



Full Transcript

bioCircular Loop X ECBF: Episode 1

Melina Gerdts (00:00)

Welcome to this very first episode of the BioCircular Loop podcast, where I will, together with today's guest, introduce you to the circular bioeconomy in Europe. We're going to talk about what it is, why it's important and who's involved, why it's considered to be the next industrial revolution. And before you meet today's guest, I want to quickly tell you about why you should care about circular bioeconomy and how it impacts you potentially.

So as some of you might already know, circular bioeconomy is considered to be the answer to a lot of today's global societal challenges, including climate change, resource depletion, geopolitical dependencies, and overall the need for the development of a more sustainable and resource efficient economy. It's seen in a way as the move towards a more sustainable version of capitalism, where everyone benefits at the end of the day.

It involves shifting away from this idea that externalities like pollution are not the responsibility of a company and towards embracing the environment and

society a company operates in. And it moves away from the idea that profits must be maximized at all costs and finds ways to create value where today others still see costs. And it involves

fundamentally challenging our current value chains, which today mostly follow a linear process. So where you have an input on one end, which gets processed, sold and consumed, and then leaves the value chain as a waste stream with no further purpose. It imagines a world without waste, or at least without the label as such. So today,

humanity consumes 70% more resources than the Earth's ecosystem can regenerate. In other words, humanity's demand for resources is now equivalent to that of around 1.7 planet Earths. And yet, only 7% of materials that enter the production processes today come from circular sources. And since we're living in a material world,

using and consuming materials as unsustainably as we have been, where the planet is being polluted to the point that it is changing the conditions that are allowing us as a human species to survive on this planet, and where we are using materials faster than they are available again, will have very uncomfortable long-term consequences, not only for economies, but

future generations around the globe to come. Now, the good news is humans have always adapted, especially in times of crisis. And this is essentially what this podcast is about. There is a paradigm shift that is taking place since a few years, a change in mindset, a driving force of innovation, as the industry searches for solutions that are aimed at changing the way things have been going.



moving away from exploiting finite resources and adapting or transitioning to a regenerative circular system. So in this podcast, I will tell you about who the people, companies, organizations, technologies, countries are that are driving this transformation. So you can potentially change your business model or at least start rethinking the way your company has been doing business.

maybe even inspire you with a technology or a potential partnership. To quote Winston Churchill, "Never let a good crisis go to waste." And yes, pun intended. Today's episode aims to give you a bit more clarity on what exactly is going on in this field in Europe. And this brings me to my very first guest on the BioCircular Loop podcast, Jowita Sewerska.

investment director at the European Circular Bioeconomy Fund. The ECBF is the first venture capital fund exclusively dedicated to investing in bio-based and circular startups that drive the shift from a fossil-based to a bio-based economy. And Jowita is an investment professional whose main focus at the ECBF is industrial biotechnology where she brings in her expertise

in biological methods of production within biochemicals, personal care products, food tech, energy, textiles, and valorization of bio waste. So, who better to guide us through this first episode where Jowita will be explaining the concept of circular bio economy, sharing her insights as an investor in this dynamic field of innovation and the exciting projects that are going on at the moment at the ECBF.

Welcome, Jowita and thank you for joining today.

Jowita Sewerska (05:12)

Thanks, Melina And thanks for the introduction and for inviting me to this podcast. And it's a pleasure to discuss with you today about this important topic.

Melina Gerdts (05:22)

So where are you located right now, Jowita I know you've been traveling in the past couple of weeks.

Jowita Sewerska (05:29)

Yeah, indeed. So our job is pretty dynamic, I would say, both in terms of, you know, what we deal with, but also where we do that in. And even though we focus on Europe, then it still includes quite a lot of traveling. I'm located in Bonn, Germany. This is where the headquarters of the fund is also located. However, we remain close to our to other geographies as well. So we have a couple of team members based in other countries.

I come from Poland, so I remain close to the ecosystem there and track our C investment or potential opportunities for investments.

Melina Gerdts (06:07)



Okay, nice. So you're back in Bonn right now in Germany. Okay. So yeah, Jowita thank you again. And why don't you start us off by telling us a little bit more about the ECBF and its mission.

