

Is Your Recycling Bin Lying To You

[00:00:00] **Narrator:** From takeaway containers and coffee to-go cups to online shopping parcels, packaging is everywhere in our daily lives, and it's adding up fast. In 2021 alone, the EU generated an average of 189 kilograms of packaging waste per person. That's over 10 kilos more than the year before. That was the biggest annual increase in a decade, and nearly 32 kilos more per person than in 2011.

Here in the UK, the picture is just as concerning. In 2024, the Big Plastic Count revealed that households throw away an estimated 90 billion pieces of plastic every year, and only 17% of that is recycled domestically. Much of this waste ends up in landfill, where it contributes to greenhouse gas emissions, environmental pollution, and the ongoing depletion of natural resources.

These shocking figures make one thing clear: meaningful change has to start at the consumer level.

[00:01:03] **Niki Alexi:** My name is Niki Alexi. I'm an assistant professor at Aarhus University. I work a lot with food and also food packaging, but also shelf life of food, and in general, I'm interested in sustainability, let's say. How can we consume better or make more conscious choices, uh, dispose better our food, and help the planet in general with our choices?

[00:01:25] **Geraldine Vásquez:** My name is Geraldine Vasquez. I was working as a research, research assistant, uh, for Niki during the last few years. Now I have a different position at Aarhus University, but I, I keep working with, uh, consumer behavior and how we can change that towards a more sustainable one.

[00:01:45] **Niki Alexi:** Why reduce food packaging waste?

Because we consume food every day, it is one of the highest consumed commodities. I think if you look at stats, it's approximately one-third or sometimes even more of the, uh, waste, uh, that we produce. Um, it has an impact on our planet. Sometimes it has an impact on our health, uh, if you consider PET. Um, and, um, yeah, uh, of course, we wanna, uh, help build a more sustainable future and, and not swim, uh, in waste.

Uh, so of course, we want to, to reduce, uh, food packaging waste. We don't necessarily want to eliminate food packaging. We wanna make it more

sustainable. We wanna make it better. We ... Because if you completely reduce food packaging, there comes food waste, and that's an even bigger problem. There is quite a lot of packaging that is, these days, recyclable or reusable, but there is also a lot of packaging that is not.

Not necessarily because it's not going to be in the future, but because in a lot of cases we haven't reached what we call the critical mass. So you have, like, all these new bioplastics and, um, that we hear a lot about, and they come from renewable resources, and it's great. Uh, but, um, until they reach a critical volume, they cannot really be absorbed by our waste collection systems.

So it ends up a lot of time, uh, actually disrupting the recycling system, for example, of plastic. Reducing the waste means, first of all, that we can do a proper sorting at home. This ... Reducing the waste is, has a lot of sides. It doesn't have one side. We usually look at the consumer, poor consumer. Um, but it's much more than that.

So reducing the waste has to do with the consumer doing the proper sorting. It has to do with the supermarket or, or the retailers having the appropriate choices so the consumer can get the packaging or, or foods if they are not packed, et cetera, et cetera. It has to do with the waste collection system, um, that it actually, uh, handles this waste properly, and when it takes the waste, it can recycle or it can absorb it properly.

And it also has to do with a, with a very, very important notion, which is trust. Because all of these people and all of these actors and all of the system need to trust each other. So I need to trust that when I spend my time to sort food packaging properly into the correct container, or I take the time to rinse it or, or, or handle it properly because before that, my efforts go, uh, uh, uh, they, they are appreciated and then this gets recycled.

If this doesn't and it ends up in a landfill or even worse, then they will have starting having issues of mistrust, and this is the worst thing that can happen and the worst thing that can, um, you know, disengage consumers or, or, or actors with, uh, recycling behaviors.

[00:04:46] **Geraldine Vásquez:** One of the factors that impact the, the trust, the level of trust, uh, in consumers will be transparency.

Um, there are, there i- there are a lot of questions about if The, uh, waste management, um, uh, actors are really doing what they say they are doing, and the lack of, um, maybe transparency, the lack of reports, uh, or how this

information reaches, uh, the consumer or the household, to put it more simple. I'll say that's, that's one of the biggest.

