of thinking is that and that is missing, and that's because it's not a priority for the Board of directors of TUD had to have other things on their mind. And of course the campus important. So they hiring office yes, and they hired and you know, and then it works like that. But there's no one. Who's burning up to fire to say? Come on guys, we need to do this extra step to get there. That mechanism is not there and you only get that when you have friends and students and the board who say I learn this but we do not practice what we preach. If we have and it doesn't have to be a professor. But you know, in the country, the campus ecologist is or maintenance guy or ANNONYMISED or me or whoever or whatever. Adding to that group and say, OK, you know. This isn't happening. Maybe people around from the neighborhood? How do cabs is linked to the neighborhood or water board? Yeah, it's the water board involves. Yeah, when they build something. So I think it's, uh, to make that extra step to be excellent. Yeah, the infrastructure around that has to be excellent and I can tell you. What I see happening at CRE and the people working there and leaving very quickly as well is not an excellent environment. It's a environment where you gain experience and move on as quickly as possible. And I think that is yeah, and then that you see that result and people start selling stuff at North Campus to build in South Campus and have these stupid idea. Because there's no check with people who have working in this university. Does that help?

00:27:42.840 --> 00:28:12.610

R

This is, I think it's exactly what I was looking for with your interview. I also read your column, then the one you publish on LinkedIn so it's quite in line in that sense, it's a it's yeah we need to push through the. Radical side of things you know in a good way of course, because this is something I've noticed that you have like the the the campuses strategy for TUD is to is to convert in a way our campus in a living lab that is the size of the university. So we can experiment inside, but when it comes to the construction of buildings, the only but is OK, but it has to be proven technology, so we are not going to experiment more with the buildings because they need to last any experiment right now with the newer technology. It might be the possibility of that in five or ten more years we realized it was actually another good idea and and but that also comes to me, as in related to what you just said in sense of there is a lot of technologies that have been proving themselves for the last 15-10 years. We don't reinvent the wheel in, in in in sometimes the problems with these technologies he might be scalability. So for example for sure we can do it. I don't know if we can do it for a whole area which you say what you say that technology is needed or whatever are there available already too? Too soon to become radical in the way you see radicality happening?

00:29:16.210 --> 00:29:17.630

I

Oh yes, definitely. How many things are not rocket science even you know what I mean? It's it's like building in a in a swamp. I mean, yeah, and that's what we did 1000 years ago. I mean, I don't know which part of Italy you're from, but the whole pool region is built like that. The Romans did it. You know what I mean? So yeah, and it. Yeah, of course, if you have new technologies and stuff. Yeah, I mean I think no, it's not a matter of nothing. This is an organizational. We need organizational and policy innovations. Technology innovations that's not a problem But of course, there's always something you can do better, but because it's not happening because people do not understand each other or talk different languages. The organizations don't talk to each other and it's basically 1 mass. I mean if we look at how they did things in the 70s or in the 90s or now, and maybe it's the computer who changed things and this thing but for the rest what is the organizational innovation of how to how to deal with something like this where people make same mistakes again and again and again and again and again. And yeah, I think that there's much to gain there. So What I said, you know it's it's it doesn't feel like a priority, Campus. Starts to feel now with ANNONYMISED yeah for the last year but before that. It's just a money making machine of selling buildings.

00:31:03.990 --> 00:31:18.490

R

Since yeah, since a few months now we have a vice rector for climate action as well, but this is also say it's it's super recent. We don't have a clear idea of how it's going to relate with the with the role of ANNONYMISED, for example, is that going to create the the need synergies to bring this about. Yeah, today to bring this about or it's just gonna be one more time isolated efforts so it's something that we don't really understand yet.

00:32:39.330 --> 00:32:45.760

R

We have the last two questions. I think the first one would be given that you're taking a role as an urban ecologist in with the lab and your efforts also helping CRE, have you have you noticed that anything related to your roles in your job at TUD has changed because of the of these goals in terms of clarity? Or carbon neutrality? Has that triggered anything in your job that we had two years ago for example?

00:33:09.140 --> 00:33:09.600

I

Yes. The reason why I chose the campus to become eco camp as well is that you know the practice. What you preach kind of idea. So it's OK if you know why travel to the other side of the world, why we have a task here to do. Let's show it here first. Two students and you know healthy biodiversity, circularity, and carbon neutrality. So yeah, that was very important for me. And that decision was already made before COVID. So half a year later COVID game, so it was also very practical that students didn't have to travel to some site in other parts of the world to do that project. But that made it also very practical now. So yeah, so let's say the working on the campus and well happen deals with this CRE thing really. Yeah triggered me too and our group and students as well. Let's do these innovations and testing it doesn't have to be innovation. Sometimes it's taking away tiles and making a garden, but it helps them to well to learn design to to follow process as how things go. Sometimes you have a Dean who gets angry or sometimes not, and then he you know he or she is shouting out the rules. Yeah, well done, you know so. So they learn a lot. So for us it's it is already an excellent laboratory outside. And what you know it. But we could take it much further. But so far the step towards, let's say, a boardroom where people decide what buildings to sell where people decide. Uh, which way they will develop, you know? Yeah they all, its all the the let's say the official companies who have been in place and then so so this mechanism of checking for this excellence, it's not there, and you see that. But so, but that's what for me. OK, yeah, the campuses already. Uh, a very successful the place to do projects.

00:35:27.880 --> 00:35:36.480

R

That's really good, and I will again thank you very much for your time. It's it's we we are getting to the last question of the interview and this is more an overall inquiry, so, given that we've talked about goals, seems, remains and implementation measures, I would like to know your opinion and what other goals, instruments, or implementation measures would you suggest to CRE to improve their their their policy in that sense? What do you think is lacking maybe or what should be improved? Because he's already good, but it should be better.

00:36:02.820 --> 00:36:03.770

I

The main question is that I should not ask themselves the question. Is this a working or living environment for students, researchers, teachers, whoever or people live around it for 2021 or 2022? But for the next 50 or 100 years. And that's missing a lot. I think. Uh, and then taking into

account the climate conditions and you know, all these kind of things so. So uhm, and of course, then I still think CO2, circularity, health and biodiversity, or very well chosen. Yep, so that's very good. I like those shouldn't be too complicated. Sometimes it's better to have one number you know, but yeah, you know that's mixes also too simplistic. So the main thing for me is that a yeah too much focus on too short term. And again, yeah, they they stick to this old system. Should become much more radical. And a link to. Yeah for instance.