Jowita Sewerska (06:11)

Yeah, indeed

Sure, with pleasure. So ECBF stands for European Circular Bioeconomy Fund. We are one of the biggest impact investors in Europe. We invest, as our name suggests, in circular bioeconomy.

Or actually in this definition, bioeconomy is a must for us. So we invest in bioeconomy and then circularity is something that we prioritize, but it's not a condition as such in our investment strategy, but it's very positively seen, I would say.

And then in terms of what exactly it means, then very shortly I will maybe get back to this later, but in terms of bioeconomy, here we look at companies that use biogenic renewable resources in a sustainable way to produce products for different applications.

And under the umbrella of bioeconomy, we include four verticals. First one is FoodTech. So here we look at, for example, alternative protein sources for different ingredients in food.

that are currently produced with fossil -based resources. Then we have a vertical of agriculture, AgTech. Here we look at all technologies that increase the yield for farmers that reduce waste, that also help the farmers to manage their farms in a sustainable way. The third vertical that we have is sustainable packaging and construction. So here we look mainly at replacements of plastics.

And fourth one is biochemicals, personal care and home care. In the bioeconomy or under the bioeconomy umbrella, one could also include energy and pharmaceuticals. However, these are the verticals that we don't invest in within ECBF.

For energy, there are many other investment funds that have this strategy on their agenda and for pharma, this is a very peculiar field that we also excluded from our strategy.

Melina Gerdts (07:02)

And why was it or by who was it founded? Is it related to the European mission? Or is it private founders?

Jowita Sewerska (07:10)

it originates in the EU.



Maybe I will start with a bit of a big picture there. So as we know, bioeconomy, or basically bioeconomy as such, it's been with us from the beginning of our civilization. So we used at the beginning mainly biogenic resources for different things.

especially for food. These were always plants or animals, similar to different manufacturing things. So of course, we include things like stones and so on, right? But basically also quite a lot came from biogenic resources.

Then in around 18th century, there was, or we know that the industrial revolution started, which basically changed how we operate and how our economy grows, or basically we actually started to pay attention to something like economy.

and all of it or basically the growth there was based and is still based a lot on the amazing thing which are fossil resources, amazing in a sense of technical properties that they offer or technical applications where it can be used.

And we as a civilization, or basically we as humans today, we got addicted to these resources.

And we got addicted also to growth. And this is something that we very much want and desire. At the same time at first, the results were not that obvious or impact was not that obvious of using these kinds of resources. And only in the 20th century, it started to become more visible.

that it's not just one side of the coin with all the advantages that these resources bring. It has a very big impact on other things, including biodiversity, including climate change.

then different scientists and basically many people noticed that it is a trend and it has impact on how on today but also will have impact on the future and it's not possible really to stop it just from one day to another. It requires meaningful changes and it will take time.

Many countries started to have discussions about this topic, but it's not easy because once you have your economy addicted to this, there are people who earn money on this and so on, it's difficult to stop.

So it took many years, but I would say that the

I think the most noticeable accomplishment there is came in the form of the Paris Treaty from 2015, so we are on the way to this, but basically here European Union is one of the leaders in terms of, if not the leader, their leader actually to fostering the changes, to take more about the climate change and as the other aspects of course of let's say very generally defined sustainability.

the EU have been looking at the change or at the transition from fossil based economy to a bio-based one for four years. Around 10 years ago they conducted a study where



they concluded that it would be beneficial or if we want to remain or with speed, I would say, on the targets, or actually lead them, lead the changes, we should leverage private capital in these actions. And they did that actually on a couple of levels, but one of them was that they decided that they would publish a tender where they would commit to invest 100 million euro into, in funding, in a fund, in a privately managed fund, that would basically have this topic as their investment strategy. They decided that in the moment, the private capital is beneficial because first it's a matter of leveraging the public capital, so we have more money to invest.

But also there are certain benefits that come with private capital. It has different patients, it has different efficiency, and it facilitates remaining in the lead.

And this is what happened. So basically the European commission published a tender, multiple management companies that have had many years of experience in this or different fields, but still successful took part. And then ECBF management was one of them and they were selected as winners of the standard.

And so, yeah, as the team that should take this strategy. As I said earlier, the European Commission and through actually EIB in the end, invested in the fund 100 million euro. However, with the condition that please bring more capital, we want to have private capital there as well.