[00:05:23] **Niki Alexi:** Trust varies depending first on the country, I have to say. Like, I, I live in Denmark. People trust in, in the government, in what they listen much more, at least much more than they trust, uh, from where I come from in Greece. So, um, I could say that, you know, getting some information from your local distributor or government, how to handle the waste, what we should do, and the system changed, and of course no one liked it, but they listened to it and they tried to do their best.

While, um, in Greece they will say a lot of times, you know, I, I go, I sort my waste, and then I see the general waste truck coming and picking up the recycling. I think another thing is very important. It's like, it's kind of like a social responsibility. I don't know how to- I was- ... to explain- I was thinking the same- Uh

the

[00:06:11] **Geraldine Vásquez:** shared responsibility.

[00:06:13] **Niki Alexi:** It, it is a shared responsibility, and it's a shared responsibility for the wellbeing of the planet, but it's also a shared responsibility for the effort another person is making at their home. So, because we have a lot of cross-contamination. When you have cross-contamination, things go, a lot of times they cannot be recycled, so someone in their homes, they may spend like an enormous time of, um, and effort, you know, sorting or doing things.

But then, uh, it goes in the same like truck or in the same bin that another person doesn't, haven't done this effort. Um, and then you talk to the authorities, for example, in Greece, and they say, "Okay, but, but the general maybe waste came and picked this up because it's cross-contaminated." But, and then the blame goes around.

So I think that it's, it needs to be a common effort, and we need to, to, uh, believe in each other and, and believe that this will bear fruits, and we are doing this for a purpose.

[00:07:13] **Narrator:** Trust is a vital piece of the puzzle when it comes to influencing consumer behavior, but it's not the only factor.

[00:07:20] **Niki Alexi:** If, uh, a packaging is not clearly labeled, if the materials are not easily separated, if the, uh, actors, uh, don't have bins everywhere, everything becomes more hard.

Um, and a sustainable choice needs to be the easy choice, otherwise it's not going to be made, and it's not going to be made because we have to do- A hundred choices each day because you are a mother at the supermarket with two children hanging from your hands and screaming something in your ears the minute that you need to make that choice because you have two hours for yourself in the evening, and these two hours need to be respected, of course.

And that was very personal because I am the mother of two children at this moment, and I go through this reality every day. But, but I, what I, I mean to say is that we put a lot of weight on the consumer, but everybody, every actor has their own weight and, and we need to work hand-in-hand changing the system, changing the choices, change, to change the consumer behavior.

Uh, so it's, it's, it, it is actually a very complex net.

[00:08:29] **Geraldine Vásquez:** Yeah. It's incredibly complex, um- Because, yeah, you can, you can put the responsibility in one- Mm ... and then the other, but there will always be such a tight interaction between all of the actors. And here I'm talking about policy, I'm talking about management in terms of municipalities, managing waste, um, that if we are not all committed to work together towards the same solution, it gets super, super difficult So,

[00:09:06] **Narrator:** yeah,

[00:09:06] **Geraldine Vásquez:** it's a matter of having everyone committed at the same time sitting on the table and looking forward to work together towards a sustainable solution for everyone.

If it's not convenient for the consumer, the consumer won't get it in the supermarket, then the supermarket doesn't have a motivation to actually invest in research for a new packaging. So it's a cycle that at some point needs to be cut, and that depends- Yeah ... on all the actors being willing to have this conversation and to collaborate.

[00:09:38] **Narrator:** But identifying these barriers was only the first step. That's where the EIT Food funded initiative InformPak, led by Nikki, comes in.

[00:09:46] **Niki Alexi:** And it started from a very, very frustrated woman standing in front of a bin in a house, um, really, really trying to find, uh, a sign of where should she sort this packaging now, and not finding it and saying to herself, "This cannot be that hard.