Uhm 1 indicator which is also missing is what is: what is the added value of the campus to the environment surrounding some mean so to the neighbouring neighborhoods, but also to academics Plaza, which is a nature reserve nearby to the other. Net reserves medela plants and how to compost can be kind of connected their roots, but also for ecology using all the Creek systems which are still recognizable et cetera. So that that would be my main thing. At that's difficult to grasp, I think.

R
Yeah, it's it's it's. Yes, it's tremendous questions that we need to solve and we have told them yesterday. And now we're confronted with with late decisions that sometimes are thought for the benefit of people, but since as you say, people tend to to ask themselves what to do. You you clearly this start liking the expertise and the opinion of so many people that are relevant and that more relevant now is not that there are new people. Is is the same people. It's just that they they fulfill other insights to be integrated with participation.

00:38:38.160 --> 00:38:50.620
I
Maybe maybe one concrete one, because this one might be too vague, but a concrete one is if there will be a new building it's not allowed to bring in new sand or whatever, so you built on the spot you have. No sand no whatever you build in this, uh, maybe it has to be in wood. And how, uh, also many percent of food, so no sand in no, uh, leave the the ecological infrastructure intact. You know, especially if there's tree systems, water systems, etc. Or how to deal with that? And if you do something we did how to change that? I think these are already important rules, all sort of water system. Try see if you can raise the water level to more natural level. And if not, how can you work with that? So these are already 4 things where I think hey nothing OK. What if I would? Is that possible? Yeah it is. Yeah, so the I think then then it becomes more concrete if they gave out nubile, there's no land to be given away anymore because everything is build up already or will be soon. But yeah, but that that would be in. I think in new criteria, yeah.

00:39:52.650 --> 00:40:09.290
R
Well, we could thank you very much. I can't. I can't thank you enough for your time and willingness to participate with us. I hope to to come back to you in a couple of months here to give you the results of the analysis. Hopefully we can also contribute to to actually make the campus a yeah. How do you say that?

00:40:10.840 --> 00:40:14.300
I
They makes more sense for for the challenges ahead you know at.

00:40:14.520 --> 00:40:40.520
R
It's really junkie on that. With you, uh, there are lot of people trying to to work their best towards this. This goes, but of course more critical approaches on how we are doing things. No for ourselves. But as you say like for the next century are needed and and and we're always looking for the next two or three years and and in this problem. So I'm going to be here forever unless we do something in long term. And and then we need more nice.

00:40:39.720 --> 00:40:39.990
I
Right? Yep.

00:40:41.630 --> 00:40:42.600
R
Well, thank you very much.

00:40:42.710 --> 00:40:49.590
I
Well, thank you and I'm looking forward to. Yeah, let me know if you have questions or follow up things and good luck and I'll talk to you later then.

00:40:49.890 --> 00:40:50.410
R
For sure.

00:40:50.610 --> 00:40:53.450
I
OK, have a good day. Bye bye thank you.

Interview #10

00:00:00.000 --> 00:00:01.780
R
TUD has decided to become carbon neutral and circulate by 2030. This decision introduces changes at the organizational level, particularly campus and Real Estate Department in charge of the management and development of the real estate inside TUD to reach carbon neutrality, circularity and to contribute to a campus that develops considering health And wellbeing ciary has elaborated different policies. For this challenge, you are being invited to participate in this research study titled Policy Coherence Analysis are carbon Neutral circular campus by 2030, and this is citing is being done by ANNONYMISED from the TU Delft. The purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals and campus development. It will take you approximately 45 minutes to complete. The data will be used for checking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this society is entirely voluntary and you can withdraw at any time. You are also free to admit any questions. We believe that there are no known risks associated to this research study. However, as with any online related activity, the risk of a breach is always possible. To the best of our ability we will minimize any risks by anonymizing your participation and making sure that no statement can be directly linked to you. Do you give your consent to this interview and to record it?

00:01:49.050 --> 00:01:50.020
I
yeah yes I do.

00:01:50.340 --> 00:02:02.530
R
Thank you very much, ANNONYMISED. So the first question is rather logical. Are you aware of this already? Policy goals on circularity, carbon neutrality and better health and well being in campus development by 2030?

00:02:02.960 --> 00:02:04.320
I
Yeah yes I am yeah.

00:02:04.910 --> 00:02:09.480
R
Perfect how does your job and role at TUD linked to these goals.

00:02:11.460 --> 00:02:20.380
I
Yeah, so for the past three years I was course coordinator of the ANNONYMISED elective course on site, the last one. So yeah, three years yeah or two years of that yeah, so, and I went down

to my third year, so I will also involved in the Eco campus project. So let's students have been doing now for two years and there will be new on this summer. So yeah, so I was closely related to, for instance, the maintenance people at CRE in the outdoor space. And also how this links up. So that's a big link to the goals. But also I was involved when ANNONYMISED thing started a year ago. Uh, yeah. From the ecocampus part. So I was part of their Ecoampus group, which is one of the 10 or so many groups he has organized. But it's mainly the ecoampus thing I set up as a in the course of its students and doing ecocampus. Yeah, so we we started building stuff. Uh, making plans the first year. It was a kind of, let's say guerrilla gardening style, as we were not allowed to do anything, we were not allowed to touch a parking lot and the second year was a bit more advanced since we were allowed more and the 30 actually well, CRE asked if we could help them create the vision. So that was a nice development. So yeah, I'm looking forward to next year.

00:03:58.430 --> 00:04:27.750
R
Since this is policy analysis, we normally talk about go goals, instruments and implementation measures, so I already asked you about the goals you seem to be quite acquainted about them, what, what? What sort of tools or instruments are there for you to work on on Ecocampus or biodiversity related topics that say for example CRE is working on KPIs for different things like for energy for circularity? Also for ecocampus in our web, but those have not been developed yet. What sort of instruments are there for you to work with?