We then the founders of the ECBF together then with team members that joined in the meantime got indeed attracted to more capital so actually it was we were very happy and we are very happy to have more investors on board. All together we our original target was to raise a 250 million euro fund

But actually, so many parties believed or so many investors believed in this space in our mission and the capabilities to actually invest in this space. And that we got oversubscribed with a hard cap of 300 million euro. And this is, as I said, then one of the biggest impact investors in Europe thanks to this. So we are very excited about this capital, towards innovators in the space of bioeconomy.

Melina Gerdts (13:42)

Yeah, that is that is very exciting to be in that role of a pioneer, let's say, not only in Europe, but in that sense globally. And you just explained a bit, you know, the concept of bio economy, and how it's always been there, right? Maybe to visualize it a bit better. What does that mean in terms of let's say the individual, or also on an industry level? How is that actually? Yeah, how does that matter?

Jowita Sewerska (14:12)

So here, as you mentioned, in terms of application in food, it is the most intuitive one. So, you know, that bioeconomy is present in food because in the end, still what we eat mainly is plants and animals. However, one could be surprised also by different things that are added to food, especially, of course, to processed food,



flavors, functional ingredients, and so on. There are many ingredients actually that come from fossil-based sources. So even though intuitively this is present input, then there are technologies or products that should be replaced.

We've also impacted on our health and it's not only a matter of like carbon footprint and sustainability and so on, but also our health. And this is what we are working on also at ECBF. There are also other areas in that bioeconomy is gaining traction or is present already at some scale.

Other include for example agriculture and so here agriculture is I mean the product is food in the end you know because it's a matter of growing some plants mainly for consumption.

by us or by animals. But basically here what is happening is that together with mass production of food and big farms what is implemented on the farms are mainly or on a big scale fossil based products such as pesticide, herbicides, fungicides, insecticides, different chemicals that simply help farmers to

improve their yield or improve growth of plants, improve or reduce or improve resistance towards different insects or different limitations that come either from biology or for example from weather. And these chemicals are highly effective in the short term.

and they are usually cheap. So this encourages farmers to use them. And this is what is happening on a large scale. This has also impact on our health in the end, but yeah, so it is what is right now present. However, I mentioned that this is for like short term. Why? Because actually on the long term, it leads to...

soil deprivation or basically to the fact that the soil is not able to cope with growing the plants is not as effective actually on the long term. So even though you see some improvement on short term than in the mid longer term.

For example, there are many millions of hectares that cannot grow plants in an efficient way anymore. They cannot absorb or keep water. They are flooded easily and so on. And this is the result of using this kind of practices. So, this is the result of using this kind of practices.

So here a big trend is or what we hope that will be happening also and what we see for sure on a small scale, we hope it will also go to a mass scale, is to use regenerative practices but also technologies that are more sustainable. So for example, sort of equivalence to the chemicals that I mentioned, but that are biobased and that are also more healthy for the ecosystem, for soil, for plants, for us.

So this is in terms of agriculture. And then we have also areas such as, for example, packaging. So here we see that, so, you know, after COVID, of course, we, you know, almost all of us order from time to time something online.

Here we can see that practically card boxes dominated the space in terms of like online packaging, for example, which is great with this bio-base, it's highly recyclable and so on. And there are also like glue, tapes and so on. There are coming in solutions that are also more sustainable. But there is still a lot to be done in this space. And this is where we see developments as well. So for example, single-use packaging,

first, for example, food packaging in grocery stores, but also, for example, packaging, for example, for clothes that come also, you know, in an ordered form, they are usually packed in plastic and one might ask why. There is a lot that is being used and wasted there or is not maybe needed. So this is something that we are also working on and we see a lot of development there.

Okay. That's it.

Melina Gerdtts (19:18)

And just to interject, if I may. So I mean, talking about packaging, you mentioned plastics. Let's say we can look at the plastics and chemical sector as another example. How would that be related to the concept of bioeconomy? And let's say this transition to becoming more sustainable.

Jowita Sewerska (19:36)

so that's a good question, I would say. here are two aspects actually. So bioeconomy may be as such here, or the definition of bioeconomy is to use biogenic resources as a, you know, as a feedstock for manufacturing the product.