Why is it this hard? Why do I have to spend so much time? Should I wash this? Should I not wash this? How many resources should I put on it?" And then it was some time ago, and then I said, "Okay, maybe other people have the same problem as me. Maybe they are as frustrated as I am." Um, and then I reached out to the scientific community, and then I found a lot of frustrated people.

Um, and that is where InformPak started. Um, Geraldine, um, um, joined the frustrated team of people early on in the project. Um, we started focusing on the consumer, on, like, informing the consumer because we're saying, "Okay, if you know, you can choose better. We believe in people." So if, if, if we, if we give you a message, because the problem for me at that point as I saw the problem initially was, okay, the message is so hard to get.

So you're not giving me the information that I want or I need, and you're not giving it to me in a way that I understand it. So you need to dumb it down. You need to make it easy for me. Give me proper information. And that was the first year of the project in what we call the proof of concept, and we worked with that to understand that things are not that easy.

So of course, this is an element of that, but there comes the industry. There comes the, um, the public actor. There comes the whole network. So in the later years of the project, we worked through several, uh, pathways. We worked through the pathway of understanding the scene, giving information that is easily accessible and responds to people's, uh, m- main questions, educating the next generation because we think that's pivotal to, to change, but also engaging a lot with the food industry in order to create more sustainable solutions to make the people have more easier choices.

So it was ... We started doing a lot of things in parallel.

[00:12:03] **Geraldine Vásquez:** So just to explain a little bit about the InformPack project, just to generate it a bit, um, what we were doing was to ask people what they knew about packaging, what they wanted to know about it, and how they wanted to know. So we divided the, the project into two steps. So the first one was to try to understand where these gaps of knowledge were sitting.

And, um, y- we will say that, or I will say that in general, symbols, uh, in packaging was one of the topics that was repeating across the different countries that we saw. And there is a funny anecdote with the Tidyman. I don't know if you remember this guy on the packaging that is throwing something to a trash, uh, can.

So, uh, in one of the, uh, different workshops that were run with, um... or interviews actually that were run to experts, the question was also asked to them, what is this Tidyman s- uh, telling you? And they didn't know either because it's such a confusing symbol. So everyone was saying, "Ah, yeah, I should just put this in the normal trash," instead of thinking- Yeah

"Okay, this needs to be sorted. I need to pay attention to the packaging that I'm holding." So the problem was bigger than just the consumer. We realized that we have such a complex ecosystem of, uh, symbols that was across Europe actually, that we needed to address one of the... a, at least this topic Yeah And then we found different topics, uh, across different countries, but I'll say that symbols was something that was repeating.

[00:13:58] **Niki Alexi:** Yeah. Symbols were always there, but it... And, and as Geraldine said, uh, it's not only the problem of, uh, of consumers, it's also of experts, and I'm not talking to scientists, like experts working in packaging. And we were in a packaging summit and we asked that question. People didn't know. And they, uh, my favorite one, the Green Dot, so Tidyman and Green Dot.

A Green Dot is this, like, beautiful circle with the two arrows that looks a lot like recycling, but it's not recycling. It's not. It's not. It's just like that this company has paid some money to help with, um, packaging recovery and recycling. This is in all potato chip bags. Potato chip bags at that point is, was one of the worst, like they, they weren't recyclable.

Now, half of them are and half of them are not, but, you know, you see the symbol and everybody was saying, "Oh, yes, this should be recycled with whatever plastic." No, please no

So going back a little bit about InformPak, it was of course about what do you want to know, but also how do you want to, to get this information. So, um... And I think that was a very important point of the project. So we didn't, didn't try to just go and give, like, lots and lots and lots of information and, uh, written down to people.

Um, we asked them how they wanted to receive it, and we learned that people actually wanted videos. They wanted infographics. They wanted modeling of behaviors and short information and targeted. Um, and believe me, this was so hard to create. We are talking about a very, very complex matter, trying to get it down in an infographic like, um...

or, or a video of a one minute, try to get some reasoning into it, try to get some explanation into it, not just say, "Just do that." Um, and trying to get also the context that if you are in a one country, you may need to do that, but if you're in another country, you may need to do that. But if it's this food, it may be this, and then the other food, it may be that.