00:04:32.940 --> 00:04:59.400
I
Well, basically, I made contact with ANNONYMISED when it was about carbon and CO2 and also circularity because I knew they had done something. So basically the ecocampus vision was kind of yeah trial and error way, working towards a known set of KP's which we haven't developed yet ourselves but we have a pretty pretty clear picture of where we would like to go if we would have to do it. Let's say it like that. Uh, although wee never talked with CRE about it, uh? Well, we we gave a presentation of the campus vision, but it was never made next step into OK. So then we have to do this and isn't, isn't it? But it's also interferes with bit now with what the work ANNONYMISED is doing, yeah? I don't know how that works out but but I do have certain ideas about that. How would that should go? I think yeah.

00:05:37.410 --> 00:05:40.590
R
Could you elaborate a bit more on how.

00:05:40.120 --> 00:05:40.940
I
Uhm, well, it's a bit what I I discussed in the in this vision in the I think it was photos has this thing called again the delta had the yeah which I do wanna published. Oh I, I put on LinkedIn as well now I think. Dealing with water. For instance, in the North campus. all the water is being drained to the other neighborhoods around the DoD off campus, but I think there should be

more facilities to store the water on campus to have cleaning mechanisms with the swamps and helophyte filters so that you have swimming water quality. Yeah, let's say slow lanes and routes for students to to enjoy this water. Less parking more park. So instead of parking, park, yeah so getting away. And so these kind of things, but also have kind of vision. Where would you like to go to in in the next decades? You know that? OK, yeah. Especially in South campus, it's very wet. Uh, well they already started building there. There's already new building, so it might be a bit late, but still there are some areas where I think. Basically it would have been best to flood whole place, not to stop pumping. Make making you dikes, stop pumping. Make it into a swamp and then start building, uh, so that you have, you know, you are an example to water Western part of the Netherlands will be in the coming decades. And to show that it is possible to live and work and be mobile in such an environment as well, and how to do that. And I think now it's more like, It's too old fashions. It's not radical enough. I think it's like you make the road a bit longer and build like we used to do. That's basically what it is and have some new sustainability solutions added to the old system. That's basically what's happening right now, and, well, that's nice in a way that they add some sustainability stuff to it, but you know that's happening all over the world and especially in new neighborhoods in the Netherlands. I think if there's one place where you should show. Then it should be different than it's a faculty or a campus area like TU Delft. So I think it the whole development in South campus. And of course, it's already too far gone now because everything has been planned everything. But I think the basis is already wrong if you ask me. It's adding sand, 2 meters of sand in a boulder, which is minus 2 meters deep. If you come back in 50 years, you think what the heck happened here. You know why didn't we build on poles or on mounds or a you know circular or that you can take apart a building and put it on top again. And maybe it's not too late. We can still do that, but I think the discussion of should has never happened. And if you ask me well and I have not worked at serial lot but only from the side. I think there have been too many changes with people. Uh, I think it's too much focused on selling buildings and make the economy counts you know. So selling or buildings in the north of campus so that you can develop in the South campus. I think that's complete crap to be honest. I I if you look at any university in the world you would be proud to have some old buildings, you know, even Richard Floors, Arceus. Creative ideas need all buildings and yet we sell our old buildings to create new ones in a in a polar which is sinking. would I want to study the other students if there's no character anymore? and you know, so I think the whole idea of moving from North Campus to South Campus is completely wrong so that so there's two things I'm very critical about. One is the sustainability vision. How will it develop, but to me there is no sustained if, let's say there is a sustainability vision based on the old fundamental system. So, so there is. Yes, there is a carbon version. Yes, this circularity. Yes, there's health. Yes, there's biodiversity. You can all do that. But if you do that on an old system. Yeah, I think you missed the biggest opportunity already. Uh, you know it's like going on holiday by plane instead of by bike, you know, and they still take the plane and I think yeah, come on guys, we couldn't make the plane, you know you couldn't call their wings and you can do this and you know, yeah you know make sure that the toilet at the plate is still, uh, you know is circular, but there's still a plane, you know, and that is what I doing. So that just so I think that is. And yeah, and it is difficult so I also see that there are new people there and the new ideas, and the fact that I do this research. So I think the fundamentals should be re looked at and can we still do something about it thinking OK? This

pool rest minus 2 meters. It will be more wet. We need to store more carbon in peat areas, so why not have more wetlands? Let it be, grow and see how you can live in such an environment. Live and recreate and I've bio diversity and all that stuff. So that's basically yeah what I would like to I would like to grasp this opportunity, so very critical of what happened in the past. I would say stop that now stopped selling of buildings in the North campus. Uh, we have that link with the old City, so that's one kind of, you know, vision. I have from sustainability in belonging and people who, you know, uh, how you linked to campus and feel at home at university and, you know, they showed how that should be part of the city. That's one thing and the other one is the basics of climate change and all that stuff happening and going against natural systems. We should stop doing that. We should: OK, how can we? Knowing that maybe not yes time there's a water here. Or maybe it's 200 years time. I don't care, but university campus should be the first place to experiment with that. So let the water come and see how we do there. So that is the yeah, that's so so and there's still one one or two spots in South campus where you still can do that. So for me that would be an excellent case study.

00:12:55.070 --> 00:12:59.640
R
After you said, I just can't think of one question where where do I sign? Well, you know you say it makes so much sense to me and I think, well, it's it's. It's this one. Also like one of the reasons why I wanted to do this PhD in terms of circularity in cities in the build environment, because it seems to be too much about just as you said. Like, well, we can improve the seats of a plane. We can improve the toilet. We can improve the plane, but it's still a plane, you know, we're all talking about radical changes, but people think well. Well, I'm from from fossil fuel cars to electric cars is a really radical, and it's like this. This is nothing radical about market progress in a way, but it's nothing. Nothing that we can say. Well, certainly there's a change before and after cars were going to electric.

When it comes to you so we talk about this this this KPIs that are not there, of course, but you also mentioned that with the ecocampus project in the last three years, in the end last year in prolly in the coming days, you've been invited to participate with CRE in developing certain, I guess, sort of guidelines at the vision at least. Are there any any kind of guide, guidelines sorry or or or regulations new regulations or incentives to go more eco in a way?