Of course, in our definition, we require that it needs to be done in a sustainable way with respect towards the ecosystem and people involved and so on. So it's not just bio that's good enough. It needs to be the overall picture needs to be taken into account. So this is bio based. Then there is a second thing that is highly relevant actually for packaging and chemicals in general, which is a

matter of end of life. So biobase is the beginning of life. Then we have bio-degradability or recyclability which is the end of life. And this is important to be defined because it can be confusing. So actually one is not equal to another. So if something is biobased, it doesn't mean that it needs to be biodegradable. And what is actually biodegradable? It is

Well, yeah, that's something that is basically important to also take into account, because it's basically that material dissolves, right? But it's a matter of in what conditions and in what time, because obviously you can say that even traditional plastic is biodegradable, but in a couple of hundreds of years and with very, very high demanding conditions.

So it's not really equal. And then in the end, in terms of biodegradability, so here we usually talk about quite mild conditions for composting for biodegrading, and also a period of like up to 60 days or something like that. So that...



We know that, okay, if something ends up somewhere in the environment, and for example, marine biodegradability as well, in the oceans or something, it will biodegrade simply without hopefully causing too much harm, for sure, compared to the fossil-based plastics or not biodegradable plastics to the animals.

And I wanted to mention that because as I said, biobased and biodegradable is not equal in the sense that you can have biobased non-biodegradable products that are only recyclable. So it behaves exactly like fossil-based plastics or you can have fossil-based chemicals which are biodegradable.

So, you know, in terms of packaging and chemicals, I would say it's not that obvious actually in which way to go. Um, so, uh, in some cases it's more beneficial actually to go for, for recyclability rather than biodegradability, basically to encourage consumers or, um, teach them somewhat, you know, to collect the waste streams rather than

push them into thinking like, yeah, doesn't matter, it will go to environment, it will anyway dissolve, it will not do any harm and so on. So it's not something that anyone would want. So that's why, for example, in the EU, recyclability it's something that is preferable, or preferred.

Melina Gerds (22:56)

Supported, let's say more. Yeah. Okay, so it's essentially about replacing fossil based feedstocks, right, like crude oil or something like this to plant based or biomass based livestock.

Jowita Sewerska (23:10)

Yes, but taking into account also end of life. So I would say it's, for example, for chemicals that end up in personal care, home care. Here, we pay attention also to biodegradability in the sense that it's, you know, with these kind of things, it's very difficult to recycle them. I mean, they typically go down with water, you know, that we use. And these molecules are usually so small that it's difficult actually to filter them out and then recycle, you know, in the form that they were

they could fit the purpose again. It's super difficult. So actually here we pay for example, attention that these molecules should be both biobased and biodegradable, right? And this is also something that is happening. We see this trend a lot coming from the industry also as a need.

Melina Gerds (24:02)

So maybe actually to jump on that, also in the name of the ECBF, you have the word circular, right, or circular bioeconomy. So let's add that concept. And I'm guessing this is what you're talking about with regards to the, let's say, cradle to cradle idea. How would you define that? Is it the same thing? Is it different when we talk about circularity in the bioeconomy?

Jowita Sewerska (24:08)

Mm-hmm.

Okay.

So I would say that for circularity, how we define it is more that, I mean, it can be either in a closed loop system for the same, for one value chain. So, you know, you recycle, one recycles one form of material to the same form of material. So the material is collected and then transformed into the same one. Or it can be that, for example, the product or the more production process uses some kind

of waste stream from another process where this side stream or waste stream is right now being wasted or used for very low value products. So then it can be used or on the other hand where the waste from the company's product can be used in another company.

So basically here we also call it or we name it as circular bioeconomy because it's in the end, it's just being used somewhere for some kind of value add.

Melina Gerdts (25:29)

Okay, and so when we're looking at the feedstock, you just mentioned waste can technically be a feedstock for a different industry, let's say. How or what type of food are we talking about or waste or biomass? I know there is this concept of different generations of feedstocks like Gen 1, Gen 2. Can you give us an idea of what we're talking about here?

Jowita Sewerska (25:58)

Yes, so here we also have the third generation of feedstock actually, but I will take it one by one. So in here, just for clarity, I will focus on feedstocks that we deal with or types of feedstocks that we deal with, we've been especially industrial processes, for example, for precision fermentation.

