

INTERVIEW WITH ELI DE VRIES
Ministerie van Infrastructuur en Waterstaat
Utrecht, June 27th, 2018

[continuation after getting authorization for recording]

ELI:

Is it working already?

LUISA:

Yes. Now it's on.

ELI:

Where did you get the information about me? From RVO?

LUISA:

Actually, from Henk Hoving, from the ministry...

ELI:

Oh! From Henk Hoving! It's not Henk Hoving, it's Henk Hoving.

LUISA:

Oh! Sorry... Without the sound of the H?

ELI:

Yes, yes, yes.

LUISA:

Ok. I never know how to pronounce...

ELI:

It doesn't have the H when it's a family name.

LUISA:

Oh, no?

ELI:

It's just oving. But it doesn't matter.

LUISA:

So... I talked with him about more general terms, about the deals and everything. And his perspectives and experiences...

ELI:

And he is correct. I invented the [inaudible], in 2013, a green deal in bioplastics from vegetable, fruit, and garden rest [inaudible]. That was an important step. To that moment not a deal was operational and that deal is only 4 pages, maybe 3. The government, a private company – which is called Paques, that's the word for parson. You know parson? A Christian celebration...

LUISA:

Ah... Like Pascoa? Like the Easter...

ELI:

Yeah.

Paques is the French for Pascoa. Paques is a company in the North of Holland, in Balk – it's a place, a city. And Paques has subsidiaries in Sao Paulo, more or less, in Mumbai in India, and Xangai. So, subsidiaries, employees, about 400 people, and they are experts in creating big silos. 20m high, and regularly these silos are used for fermentation purposes. So, you put all kinds of waste in it and then it's going to ferment, and then you get biogas. Ok? And that's their original business.

Oh, yes... And now I remember... You can choose different processes, I would say. And there is one process that you make compost of it, and during the process fluids, moisture, is created, and that is falling on the ground. That is volatile, of fat acids [?], the apple acids... Those are soft acids. Are you familiar with that?

LUISA:

A little bit, yeah.

ELI:

Ok. You have Strong acids, that's sulfur acid or whatever. Then you have soft acids. The [inaudible] acid, let's say, for instance. And those soft acids you can feed to microbes, in things like sea containers. You know, sea containers?

LUISA:

Yeah.

ELI:

Well... In those sea containers billions and billions of microbes are living. Special types, let's say, and they eat the volatile fat acids and then they produce, in their small bodies, bioplastics, that's by origin, of course, bioplastics, because it's biologically produced. But that bioplastic is called PHA. Do you know that? PHA?

LUISA:

I know it's a kind of plastic, but that's all.

ELI:

Ok. That's PHA. And they call that because after producing it the microbes die, so at the bottom you find lots of [inaudible] or whatever pile of that microbes, and they contain bioplastics.

You have two kinds of bioplastics. First of all, they must have biological origin, and the second part of the life is the question if they degrade biologically or if they don't degrade.

PHA degrades after two months in water [inaudible] circumstances, etc. So, disappears. So, that's important.

LUISA:

It disappears completely? It's not like it breaks down?

ELI:

Yeah, yeah. It breaks down, but after two weeks you don't see it. It's gone.

LUISA:

But it's not microplastics?

ELI:

Principally, it's not microplastics, no. It dissolves.

Ok...

There is another bioplastics. That's called polyethic plastics. Probably you know it.

LUISA:

Yes.

ELI:

That comes from sugars, so that's also biological, but it doesn't degrade biologically. Those differences have to be held in the eye, because it's important. Altogether, PLA and PHA, are very small percentage of the whole market of plastics. The market of plastics is dominated... It's an enormous market that grows every year, and the market is dominated by polyethylene, etc. The famous one...

LUISA:

Yes... PET...

ELI:

Yeah. Polystyrene... Yeah... The five big ones. And they are very very dominant, and they come from fossil fuels, of course. Not biologically. And they do not degrade. So, they have much stronger [inaudible] than bioplastics. Those are the fundamentals, let's say.

And since a year, there is a green deal about plastic soup and how we can get rid of it. But I'm not the author of that green deal. A colleague of mine is the author.

LUISA:

Who is?

ELI:

I guess it's Arnoud.

LUISA:

Oh, yes.

ELI:

Do you know?

LUISA:

Yes. I talked with him Monday.

ELI:

Last Monday?

LUISA:

Yes. Like, two days ago.

ELI:

And where did you see him?

LUISA:

In The Hague.

ELI:

At the ministry?