00:14:19.280 --> 00:14:33.220
I
Yeah yeah the the the people I spoke to were quite, you know, uh, helpful and they had good ideas but you know, I we also want to use sustainable energy and renewable energy and stuff like that and use it. Some news, some areas for storage for energy storage. For instance, making a deep pond for cooling systems and stuff like that and how come that link to eat ecology so we had some good conversations about that. Although we never, It's also my mistake, yeah, but also, uh, you know we never actually coupled back our results very good, I must say. But then there was also never kind of good, there were no good KPIs or whatever so it's like for me it was kind of beginning of a change at CRE. So so yes, I think that but but there's not to like, say. And then I said, Oh yeah, you have to do this and this and this. And, well, I didn't expect that

either. And I think it it wouldn't have. Let's say it. That's it, I'm talking now to ANNONYMISED is one of my colleagues and you know, maybe ANNONYMISED and he's there's now. This new and South campus. I think it's a kind of storage building they are building. Then they ask an architect to come in. And which is good of course, and then. But this architect doesn't know anything about landscape architecture and ecology, so he just those green roofs, like green walls like that, and then a green roof and then, but then they also but but what? What is this green is that is that the Bush over they say it? And then then they don't know anymore so there's no campus ecology is or something like that, or somebody who jack stat, uh, and also the the let's say the people who work on the campus, and so I think it's they have these these quality team to see if the plans are OK. And but to me that is also too old fashion. Let's say the makeup park is done by an architect and you can see that it's it's a nice shape, but that's not. That's also missed opportunity, in a way. Looking at nature and wetlands and you know know it doesn't have to be, especially now with they should open it up to being more progressive I think. There's also one body, for instance, and South campus. You know one of these bioswales. Net between, uh, just bear dresses. Row of trees near that TMA. Techniques, materials, copper you don't like you know it but the body is actually not functioning as a body because next to it there's a deeper pond so we have it. Rains all the water will drain. They are not in the body. So so basically for some reason I don't know if the landscape architect you know it's this. It's this actually the office from Utrecht who is in charge of all the outdoor space. Who does the master plan and has to approve all the other plans. Uh, yeah they did this plan so I'm I don't know any details. I'm not sure how they did a mistake or the contractor or whatever, but it's not a body. It's not functioning as a body and anything. That's a pity that, uh, it's there's still this old way of thinking of, OK, we have. Why not follow the creeks, the original creeks in the landscape and you know, pick that up. But they never did so, but it. But again, I I don't know how this came about. But yeah, I I'm very critical about it, that it's it's still the old fashioned way of thinking of, you know, you know making rules longer, but you know I'm repeating myself. But but yeah, so that's the yeah, that's that's it, yeah. So, so there I didn't see any KPIs. Uh, no, but I had a discussion on some topics, but on biodiversity they don't have KPIs and there's also no ecologist on campus, yeah?

00:18:36.420 --> 00:18:49.350
R
When it comes to implementation measures, you say, well, you you, you participated in division for eco campus from which no, no different instruments or KPIs withdrawn in and they don't exist yet, but specifically probably most probably you've seen some sort of implementation measures anyway, like things have been implemented in a way that maybe go along with the vision that you presented. Have you have you noticed any change in terms of implementation? Has anything is even the slightest thing has changed and in what you've seen?

00:19:19.240 --> 00:19:22.790
I
Well, especially in maintenance. So let's say the maintenance people. Usually it's the other way round, but in this case the maintenance people are very advanced and are very much looking towards ecological maintenance and stuff like that but no, not really. But it maintenance yes.

So it's on the level of maintenance and secretly doing stuff from that way to get things changed. But not for us now we never have as even a discussion I I actually. The person who is in charge of sustainability. What is his name? (ANNONYMISED) Yeah, I've never heard of him. So that that says enough. Yeah, yeah, I don't know. I don't know who he is, yeah.

00:20:18.360 --> 00:20:42.860
R
Bigger plan the KPIs were not there, but they were still trying to push it in terms of OK. Where it's implemented. Circularity, making, making use of the brakes as long as they lifespan enables that, we're trying to to bring that to to avoid grass and and bring him all bushes, species so well. If you want a certain kind of butterfly you need a sip. Business services.

00:20:36.980 --> 00:20:37.420
I
Yeah, yeah, within their own out with the video, not I I am. I'm very quick we app or can we do this this and I mean we but this Mr ANNONYMISED I've never heard of. So on the level of maintenance and what you now say but butterflies and bees and flowers cetera. It works well. But let's say on the fundamental level of getting building companies in. You know all that stuff and how would I do it? I won't have her now, never know.

00:21:20.030 --> 00:21:22.660
R
The next question would be something more more. aligned to what do you do in in in terms of ecology and landscapes. Something I've noticed in in their plans or CRE also coming from these really business as usual mindset as as well. This is real state. We're still under the rules of Real state internationally and also help we do think as if they've been done in the last 50 years in the countries so why changing well of course they want to change in a way, but when when you look at circular economy policies at the national level for example, the first one was launched in 2016, but circular economy in the Netherlands by 2050 when they talk about buildings and infrastructure, they they explicitly name ecosystem services, so buildings need to provide consistent services and therefore you have one grid, green rules, green walls and etc. Yet, and I think this, do you already mentioned a bit of this in in this Zuid compose the new developments? something like it can be noticed, but it's still not clear and the connection is not always So what I'm trying to say is like sometimes you have energy efficiency. You have circularity, and somehow ecocampus. Urban ecosystem services, but it it doesn't come together so nobody is talking about efficiency in inconsistent services. Nobody talking about circularity in ecosystem services. What do you think about that and and what would be a way to improve that that connection so it comes to be a bit more consistent.