First generation of feedstock is a carbon source that can be transformed into food basically or some kind of energy source that can be consumed by humans or animals. So here a very simple feedstock is for example glucose or sucrose that can be used for these kind of processes. So simply a carbon source that can be transformed later into different products.

Second generation of feedstock is in short waste or side stream of some industrial processes. For example, it can be waste from breweries or some factories that is not very much used today. Also, it can be, for example, supermarket waste with food or it can be agricultural waste. So for example, straw.

Here, just a note, what is important, what we always consider is if the side stream has already some application on the market, because usually there is some low value application where it's more being utilized than really somewhat upscaled to value-added products. So here we look at this very positively, of course, it is then transformed into more value-added products.



And there is third generation of feedstock where the carbon source is not reliant on agriculture. And this includes, for example, flue gases from industrial processes that are transformed into different chemicals. And this is something that is a growing trend, but it is the most difficult, I would say, out of three.

Melina Gerdts (28:00)

Okay, and compared to, let's say the traditional feedstocks or fossil based ones.

What does it look like in terms of price? it's quite a new system, right? So I'm sure the regulations must adapt, the players must adapt. Is it already at a point where it is more cost-effective to source, let's say, waste from a potato peel, on a big scale? Or are we not there yet?

Jowita Sewerska (28:25)

Mm.

So this one is not, so I would say the answer may be quite easy to this, but I would say it's not the entire answer how customers or basically how we look at it. So I would say in terms of feedstock, you know, of course that truly depends on what is that, where is that produced, where will it be delivered, who is taking care of the transport, what kind of insurance is there, seasonality

So, you know, who needs to store it and for what cost and so on. So for example, for glucose, you can pay less than one euro, but it really depends, as I said on where is that

it's much cheaper in Asia for example than in Europe and so on and then in terms of crude oil then

then currently you pay, let's say, per kilogram also to have it comparable to glucose, around 66 cents. And again, it depends a bit, you know, with what kind of contracts, how much upfront do you order it, what kind of volumes, both of them, right, and so on. So it's, so it's, this is a matter of price, but it's not the whole thing, because actually what we need to pay attention to is more of a production cost.

actually cost and use for certain applications. So production cost you know, it's very challenging for the innovators in the bioeconomics space to compete with because we need to realize that fossil-based processes have been developed for 50 years or longer. They are highly, highly optimized. And the value chain

already very much established. It is often present in Asia where it's simply cheap or relatively cheap. And then when we have bio innovators, they are usually faced with a requirement from their customers to actually be competitive in terms of pricing pretty early on, let's say after a few years of development or something like that.

This is super brutal because you know it's like three years versus 50. Obviously it's super, super challenging and really only the best technologies can win in that and it's



really not easy. So here it's something that is being also a challenge for the development.

but at the same time depending on what is the product and is it replacing for example 1 to 1 the fossil-based equivalent or maybe it's something different.

Then we need to always calculate cost in use, because for example, performance may be better or worse, depends. Also, there might be some features that are, better or worse compared to fossil-based products, for example, biodegradability, as I mentioned, for example, color, for example, I don't know, melting temperatures or whatever, you know, these are, there are different properties that need to be taken into account.

and the customers need to compare. So basically it's a measure of the full cost and also more qualitative assessment of properties of the two products in specific applications because it can also behave differently depending on application.

Melina Gerdts (31:50)

So ideally, you have the same, let's say, technical properties to justify that it's, more or less the same price. But then, let's say, with regards to the research and development costs and everything to get there, you can't.

I mean, it's not that easy, right, to get to that market price. So you do have a premium. and then I guess that makes it a bit more difficult if you have not much else, let's say to propose in value than, than the concept of sustainability. Right. How do you, how do you see that? Is that something, companies are already accepting that they're interested in that they want to purchase this, uh, as a value proposition, or would they require, you know, really different technical properties that are, are.

Yeah, adding a different kind of value than the fossil-based ones.

Jowita Sewerska (32:35)

So it really depends on specific applications. And I would say that sometimes it's just a matter of that customers want to have bio-based, but then everything else the same. So basically properties, the same pricing, the same and so on.