It was very hard and, uh, it, it... I think it what was what took the longest in the project. So all of these people and all of these scientists and all of these companies sitting down and trying to say, "Okay, how do we take this information, make it simple, make it understandable, make it actionable, um, and still not greenwash, not say that, uh, you know, we cut down forests to make paper," because that's not the case.

Like, uh, trees are made... So, uh, how can we create examples without actually making greenwashing and, uh, I, I learned so much of that, so much of this, this process. Um, and it worked. The other thing that worked was actually engaging with people, going to schools, um, making practical, uh, um, activities, um, making science with them, um, going and digging little holes and putting plastic in and, and papering and just, like, leaving it for one month and then going and seeing what did break down and what did not.

Because then you see, you know, plastic is not, like, biodegradable like paper is, so we shouldn't, like, introduce it into the environment all the time. It- it's going to stay there.

[00:17:19] **Geraldine Vásquez:** I would like to add that being packaging is such a complex and technical, uh, object, right? What we were trying to do was provide some basic literacy and, um, information, not to dictate the choice that you have to do, but to empower people to do or to make better choices Uh, in the range that they were available in their own context.

Because as Nikki has, has, uh, highlighted, this is highly context-dependent. So we were trying to just, uh, show, uh, what is there and how you can, again, make better choices. That, that was the whole point of the campaigns.

[00:18:16] **Niki Alexi:** We worked in person with people and with schools, uh, especially in Spain, in Poland, with universities, uh, also in Spain and in the UK. But we also did some online, um, outreach, let's say. Um, also, uh, InformPARC being a corona, uh, project starting at that period, it was all about digital approaches. Um, we had some very, very positive feedback.

Um, uh, we-- in, in, in the latest, uh, years, we actually had a repeated survey. So, like, we had, um, we had a lot of the campaigns that we created with, like, like, practical information going out to different, um, consumers in, uh, five European countries. Um, and, uh, then we, uh... actually, they were exposed to the campaigns.

We were asking them, "Are you going to do some-- Are, are you going to change the way you're behaving now?" They had the choice to say yes or no and what they will be doing. And some months after, we would, uh, repeat this questionnaire, asking them, "Now, what have you done, actually? Have you done what you said that you're going to do?"

Or, or, or it was-- Or, "If you have not, why?" Um, and I would say that, uh, in the first round, people, they were extremely positive. I think that, I think that more than 80, 85% of people in all countries said, "Yes, I'm going to do this. And it's going to be great. I'm going to change my behavior and do all of the things that you're saying or some of the things that you're saying, and it's great," and yeah.

Revisiting after a few months, um, and getting a little bit closer to the truth, uh, um, or to the reality, we still had very good results. Uh, but they very much differed by country. So, like, I think the country with the lowest rate was Denmark, uh, but were 65%. So we had, like, actually a 20% difference from the beginning, said that they did what they were-- they said that they will do.

But there were a lot of other people that said, "Okay, I couldn't." Um, but in countries like Italy, still 88% said that they implementing changes in their routines and their reality. I would say even 65% is staggering. It's, it's a big number. It's not a low number. If you can change so many people, uh, it is It, it, it is very good.

Um, and I think what is most important to say is why the people that did no change, uh, the main, one of the main reasons was I couldn't, it wasn't practical to do so. Which going back underlines again why it needs to be easy. Not only the message, but also the system, because the message of course was taken, it, it was easy, but if in my reality I cannot do this, like it takes so long.

Yeah, the, the, I, I... It's not going to be very easily implemented, I must admit

Uh, how do we move forwards? Hmm. First of all, education, education, education, education. We ... And we need to educate from an early age. When we get to the point that we are now, um, and working all of these hours that we're working, it's, it's not late, but it's hard. You don't have the time to engage, you don't

With so much information that you're receiving, I think it's very important that we have environmental education, that we have also practical education, that we give the correct modeling at, at home and at school and, and give the correct incentives, uh, for people, uh, to behave, uh, or, or to, to make conscious choices, but also to empower them that the, that they understand what the choices have an impact on.