00:22:52.100 --> 00:23:00.830
I
Yeah, I forgot the office name and it wrecked a movie so we did the public space and who's also responsible for the use of the bricks in the public space. So if if you do something in the public space, there's specific very expensive furniture, there are specific kind of tiles and paving you

have to order so it has to be ordered and especially made, so that's already very expensive. So there is a kind of let's say this offer somehow choose to have something exclusive on campus or TUD where the both of you know the rector magnificus reasonable of the university things. Yes we got to the office. So you know that kind of thinking. And of course it would appeal to them, and I understand why. Right, so something? Yeah, hang on but. How does this match with the circularity and and you know there is a kind of tension there so that that's one. Then the second point I want to make is that this office. But again, I don't know how this how they act or whatever, but I can imagine thay they have many projects all over the world but also null and so to TU Delft campus is one of their projects so they have a meeting and they go here. But the question is do they have the state of the art knowledge to decide or what what a sustainable campuses or campus of the future. And of course, the Board of directors of TUD doesn't know either. So the question is. But I'm econo architects doesn't know either. Uh, and I don't know either too well, so I'm not saying I'm almighty or whoever is, but there is no tapping into, let's say, state of the art knowledge at their own university from that group, and I think that's that's quite a problem. And I think to improve that. That's a for instance in a campus ecologist or campus sustainability like ANNONYMISED for instance. You know it's a good thing he's now has this rule that is already big improvement, but that's only for last year, so can you imagine what it has been before that and so it's improving a bit now with ANNONYMISED, but I think it needs to be a bit as that I think there needs to be two or three people involved from university said OK. These are the latest developments. Uhm, you know, if you want to be like I don't know, uh? University of Michigan or Harvard or whatever, uh, whatever universities there are round who have a good campus. Yeah, uh, but don't copy what I did 20 years ago. No, we have to do something which you think it's that in time will be the best solution and not copy what others are, not what it's not happening now. We are copying what others did 20 years ago too. And I think Yeah, you're always running behind. Come on me, I'm not what kind of way of thinking is that and that is missing, and that's because it's not a priority for the Board of directors of TUD had to have other things on their mind. And of course the campus important. So they hiring office yes, and they hired and you know, and then it works like that. But there's no one. Who's burning up to fire to say? Come on guys, we need to do this extra step to get there. That mechanism is not there and you only get that when you have friends and students and the board who say I learn this but we do not practice what we preach. If we have and it doesn't have to be a professor. But you know, in the country, the campus ecologist is or maintenance guy or ANNONYMISED or me or whoever or whatever. Adding to that group and say, OK, you know. This isn't happening. Maybe people around from the neighborhood? How do cabs is linked to the neighborhood or water board? Yeah, it's the water board involves. Yeah, when they build something. So I think it's, uh, to make that extra step to be excellent. Yeah, the infrastructure around that has to be excellent and I can tell you. What I see happening at CRE and the people working there and leaving very quickly as well is not an excellent environment. It's a environment where you gain experience and move on as quickly as possible. And I think that is yeah, and then that you see that result and people start selling stuff at North Campus to build in South Campus and have these stupid idea. Because there's no check with people who have working in this university. Does that help?

00:27:42.840 --> 00:28:12.610

R

This is, I think it's exactly what I was looking for with your interview. I also read your column, then the one you publish on LinkedIn so it's quite in line in that sense, it's a it's yeah we need to push through the. Radical side of things you know in a good way of course, because this is something I've noticed that you have like the the the campuses strategy for TUD is to is to convert in a way our campus in a living lab that is the size of the university. So we can experiment inside, but when it comes to the construction of buildings, the only but is OK, but it has to be proven technology, so we are not going to experiment more with the buildings because they need to last any experiment right now with the newer technology. It might be the possibility of that in five or ten more years we realized it was actually another good idea and and but that also comes to me, as in related to what you just said in sense of there is a lot of technologies that have been proving themselves for the last 15-10 years. We don't reinvent the wheel in, in in in sometimes the problems with these technologies he might be scalability. So for example for sure we can do it. I don't know if we can do it for a whole area which you say what you say that technology is needed or whatever are there available already too? Too soon to become radical in the way you see radicality happening?

00:29:16.210 --> 00:29:17.630

I

Oh yes, definitely. How many things are not rocket science even you know what I mean? It's it's like building in a in a swamp. I mean, yeah, and that's what we did 1000 years ago. I mean, I don't know which part of Italy you're from, but the whole pool region is built like that. The Romans did it. You know what I mean? So yeah, and it. Yeah, of course, if you have new technologies and stuff. Yeah, I mean I think no, it's not a matter of nothing. This is an organizational. We need organizational and policy innovations. Technology innovations that's not a problem But of course, there's always something you can do better, but because it's not happening because people do not understand each other or talk different languages. The organizations don't talk to each other and it's basically 1 mass. I mean if we look at how they did things in the 70s or in the 90s or now, and maybe it's the computer who changed things and this thing but for the rest what is the organizational innovation of how to how to deal with something like this where people make same mistakes again and again and again and again and again. And yeah, I think that there's much to gain there. So What I said, you know it's it's it doesn't feel like a priority, Campus. Starts to feel now with ANNONYMISED yeah for the last year but before that. It's just a money making machine of selling buildings.

00:31:03.990 --> 00:31:18.490

R

Since yeah, since a few months now we have a vice rector for climate action as well, but this is also say it's it's super recent. We don't have a clear idea of how it's going to relate with the with the role of ANNONYMISED, for example, is that going to create the the need synergies to bring this about. Yeah, today to bring this about or it's just gonna be one more time isolated efforts so it's something that we don't really understand yet.

00:32:39.330 --> 00:32:45.760

R

We have the last two questions. I think the first one would be given that you're taking a role as an urban ecologist in with the lab and your efforts also helping CRE, have you have you noticed that anything related to your roles in your job at TUD has changed because of the of these goals in terms of clarity? Or carbon neutrality? Has that triggered anything in your job that we had two years ago for example?

00:33:09.140 --> 00:33:09.600

I

Yes. The reason why I chose the campus to become eco camp as well is that you know the practice. What you preach kind of idea. So it's OK if you know why travel to the other side of the world, why we have a task here to do. Let's show it here first. Two students and you know healthy biodiversity, circularity, and carbon neutrality. So yeah, that was very important for me. And that decision was already made before COVID. So half a year later COVID game, so it was also very practical that students didn't have to travel to some site in other parts of the world to do that project. But that made it also very practical now. So yeah, so let's say the working on the campus and well happen deals with this CRE thing really. Yeah triggered me too and our group and students as well. Let's do these innovations and testing it doesn't have to be innovation. Sometimes it's taking away tiles and making a garden, but it helps them to well to learn design to to follow process as how things go. Sometimes you have a Dean who gets angry or sometimes not, and then he you know he or she is shouting out the rules. Yeah, well done, you know so. So they learn a lot. So for us it's it is already an excellent laboratory outside. And what you know it. But we could take it much further. But so far the step towards, let's say, a boardroom where people decide what buildings to sell where people decide. Uh, which way they will develop, you know? Yeah they all, its all the the let's say the official companies who have been in place and then so so this mechanism of checking for this excellence, it's not there, and you see that. But so, but that's what for me. OK, yeah, the campuses already. Uh, a very successful the place to do projects.