LUISA:

Yeah. And he explained to me that they started this raw materials problem, then they moved on to plastic, and that's also how they ended up in Brazil as well. With the Olympic Games and so on. We were talking about it, and we were discussing further about the plastics itself, but he was explaining to me how the companies are trying to engage in innovation to face this problem... And apparently they are willing to try. So, that's what we were discussing two days ago.

ELI:

Ok. That's nice. So, you know that part of the story?

LUISA:

Yeah.

ELI:

Ok. Then... What parts do you want to know more about?

LUISA:

Ahn... Regarding specifically the bioplastic deal. How did it work... Who came with the idea... Was it only with this company, or more companies engaged...

ELI:

Yeah, yeah, yeah... Ok. I see what you mean. Not only Paques was involved, because you can consider Paques as a predecessor [?], let's say. But also Attero. Attero is a company specialized in collecting waste. Green waste. We are talking about...

LUISA:

Only organic.

ELI:

Yes. And green waste you have two types. The regular household type, that's called the vegetables and fruits waste. That has a low quality, because it's always a bit wet, a bit dirty, a bit contaminated with other materials, in one way or other, so... You cannot make high quality compost of it. I guess that's... In many cases it's just burned. I guess so. I am not familiar with it. Especially not... But I think it's vvery probable, because it's not high quality. That is 1.3 million tons a year, in the Netherlands. But there is also high quality green waste, that is coming from trees, parks... You know? That has a higher quality. Much higher... And that is 2.5 million tons a year. And that material can be converted into high quality compost, due to the fact that it is not very wet, let's say. And that it contains different kinds of wooden materials. Small, big, etc. And then it's important for ventilation. If you put everything on each other, it doesn't ventilate and it's just going to rot. And... So... It's a special craftsmanship to create good quality compost.

LUISA:

And they work with both of them? This company, Attero.

ELI:

Yes.

Then we included the municipality of Venlo. Do you know Venlo?

LUISA:

Yeah.

ELI:

Ok. That township voted to buy plastic bags which can be used in the household, you know? You can throw things when you are working in the kitchen. And you have waste... You can throw it.

LUISA:

That organic bag?

ELI:

Yes. And that organic bag can go with the contents into the compost factory. And then everything is ...

LUISA:

Compostable.

ELI:

Yes.

So... We have...

LUISA:

And the municipality of Venlo wanted to buy those bags?

ELI:

Yes.

LUISA:

You know why?

ELI:

Yeah... To distribute it.

LUISA:

To give for free to the population?

ELI:

More or less... An indication that the local government wants to create a sustainable city. That was more or less five years ago... And I suppose that nowadays many more local communities would like to do so. But... Until now, there is no production. Because the process was not good enough. So, the University of Delft, with professor Mark van Loosdrecht. Do you know?

LUISA:

No. Mark van?

ELI:

Loosdrecht.

Ok. He has won the Spinoza Prize in the Netherlands. That's something like the Dutch version of the Nobel Prize. For his work in this field, and he has developed the process to create bioplastic, making use of microbes, from vegetable base.

LUISA:

So, the process that you described... It was his creation?

ELI:

Yes.

LUISA:

Ok.

ELI:

So... It is important, I guess, to talk to him as well. Maybe we can talk together, I don't know... He is more or less a friend of me. But, anyhow... Those parties were involved.

LUISA:

So... It was Paques, Attero, and the municipality of Venlo, together with the national government of the Netherlands?

ELI:

Yeah. And the Technical University...

LUISA:

Ah... Also the University?

ELI:

Yeah, yeah, yeah...

LUISA:

Represented by the professor?

ELI:

Yes.

So... Altogether there were five or six partners, more or less. And at a certain moment... Oh yes... Attero was taken over, was bought, by an investment company, who only wanted to make money, and they did not want to invest in new processes. So, that cost the green deal to break out. That's it.

LUISA:

Oh... So, in the end it didn't achieve the goals.

ELI:

Yes.

The green deal was stopped without reaching the goals. But... Paques found a new partner that is also a waste collecting company. I think it's called [inaudible], or something like that. They continued the research, but I don't know the present results.

LUISA:

Ok. I can try to find something.

ELI:

Yeah...

And the person who is in charge of this development at Paques... His name is Carl Schultz. And he has created the subsidiaries in Xangay, India, and Sao Paulo. So, he is the international business developer and I'm quite sure that he knows the exact situation of that.

Then there is another thing... In Italy, about 100 companies are active in producing bioplastics, and the SRM informed the total production in Italy. This regards to bioplastics is about 100,000 tons per year. But many years ago. Five years ago, probably, I read an article about it. I don't have the article anymore... But... It is very worthwhile to look for that subject, because if that is true, that means that they have had an important development, lot of experience, and I don't know if there are other countries in Europe where also a lot of knowledge can be found about bioplastics. Maybe it is... But then you have to search for that especially.