But there are cases where simply fossil-based are not possible to be maintained anymore. So for example, there come regulatory bans. And then with some kind of targets, for example, on biodegradability and for specific chemicals, it's simply not possible to have a biodegradable.

and fossil-based ingredients and then bio-based are the only solution. So it's then they enable properties and then the premium is possible because simply brands or companies that they don't have another option. I would say that in general, there is depending on of course, on also the customer, the brand, the company that, and their

their awareness of the need and also the industry. But I would say in a big number of them is willing to pay a premium in the first years. It's not really a problem in the first years in the sense that they understand that it takes a while to do R&D but also that the pricing depends on scale. So they know that the startup will not produce large amounts of something on day one because simply also on the customer side,

certain development cycles in the product formulation. They also take just small samples first, they see how it works, does it fulfill their requirements, for example for cosmetics they need to do some testing and so on.

And it usually takes, depending on if it's a large player or a bigger player, but from a couple of months to, for example, three, even five years sometimes. So it's also not that they expect big amounts of the product from day one.

they are willing to wait or they actually need to wait or they want, it's just a matter of their internal processes that it simply takes a couple of years and they know that in the meantime the company will scale up the production and you know the fixed costs will be then reduced or per unit of production right and then also with ordering for example larger amounts of feedstock

matter of scale, the cost points will decrease. And then in the meantime, of course, all companies are working on R&D in terms of simply process optimization. So it's something that is understood by the market, but for sure they don't or not many players want to keep the premium for a long term. They always say that at some point we need to come back to the costs that we pay today. And this is still challenging.

Melina Gerdts (35:33)

Sure, sure. Sure, it's a step-by-step process, right, that has a very long-term plan for most companies, especially with regards to then developing their own product, right, with the innovation of, for example, a startup technology. So we're really looking at a lot of different players along the value chain in the market that have to adapt. Their expectations that have to adapt.

you know, the way that they have been doing things, their own technologies. And my next question is a bit about the regulatory policy framework. Is this something that you see is being supported on a national level or on an EU level since you did say that Europe is a pioneer in this area?

Jowita Sewerska (36:18)

Yeah, definitely. So it's something, as I said, that is the EU is paying attention to or prioritizes in terms of their policies for years already.

and I would say that it comes with several dimensions here, so I would say it's a matter of

some policies that in regulatory form in terms of, for example, obligations that companies that want to produce or sell in the EU must fulfill. And it relates, for



example, to production conditions, to feedstock sources, to a material, as I said, biodegradability, recyclability.

bans of certain chemicals and so on. So this is something that is constantly being developed by the EU. And of course we have transition periods and so on. So it's not that everything is happening overnight. It requires some time and then taking into account also because it's not one dimensional. Of course the EU understands that these are big industries. Also people were employed and so on.

it cannot be really a fast transition. There are discussions with different industry players and so on to make the change in the most reasonable way and with reasonable timelines. So I would say this is from more like a market perspective.

Then in addition, here the EU implemented some solutions that act more as enablers, I would say, or soft enablers. Recently, they published a report last month in March where they committed that they would

finance a European Biotech Hub and that would help then the biotech companies to implement their changes to the market and especially I think that here they would want to support the companies in understanding what are their options, but also in implementing the solutions to the market or help them selling in the European market.

And the third pillar of support that the EU gives is an economic one. Here, the first program that was introduced by the EU, or one of the first ones was BBIU. And so this was Biobased Europe Joint Undertaking. Today transformed into CBIU, which is Circular Biobased Europe Joint Undertaking.

The EU also incorporates other support mechanisms for the economic support for scale -ups and innovators. For example, one of them is also EIC that offers both grants and equity funding for the companies.

Melina Gerdts (39:33)

So this is the European Innovation Council, the EIC? Okay.

Jowita Sewerska (39:38)

Yes, yes, European Innovation Council.

And then of course there are funds or there is ECBF, you know, so it was also the idea of European Commission to accelerate the changes here and give support to the companies not only in a financial form but also quality form in terms of advice, you know, because that's why we as a team of course provide not only financial support but also we know the markets, we know the technologies industry,

we've seen other cases, we know what are typical mistakes and what are probably good ways to go and so on. So it's also very valuable for the young entrepreneurs to take this kind of advice inside of their companies. And I would say that, so this is on the EU level, but of course there are many also local agencies in the kind of like



for specific countries or specific regions in these countries that have offered support. There are also networks, some accelerator centers focused specifically on certain areas such as biotech or food and ag and so on.