00:35:27.880 --> 00:35:36.480

R

That's really good, and I will again thank you very much for your time. It's it's we we are getting to the last question of the interview and this is more an overall inquiry, so, given that we've talked about goals, seems, remains and implementation measures, I would like to know your opinion and what other goals, instruments, or implementation measures would you suggest to CRE to improve their their their policy in that sense? What do you think is lacking maybe or what should be improved? Because he's already good, but it should be better.

00:36:02.820 --> 00:36:03.770

I

The main question is that I should not ask themselves the question. Is this a working or living environment for students, researchers, teachers, whoever or people live around it for 2021 or 2022? But for the next 50 or 100 years. And that's missing a lot. I think. Uh, and then taking into

account the climate conditions and you know, all these kind of things so. So uhm, and of course, then I still think CO2, circularity, health and biodiversity, or very well chosen. Yep, so that's very good. I like those shouldn't be too complicated. Sometimes it's better to have one number you know, but yeah, you know that's mixes also too simplistic. So the main thing for me is that a yeah too much focus on too short term. And again, yeah, they they stick to this old system. Should become much more radical. And a link to. Yeah for instance.

Uhm 1 indicator which is also missing is what is: what is the added value of the campus to the environment surrounding some mean so to the neighbouring neighborhoods, but also to academics Plaza, which is a nature reserve nearby to the other. Net reserves medela plants and how to compost can be kind of connected their roots, but also for ecology using all the Creek systems which are still recognizable et cetera. So that that would be my main thing. At that's difficult to grasp, I think.

R
Yeah, it's it's it's. Yes, it's tremendous questions that we need to solve and we have told them yesterday. And now we're confronted with with late decisions that sometimes are thought for the benefit of people, but since as you say, people tend to to ask themselves what to do. You you clearly this start liking the expertise and the opinion of so many people that are relevant and that more relevant now is not that there are new people. Is is the same people. It's just that they they fulfill other insights to be integrated with participation.

00:38:38.160 --> 00:38:50.620
I
Maybe maybe one concrete one, because this one might be too vague, but a concrete one is if there will be a new building it's not allowed to bring in new sand or whatever, so you built on the spot you have. No sand no whatever you build in this, uh, maybe it has to be in wood. And how, uh, also many percent of food, so no sand in no, uh, leave the the ecological infrastructure intact. You know, especially if there's tree systems, water systems, etc. Or how to deal with that? And if you do something we did how to change that? I think these are already important rules, all sort of water system. Try see if you can raise the water level to more natural level. And if not, how can you work with that? So these are already 4 things where I think hey nothing OK. What if I would? Is that possible? Yeah it is. Yeah, so the I think then then it becomes more concrete if they gave out nubile, there's no land to be given away anymore because everything is build up already or will be soon. But yeah, but that that would be in. I think in new criteria, yeah.

00:39:52.650 --> 00:40:09.290
R
Well, we could thank you very much. I can't. I can't thank you enough for your time and willingness to participate with us. I hope to to come back to you in a couple of months here to

give you the results of the analysis. Hopefully we can also contribute to to actually make the campus a yeah. How do you say that?

00:40:10.840 --> 00:40:14.300
I
They makes more sense for for the challenges ahead you know at.

00:40:14.520 --> 00:40:40.520
R
It's really junkie on that. With you, uh, there are lot of people trying to to work their best towards this. This goes, but of course more critical approaches on how we are doing things. No for ourselves. But as you say like for the next century are needed and and and we're always looking for the next two or three years and and in this problem. So I'm going to be here forever unless we do something in long term. And and then we need more nice.

00:40:39.720 --> 00:40:39.990
I
Right? Yep.

00:40:41.630 --> 00:40:42.600
R
Well, thank you very much.

00:40:42.710 --> 00:40:49.590
I
Well, thank you and I'm looking forward to. Yeah, let me know if you have questions or follow up things and good luck and I'll talk to you later then.

00:40:49.890 --> 00:40:50.410
R
For sure.

00:40:50.610 --> 00:40:53.450
I
OK, have a good day. Bye bye thank you.

Interview #11

00:00:00.000 --> 00:00:00.850

R

TUD has decided to become carbon neutral and circular by 2030. This decision introduces changes at the organizational level, particularly compose some real estate department in charge of the management and development of the real estate inside TUD to reach carbon neutrality, circularity and to contribute to a campus that develops considering health and well being. CRE has elaborate different policies for these challenges. You are being invited to participate in a research study, title policy, coherence analysis, our carbon neutral in circular campus by 2030. This study is being done by ANNONYMISED from the TUD the purpose of this research study is to check whether CRE policies are well aligned and contributing to carbon neutrality and circularity goals and campus development, and it will take you approximately 45 minutes to complete. The data will be used for taking policy gaps and improving the overall policy implementation and effectiveness. Your participation in this this ties entirely voluntary and you can withdraw at any time. You are also free to omit any questions. We believe that there are no known risk associated to this recent study. However, as with any online related activity, the risk of a bridge is always possible. To the best of our ability. Your answers in this study will remain confidential. We will minimize any risks by anonymizing your participation in making sure that no statement can be directly linked to you. Do you give your concern to this? Do you consent to this interview and to record it?

00:02:13.080 --> 00:02:13.520

I

Yes.

00:02:14.290 --> 00:02:15.270

R

Thank you very much. Uhm, well the first question is rather simple, but it helps us give it a bit of context to the interview. Are you aware of the CRE policy goals on circularity, carbon neutrality and better health and well being composed development by 2030?

00:02:32.580 --> 00:02:39.880

I

Yeah, yes we are. We are involved from the start of the road map by ANNONYMISED, Before this one, there was already an order from CRE, he added he had before to make a CO2 roadmap. Later on the bigger plan came, on the campus.