LUISA:

And how did that deal started? Paques and the university went to the government and asked for it?

ELI:

No. I went to the university to look for new developments. I knew Mark van Loochstrech, and I asked "well... Have you ideas for important new innovations?" And then he said "yes, bioplastics from vegetables". And I asked who is active in that field, and that was Carl Schultz. And I called them, I went to them, I asked them if they were interested in a green deal, and they all said yes, we want to. And so it started and we had the cooperation with each other for a year. And then the whole thing collapsed due to the take over of Attero.

LUISA:

And the goal was to find funding?

ELI:

To create... In the framework of the Green Deal... Cooperation is created and formalized. But no funding is given. Companies can find funding in special regulations of the ministry of economic affairs. But it's their responsibility. And the goal was to create that demonstration installation. About 1.5 millions euros. So, let's say a small factory. Where bioplastic could be produced. Yeah... that was the goal. And it would be nice to reach the goal.

There is another project. The other project is called Phario. You see the resemblance with PHA... That's active in the world of water authorities. We have in Holland 22 water authorities, and they want to recover cellulose, phosphate... But also bioplastic. And the process Phario is focusing on gets the same as I explained to you. So, there are different ways leading to Rome...

LUISA:

And... At the time... before it collapsed, when the negotiation was going well, what were the main interests of Paques and Attero? To be leaders, or...?

ELI:

Yeah. First movers. Because at that moment, nothing like that was going on in the Netherlands. If they were successful with the development, they could produce bioplastic and use it for different purposes. So, maybe they could become market leaders.

LUISA:

So, that was their main interest?

ELI:

Yeah.

LUISA:

Is the deal only in Dutch or is it also available in English?

ELI:

No... It's not in English...

LUISA:

I guessed... Most of them are only in Dutch, right?

Do they still have it? Or do you know where I can find it?

ELI:

I have it.

LUISA:

Is it ok if you share with me?

ELI:

Of course.

LUISA:

Because I couldn't find the whole text.

ELI:

No?

LUISA:

No... Maybe because it's only available in Dutch, so you have to search in Dutch...

ELI:

I guess...

LUISA:

So, for me it's not as easy... I can find the English part, but the Dutch part... Sometimes it's there, but I am not able to find it.

ELI:

Yeah... But, if you don't mind, I must keep it a bit short today.

LUISA:

Yeah. Not a problem.

ELI:

You live in Maastricht?

LUISA:

Yes. Until August, yeah.

Just to close it up... have you participated in other deals regarding plastics? Or are you aware of others besides the one from Arnoud?

ELI:

Ahn... Yes... I have done the green deal resource factory. With the water authorities. In the framework of the resource factory, five resources are considered. That's cellulose, bioplastic, phosphate, bio-aisle [?]. Do you know bio-aisle?

LUISA:

No...

ELI:

That's the most important one. And methane... Biogas.

I have an article about it. Do you want to have it?

LUISA:

Yes, I would love that.

ELI:

Ok. That's not a problem. I can send it to you.

Maybe you can do this... Arnoud send you the green deal. Bioplastics from vegetable base. It's Dutch, unfortunately, but... I can give some indications what it is about. And the English paper has been published in Environmental Management. That's an journal, Environmental Management. And it was last May.

LUISA:

Ah. So, it's pretty recent.

ELI:

Yeah.

LUISA:

And it's about this green deal on resource factory?

ELI:

Yeah. It's, let's say... Building on the earlier green deal bioplastics from vegetable base. You see?

LUISA:

Yeah. And when was it signed?

ELI:

The resource factory was signed in 2014.

LUISA:

So, it's still ongoing or...?

ELI:

No... It was for 3 years, so last November it ended, but the development is going on, and on and on... And tens of millions of euros are invested every year by the different water authorities. And maybe it is interesting to talk to the innovation manager of the water authorities. I don't know, if you like...

LUISA:

Yeah, I would love that.

ELI:

Oh, really?

LUISA:

Yeah.

ELI:

Ok. So... We have two appointments... One with Mark van Loochstech, or with one of his employees, colleagues. One with the innovation manager of the water authorities. You get two documents.

LUISA:

Great. Thank you so much.

ELI:

Let's do it this way?

LUISA:

Yeah!

ELI:

Ok. Then, all the best! It's only half an hour, but I have to go now...

LUISA:

Yeah, but it helps a lot. Thank you very much for receiving me.

ELI:

Ok. See you, and we stay in contact.

LUISA:

See you. Thank you very much. Have a nice day.