Melina Gerdts (40:58)

From your investment point of view, can you give us an idea of a couple of countries that you would say are more or less pioneers in this area, where there's more investment activity, startup activity than in other areas in Europe?

Jowita Sewerska (41:15)

I would say that, so in general, what we see is that Western Europe is more advanced in this space than Eastern Europe. It is of course for historical reasons like that, but then we are excited to see that also on the Eastern part things are accelerating. From our side, we look at growth stage companies. So we look at companies that already have presence on the

In Western Europe, there are a couple of hubs, I would say, that are very interesting. I would say, so it's for sure one of the countries that is super advanced in this is the Netherlands. So they have implemented their bioeconomy policy already many years ago and have support and offer support in a financial form.

years ago, it's also on a national basis. And in addition to the regional and so it there is there is economic support, but also I would say there is a lot of understanding for the technologies for their opportunities and challenges, which is really great because it's not only about money, but you know, it's also a matter of understanding by the investors by the managers, even in

a great example, and for sure one of the most advanced cases in Europe.

Melina Gerdts (42:40)

It's really ingrained in the Dutch culture, isn't it? The concept of sustainability, circularity. Yeah.

Jowita Sewerska (42:46)

Yeah, yeah, indeed. Yeah, indeed. I mean, yes, I think that relatively, yes, you know, of course, they're, you know, they also have protests by farmers and things like that, right? So it's still some, some way, some, it's not, it's not perfect, but for sure, it's one of the most advanced countries.

Then we have other hubs in Europe like that. So for sure, Germany is also advancing this, France, Belgium, Denmark, these are countries that for example, for biotech are quite advanced. For example, in the Nordics, so Finland, Sweden, these are countries where they very much use lignocellulose in biomass

This is for paper, for like packaging companies, but also use simply of the biomass in the different production of chemicals. For example, this is what they, where they have



many interesting companies because simply of proximity and of the feedstock. And so these are the countries that we for sure see quite a lot of traction.

Melina Gerdts (43:56)

Mm-hmm. And just to jump again on your point of view as an investor and the ECBF itself, would you mind sharing with one or two examples of which types of startups you've invested in, that you were supporting

Jowita Sewerska (44:10)

I'm very excited about our newest So it's a Belgian company called Amphistar. They produce biosurfactants from waste. Biosurfactants are chemical compounds that are present in many applications. But for example, in home and personal care, basically, they have, these are chemicals that have

both lipophilic and hydrophilic.

properties. So they are they are the compounds that actually, you know, that basically, attach to both grease, dirt, and also then they attach to water when it's being used. So I would say so this is these are the compounds. And most of them today, come from fossil based resources.

If they are bio-based or partially bio-based, many of them come from raw materials such as we discussed for example first generation feedstock.

or for example from palm oil, you know, so it's not necessarily sustainable actually. So it was actually an, or it happens sometimes that actually when you compare, we use LCA life cycle assessment for this. When you compare this, the carbon footprint or basically impact.

of different technologies then it's not obvious that biobased is better than fossil based. It can be, it cannot, it may not, it may be the reverse. So, or the opposite. So it's, so then.

Melina Gerdts (45:44)

Why is that? Is that transport or why? What are let's say the sources of the additional?

Jowita Sewerska (45:50)

Yeah, it's a matter of, for example, process optimization. So how much do you need to take in of the feedstock, right? How much do you need to use it? Or of it do you need to use it? How the feedstock is grown? Because some processes that are bio-based may be so complicated and actually may...

use some plants or something that are not efficient in the energy production. And then, yeah, so I would say it's many this and also transport, yeah, that depends where is it produced. So we always compare it.

like for like, but then indeed, I mean, if you want to have something that is from far away, then it is of course not beneficial.

And then Amphistar is currently the only company that can offer waste-based production of bio surfactants which is not easy, just to clarify, but waste-based production is really not easy. So then you need to deal with different side streams, you need to make sure that it's consistent from batch to batch from different production runs. And then waste is not

to develop a technology that can deal with these obstacles. And Amphistar did that, and they last year they launched with a home care product for hard surface cleaners. And they right now focus on commercializing further or for other home care products, but also for personal care. There are also potential applications in agriculture, even in food.

that we will look at in the years to come.