00:03:11.870 --> 00:03:17.180

R

OK, well how how does your job and role at TUD linked to these goals?

00:03:18.410 --> 00:03:27.460

I

Yeah, that's that's that's quite easy. I'm responsible for all ANNONYMISED on this campus we ever own grid for the supply, for electricity and all the things so. I'm responsible for a lot of CO2 which we have to to kill. That that's the link with (my job).

00:03:51.620 --> 00:04:01.620

R

OK, and What are the main goals when it comes to energy systems at TUDelft in the long term but also related to these sustainability goals and specifically?

00:04:03.710 --> 00:04:08.160

I

We said we want to have a reduction of 50%. more or less the. The target for the building and renovation part. So where you comes to us then you say OK for electricity we want to have at least 25% on the campus. Yeah, on the campus, like, you place PV on the campus, for energy production. Uh, and then we have to geothermal source for the heat part. Wich will start with, 50% of reduction on CO2 cost, and then you will increase by some smart things like heat pumps, hto high temperature storage, HTS in English. Then we can come to 75% and if you were very smart then you can reduce the energy consumption in the building. It will reduce also the temperature and our peak we need and then it can be possible o to to get everything done. With the geothermal source, and on the other side. Everything will be on A test systems so aquifer, we've going to get the heat pumps. Yeah, the cold request for cooling in the existing buildings will remain, then. So and then we have to try to buy the extra electricity from windmills or things and in the meantime we will do studies for windmills on the campus. Maybe cooling with acquathermie, uh, or even the drinkwater pipes are very big drinkwater pipes and and you can extract heat and cold, from from it. And also this time they drink water, if you have lived in the Netherlands, so you drink water from the tap. Then it can be quite cold these days. So it's no problem if you can heat it up a little bit and it will help you. Also, if you're efficiency with your domestic cold water for example. And you can get a lot of energy out of it. Uh, when you just improve the temperature with increased the temperature with one or two degrees.

00:07:21.290 --> 00:07:36.160

R

amazing when it comes to these goals do you have or do you use any kind of of instruments and in by instruments I mean any regulations that you need to follow, incentives that you have put in place so you also have received, or information. What are the main regulation that you have to follow or that you actually have come up with to to to pursue these goals?

00:07:47.310 --> 00:07:55.310

I

Our ambition is much more than the legislation. So on that part the legislation is no issue. Uh, of course we have legislation with your A test systems on the ground. also, with geothermal source you have to get a license and things. And the other question, oh yeah, the there are.

There are some subsidies. But you'll see that the subsidy for geothermal source will become harder and harder. 'cause we have to get things done in The Netherlands, all on CO2. And if you have a solution which makes much more impact. Then the government will say, well, we will. The subsidy will go to the most impact full of projects, because then we can reach our goal easier, or maybe without we can't reach our goal. So that can be a challenge, extra challenge. Uh, on photovoltaics there is still some subsidy where you see that also the the phonevoltaics are quite on a break even (?) point. And you see that for us it's important to the the the "equitation" maybe on all on the only energy market at this moment. Uh, high, very high gas prices. Also electricity quite high. It's becoming lower anyway. But you see that whats happening now, will happen more often in future. Uh, there's also reason that you say, well. We we don't want to invest in our research, in our primary process, and when the energy prices are not very predictable, it is very difficult for the business. So, maybe, It's better to be more in charge of your price. But you'll have to pay a little bit more. But then you have very predictable energy costs. And the university will like that. So that can be an extra icentive to invest in your own production.

00:10:54.990 --> 00:11:11.070
R
OK, so you already mentioned the goals you have going through the different instruments that are out there that you need to comply with. Or maybe TUDelft has also initiated. What are the implementation measures that have really been taken for for this transition to happen at campus?

00:11:19.990 --> 00:11:23.870
I
How many years do you want to look back? Haha. There were already a lot of A tests systems, so that's the cold heat and cold storage in the ground, but that's the temperature level like the the heat site is like 16 degrees and the cold side is like 6 or 7 degrees. Uh, we've had for a long time. All the new projects also have it, but then they have also with heat pumps so you can easily make the temperature higher and if the temperature in your cold source will go up during the season the heat pump can help to cool it down again. And you see that in the older projects, the storage was only used to Preheat and precool the ventilation air from outside, so. Then we had a big transition on the lights. Actually, we were quite late as university with the last 2-3 years. Almost every everything is is LED already. Uh, you see that we have some photovoltaics already. It's only 1% of our consumption. We have a new boiler, condensing boiler, with a better efficiency, but mostly within with less exhust on NOx. There's already the. And we have some Smart Tools on your building automation, but that is more on building and renovation then on energy systems. For the energy systems, is it more just on good isolation, so less loss on your transportation. On the electricity site, new transformers, high voltage system, , so it will be more efficient than it was. And the geothermal source. We already working on that. From I think 2008 I came in2014 and then was already a project and it still is a project. We are still not yet, not yet producing

00:14:17.630 --> 00:14:19.480
R
In terms of this of this of this. All the buildings at TUDelft have to be label C by 2023. How does it? How? How is that coming coming across? How is that happening?

00:14:39.400 --> 00:14:41.240
I
It's actually quite easy because most buildings are not, there are not regulation for us to go to label C, because it's only for office buildings. And most of our buildings are combined and percentage of office is quite low, so then it's not necessary to we don't have the obligation.

Most buildings go ahead level C or lower already. The total overview is made, is almost ready. So I can provide it or ANNONYMISED can provide it to you. Quite soon I guess.

00:16:16.280 --> 00:16:31.930
R
So when it comes to through the all these different implementations that you were talking about, all this implementation measures. Can you recognize any new institutional setup or new roles or the allocation of new responsibilities maybe at TUDelft, or with specific people within CRE? How, how is that going? If you look in the last for example, since you're right, I have things changed in that sense.