Um, and then it's technology. I, I really like technology, but ... Because technology can make choices easier. Um, we are right now ... We just got a very big grant, um, which we are going to work with, uh, packaging, um, sustainable packaging, but how can we make packaging, sustainable packaging feel sustainable? Or how can we, by how we produce packaging, make it easier to be sorted because, oh, this feels like paper, so I'm going to throw it in paper.

I'm not going to throw it in plastic. Um, and this is very important because, um, we need to make li- uh, we need to make this process a little bit more implicit, a little bit more easy that I get this material and I don't need to, you know, um, search and turn it and question myself. I just need to easily make the choice.

So I think that for me, these two plus policy, which I'm not going to talk about policy right now, but policy can be a great motivator, right? Um, it's, it's ... I think ... Oh, it's so many things again. I, I cannot, uh, I, I, I will stop in this top three.

[00:23:27] **Geraldine Vásquez:** Yeah. Um, maybe my answer is way more idealistic, and in the long term, I don't know if it will be valid.

But for me, and I think it's my personal take on this, um, I think we need a moral change, and this moral change will have to touch the whole society. I think as long as the financial, uh- Uh, earnings are more important than the resources that we have in the planet, then we will still have a problem. So we need to find the balance between convenience, as is easy to do, but also how we are gonna manage with the limited resources that we have, and what are we gonna leave behind when we are not here anymore.

So for me, it's, it's, um, trying to maybe hu- humanize a bit, uh, the industry and the policy and the sphere of power that can bring this discussion closer to these terms, instead of how I make my business bigger at the expense of the resources that we have in the planet. I understand that, uh, yeah, we want to make, uh, businesses, uh, successful, but we have to set up a limit on where is the cost for the planet as well, and how that will affect our stay here, in a way.

I completely agree that consumers have a huge role, and educating everyone will bring a bottom-up strategy. But I would also- Yeah, exactly ... like to see a top-down, and we meet in the middle.

[00:25:11] **Niki Alexi:** I think this is a very, very big conversation because, um, yeah, change can come from, uh, bottom up or, uh, from policy and then from, uh, changing the scenery.

I, uh, but I also know that it is not easy. No. It's just not easy- No, it's not ... because it is like, it is as ever-changing scenery, and you can see it. You can see it on how, like, um, the directions also of the European Union change. So they start with reuse, and reuse is beautiful, but it's not applicable because a lot of times, you know, you, you...

There's so much energy, and there is, uh, the, it, it can only be, like, applied in small context. So at some point, it was all about reuse. Then it was all about paper packaging and, and paper packaging is brilliant, and it's be- it's the best, and it's biodegradable. But again, how many resources? And one thing that we, I, I guess, uh, we all agree on is that single-use packaging is not good.

Yeah. Uh, so um, but again, it is convenience, and it is, say, you going into a coffee shop and having forgotten, even for people that, you know, they have their own, uh, um, uh, refillable cups, they have forgotten their cup. Um, they will get, uh, the, their coffee to go. Um, and again, how many refillable cups have ended up in landfills, and they have created so much, so much waste because it became so pop to have one that in every event you're just getting a new one.

Like, you don't have, like, 10 more at home. Uh, so yeah. I think that's why I trust in the future generation. The future generation will be better, and they will become leaders, and they will become ... And they're going to, like, create pester power, and they're going to, like, change everything. Uh, uh, Geraldine, please believe in me.

[00:27:08] **Geraldine Vásquez:** I do. Uh, yeah. Uh, it's just I feel bad to put all the responsibility on these- I know ... tiny

[00:27:13] **Niki Alexi:** guys. I know.

[00:27:14] **Geraldine Vásquez:** You know? I think it's- I know,

[00:27:15] **Niki Alexi:** I know, I know. I put a lot of... Uh, and I, I don't put responsibility. I put trust. Thank you for having us, uh, here today to talk about our, uh, baby project. It was, uh, lovely.