Melina Gerdts (47:37)

So instead of using fossil-based or let's say palm oil-based sources, they are using waste. Is that waste that they source from within Belgium? Is this agriculture sector or what kind of waste streams are we talking about here?

Jowita Sewerska (47:54)

So here they tested many, I cannot reveal what exactly because it's confidential, but one thing that is, one side stream that is disclosed is supermarket waste, food waste. So this is what, for example, they can use, but there are also others. And you know, where it is sourced, that depends on scale, I would say. So right now, I mean, at a smaller scale, of course it's locally sourced.

Melina Gerdts (47:59)

Fair enough.

Jowita Sewerska (48:24)

And then it can be quite easy to get access to it. When companies plan a big site or a big production site, then they need to think about this much more, in the sense that they usually need to co-locate, for example, with if they have one or more side streams that they use, they need to look, OK, so who produces that? And then we need to be in proximity, because it's a matter of price, but also it's a matter of technical properties

because for example, because of contamination, you know, with transport costs, sustainability as we discussed, you know, if we transport something that is very heavy for example, with large amounts, it costs a lot. So basically this is something that we for sure think about this at the beginning, okay, is it possible to, you know, to organize it later in a reasonable way? But then at some point when we decide

then this is for sure something that needs to be taken into account and really a good agreement or co-location is required.



Melina Gerdts (49:32)

Okay. Jowita I'm seeing time go by and I don't want to take up too much more of your time. So I think maybe to wrap it up, I'd like to ask you just one more question with regards to how you expect the development of industrial biotech or let's say the concept of circular bioeconomy in the future in Europe.

Jowita Sewerska (49:58)

today we see a big growth rates, or high growth rates, but, but for sure, we believe it will be even faster. Why? Because we see really many trends or many sub or a lot of support from different parties on the market. So here we see as we discussed regulatory push,

on different aspects. So this is one, but we see also a lot of consumer demand, especially in the EU, but also quite a lot in the US that consumers do see labels, you know, green, bio, eco, and so on. And they are more aware of the importance of this. So they also consciously make choices of the products that they buy based on these metrics.

And the third force that we see is also brands or companies that sell the products to consumers. And here I would say it's a matter of so they a little bit listen to or they have to listen to one regulatory, but they also have to listen to the consumers actually. So, so then in the end, you know, we see a lot of or many companies, many big names that incorporate sustainability.

policies and sustainability targets in their policies. And here we, so you know, there is many companies already committed to significant carbon reduction by 2030. So it's a matter of carbon footprint reduction, but also, for example, using bio-based sources, biobased Feedstock. And they have these policies and they really look for solutions that would enable the implementation of these. So I would say looking at this, we have three big forces. Of course, it may not be for full market, right? And so on, but it's still an important part and a big volume that supports the growth. And yeah, and we then hope that this is, or we believe that it's something that will grow further. Because as I said in the beginning, it's, I mean, it's not possible to do, to implement the change overnight, but we need to accelerate looking into our mid long term future. Yeah, as a planet.

Melina Gerdts (52:29)

Absolutely. Um, Jowita, if, if any of the listeners want to read a bit more about the ECBF or, uh, the, let's say some of the concepts we talked about today, I'm going to leave some links in the show notes. but is there, any specific, that you would suggest, for them to read a bit more?

Jowita Sewerska (52:49)

I think our website then is a good source. We also encourage to follow our LinkedIn profile because there you can find some updates on ECBF but also in general bioeconomy. So here we also take it seriously to promote this industry, these trends and make people



that lack of the transition would cause and what the benefits that the bioeconomy brings. So yeah, I encourage interested listeners to also tap into this resource.

Melina Gerdts (53:32)

Perfect. Okay. Thank you. And yeah, I'd say thank you for keeping us on the biocircular loop today. It was really a pleasure to talk to you also to kick off this podcast with you. And I'm looking forward to see the future investments that you're going to be supporting at the ECBF So thank you very much for your time.

Jowita Sewerska (53:54)

Thank you very much, Melina for today. And it was very interesting to discuss with you. And yeah, thanks for initiating the podcast. I think it's a great source of information and building the awareness of importance of circular bioeconomy.