00:16:40.060 --> 00:16:42.290
I
Uh, they are changing. Because we have a program. So ANNONYMISED came in. With this responsibility of CRE. What can we influence? we have the plan of ANNONYMISED. Which is a plan. We are now putting the Euros against it. It has to be affordable. With the total campus strategy with all the buildings. Maybe you have to make choices. And who is in the lead, who's in charge? That is difficult. So you see that energy is becoming more and more important. It's not only the actual energy systems program. You also have to energy transition. And the situation is that we have a very stable energy grid. Electricity grid in the Netherlands. Within the next years there will be more and more difficult to be reliable with your electricity. So maybe we have to have our own grid. But in the end, we are connected. With with the bigger great outside. Uh, so maybe we have to be prepared on the interruptions. Then we have to plan actions on that. So who is responsible for what? That's a very good question, itwas maybe the most asked question in 2021, and we're still working on this. So in 2022 it has to be clear, otherwise we can't do our work very well.

00:18:52.980 --> 00:19:16.510
R
In terms of financial and human resources, or do you think are they enough for the transition ahead for all the implementations that you were mentioning in the changes that are happening?

00:19:36.930 --> 00:19:38.410
I
Yeah, I understand. Well yeah. At this moment, It's not because we have to plan of ANNONYMISED. And after this year, and ANNONYMISED can tell you more about it, we know that we Euros, 100 millions or something, but it is not yet allocated in the campus strategy, so we don't have euros yet. We already got a small part. And that's also on the resources, and as team energy we are working on energy systems at the time, apart of renewables, of course where we see new projects and new research projects on energy on campus. Together with the primary process, but we have to be involved. And at this moment. We see we don't have enough people for the work. So I got already some extra and I'm working to fill in the vacancy. We are 11 people, next year we will have 13. I got an extra 2 temporarily gone 15 and to make the bigger plan. And I expect that we will go to, for all the new systems will become more and more like a smart grid systems, uh, your Smart Tools, so we need more people for it. I guess in five years I have a team of 20 people or something. That's what I think that the show is that already in the plans and we're working on that. That view for for future.

00:21:58.450 --> 00:22:22.330
R
OK when when it comes to the future of of of the energy team and the energy transition into your Dell when it comes to monitoring and evaluating the whole process. Is there any way that the energy team is having an implementation follow up or it's reporting about its development in terms of energy in a formal way, maybe. Maybe you do it, but in a more informal way. It's it's something that you can read and be like. This is the report about this?

00:22:31.440 --> 00:22:37.240
I
Not yet, not yet.. We are working on it with a with ANNONYMISED. Co-reported, etc. And then we have to monitoring. That's also very interesting. Resources monitoring. The request of data increased a lot. Those students will have energy data and not like in the past, just the energy consumption of a building. No, they will have detailed information, so that's also a reason we have to increase our capacity or that part. Also because data becomes more and more important. Also, to control in future energy systems.

00:23:32.430 --> 00:23:51.560
R
is there. Is there a way for CRE to exchange experience to incorporate new knowledge and in the transition or the transition once it's decided is is the way it's going to go. Is it possible to incorporate new knowledge in the process?

00:23:53.950 --> 00:23:55.630
I
We just started actually to organize the process. So it's difficult to tell, but of course, some experience. But maybe in a year we can.

00:24:09.690 --> 00:24:26.260

R

OK thanks. This is the last two questions. It's it's more general questions. The first one is How old these sustainability policies, circularity, carbon neutrality, have affected your role at TUDelft, said you, you enter the university in 2014. How all these different sustainability goals affected what you what you do normally?

00:24:40.850 --> 00:24:43.480

I

I always worked in the renewable energy market. Photovoltaics, I think. Uh, in the beginning. When I started here. My team was was just operating a condensing boiler. And now. Talking and thinking about Implementating geothermal source In our running business. So that's a big change. And another change which is happening in the beginning it was just the Energy Department of CRE, and now it's no. Then you have to talk to the Energy Department. No, that there is also Energy Department. Now we need Energy Department right? There are very important because the energy is, yeah, we have a lot of questions on energy and and go help the questions on on on renewable energy and all these sustainability and all. So our position in that way formerly did didn't change anything in our position. But just in the work our position changed.

00:26:08.970 --> 00:26:17.620

R

Definitely yeah this is something. Also get I I got in all the interviews since our systems in the past. So as you say, it was all about like buying energy from the grid having the data of how, how much we buy, how much we use and now it's now. It's completely different because you're from buyers you start to be producers and be in charge of the whole transition. That's that's really, really a big change. Exactly the last question is under we already talked about goals, instruments and different implementation measures. How I wonder, is there any other goal? Is there any other instrument or any other implementation measure that you can think of that should be included in these in these sustainability goals to make them better to make them more effective?

00:27:01.480 --> 00:27:02.430

I

It's difficult. I think that the only example I can I can give is that at this moment we buy electricity dedicated from some windmills in the North Sea. There were not dedicated for other companies in the past, so they're really dedicated for us. And it's green energy. Whereas at home you have your energy contract. You can say also yeah I want green energy. A lot of people have green energy. But the mix in Holland Isn't so green as people think because we will ask for green energy so we have green energy. So how green is oyur energy? Some tiem ago GreenPeace did investigation on buying energy If you are dark green, so we are quite good. And at this moment. Or I think it's very important also the efficiency of your heat pumps and your systems. I can say I have a A rate system. And my neighbor has also in A rate system. So we're doing a the same good job. Maybe my coefficient of performance is 4.5 even five, and

he's only on two and half. So I think it's important to go to more detailed information. Also in and be honest in that. Geothermal source can provides you cooling, also there's a lot of electricity needed to pump up the energy. But if that's the only way to get a higher temperature and you need it for your building. That's OK, But what's the exact efficiency? Not theoretically, but really. Yeah, I think, like you said, how green is your green energy? I think we need some tools for that.

00:29:56.940 --> 00:30:04.950
R
It's it's about monitoring tools. In in in being more transparent in terms of yeah the achievements, you're you're trying to reach.

00:30:05.400 --> 00:30:05.660
I
Right?
]
00:30:06.720 --> 00:30:18.320
R
Well, ANNONYMISED. Thank you very much for your, for your willingness to participate. I cannot thank you enough for your time and you really insightful answers. I hope to come back to you as soon as possible after my holidays finish and then bring the define all the final yeah findings of the report I'm working with with ANNONYMISED and. And yeah, I hope you the best of holidays. Hope you have a lovely time with your family and to see you soon once I'm back in the Netherlands.