

Transcript for #98. Exploring Europe's Ethanol Industry and Policy Landscape
David Carpintero, Director General, ePURE
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Tammy Klein (00:03):

Hi everyone. Welcome to the show today. I'm so happy to have with me David Carpintero. David is the Director General of ePURE in Europe and represents the ethanol industry in the region. So we're going to talk about the state of the industry. We're going to talk Fit for 55. We're going to talk about other policy issues, and I'm really, really excited to have him on the program today. So, David, welcome to the show.

David Carpintero (00:34):

Thank you, Tammy. It's a pleasure. Thank you for having me.

Tammy Klein (00:36):

It's my pleasure to have you. So for the listeners, I sort of gave a little teaser about ePURE, but for the listeners who aren't familiar with the organization, can you talk a little bit more about ePURE and its members and what it does and what you do?

David Carpintero (00:54):

Absolutely, Tammy. So ePURE is the association that represents the European producers of renewable ethanol. We can say we are the voice of the European ethanol industry. We, as an association, have companies which are members of the association. We have 22 producing companies which are members of the board of ePURE. And then in addition to that, we have 18 associate members. We are very public on who is our members. If you go to our website, Tammy, you can see listed everyone which is, which is a member. We are based in Brussels. We have our offices very close to the heart of Brussels close to {inaudible}. And from our offices is where we stay here as a team. We are a small team kind of dealing with the responsibility of acting as the secretariat of such an organization.

Tammy Klein (01:55):

So what is the state of the industry currently in the EU and what's the market like, in your view?

David Carpintero (02:11):

Our members have 50 biorefineries across the European Union and also the UK. Our research also includes our UK members. our install capacity in 2021, I think was a bit more than 60 billion liters. And that represents, I would say 20, around 85% of the total European ethanol production. So in this 50 biorefineries, I mean, you're familiar and understand, are very familiar with what a biorefinery does, whether the products. So we produce ethanol, actually we produced in 2021 4.4 million tons here, expressing tons of co-ethanol, but we produce even higher quantity of protein reach, food and feed. We produce 4.5 million tons. and then in addition to that, we produce around 1 million tons of some other co-products like corn oil and others. And then we captured a little bit of both one million tons of CO2, biogenic CO2. So I think we captured around close to a third of the total biogenic CO2 production in Europe in our plants.

Tammy Klein (03:40):

Wow. I did not know that actually, <laugh>. And I know a lot.

David Carpintero (03:44):

Yeah, it's quite substantial. And I'll touch at some moment if you want, in our conversation, Tammy, on the preparation that our industry in Europe has made in improving our GHG savings as a part of it. And it's been a phenomenal story.

Tammy Klein (04:00):

Yeah. Yeah. So I want to get into that a little bit later, especially as a concern, sort of like where the policies are going in Europe. But I think the first thing I want to ask you is, for many years, you know, there's been...we have E-10 in the US, we have E-10 plus actually, we're marching toward E-15, slowly but surely. And then, you know, there are higher level blends in Europe, E-25, E-27 plus. And then there are similar levels in other countries. Europe is somewhere between, what, five and 7%. Do you foresee an opportunity to bring the EU to 10 volume percent ethanol for its gasoline petrol pool, or even more?

David Carpintero (04:50):

We should already be in Europe at 10% all over Europe. amazingly there are some member states, we have not yet moved into E-10, the remaining E-5 So, I mean, if you look into most of EU member states, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Luxembourg, the Netherlands, Romania, Slovakia, Sweden, all the moved, finally this year we see progress in Ireland. And moving to E-10, we see progress in Austria is moving to 10. We see progress in Poland. I think we will move to 10 in the coming few months. Norway is not the European Union, but it's still part of Europe. And they're also moving into 10. And amazingly we see countries like my own countries, Spain, and in Italy, when I drive from Brussels down to Madrid, I feel up here in Belgium with E-10 when I cross France, I can as well with E-10 looking with some of those filling up with the 85 in France.

(06:05):

My car is not ready for 85. but some of I mean, giving the price difference because quite attractive I'm going across the border between France and Spain. It is like going to the past. I mean, <laugh>, I just see...

Tammy Klein (06:18):

I'm surprised to hear that about Spain of all countries with all of its movements.

David Carpintero (06:23):

It's very surprising that Spain is lagging in the carbonization transport so much. We are not really up to our responsibility to the carbonizing transport, especially. I hope the Spanish government will have to react at some moment. I don't know who will be in the Spanish government after the election, but I think whoever has the responsibility to manage carbon responsibilities in Spain will look at the need to also decarbonize transport. And tell me what else is better to take fossil transport than ethanol when it comes to road transport is available. Fossil transport is also socially inclusive. I mean, it is the cheapest cost per unit of CO2 abated. So I mean, it is a great tool and I hope that we'll see some progress in Spain soon with a government, whoever is in this position, and Italy as well. they're taking I think some defense on the use of biofuels at European level, but still, we don't see this in reality, the pump in Italy either.

Tammy Klein (07:50):

So I want to ask you about advanced ethanol, because when you look at it, you know, you would think that there would be much more development in the US because we have a larger gasoline pool, we have a lot of ethanol blending, it's very well established. You know, we've had

a lot of R and D going on over the years on various asserted feedstocks and technologies to produce advanced ethanol. And they still are going on. We've had a blend wall issue in my estimation that's made conventional blending until now, you know, cheaper than sort of the advanced side. Well, I always thought it was really curious to see...you would think that there would be much more going on in the US but there's actually a lot going on in Europe with advanced ethanol technologies. So can you talk a little bit more about that and how the industry is scaling up there? I think that's a really interesting sort of dichotomy and development.

David Carpintero (08:57):

Absolutely. So indeed there is a lot going on in policy proposals. So the policy direction in Europe is really trying to give I wouldn't say I'm fair, but, really all kinds of opportunities for the development of advanced which we welcome very much. We have 1G and also 2G producing members. But the reality is that the volumes which are helping fossil transport in Europe are still the crop based volumes. We don't have yet unfortunately the volumes we could be expecting at this moment there are some companies which are taking really very...I mean, instead we can place a, for example, client, the plant client in Romania.

(10:01):

So you open this wonderful plant that is going to process 250 thousand tons of wheat straw to produce 50 thousand tons of second-generation ethanol. And it is not easy. It's very complex. But forget, it was also complex when we were starting with crop-based plants. I'll, I'll tell you at some moment, but we've reached 78.4 this year. So, I mean, this is huge progress. and this is thanks to the work that has been done for more than 15 years with a lot of engineering work investments in improving the plans, improving the processes, and little by little continuously I mean if you go to our website, you can go to the annual statistics and then you can see the chart that shows the progression in GHG savings that has been obtained in average in Europe in the last 15 years. And this is a story of continuous improvement. It's a story of engineering in hard work to get to this level. and in g2 I think we will see higher volumes in the future. We expect that, but the reality is that for the moment, it is crop-based ethanol, the one that is providing the volumes needed to fossilized transport as well in Europe.

Tammy Klein (12:10):

So, can you talk about some of the biggest challenges and opportunities right now? I mean, we're, we're already beginning to hit on a few. I mean, in terms of the opportunities, you know, to reach a near 80% greenhouse gas savings, the capture of biogenic CO₂, I mean, those are really, really good stories to tell, but can you talk about what some of the other challenges are and also other opportunities?

David Carpintero (12:37):

Absolutely. So as you know, we are now in the provision of the RED2 energy directive within the framework of the Fit for 55 strategy. And in this review, we basically kind of changed the crop cap that we have here in Europe for renewal ethanol. So we are going to move into crop cap at a level at the share that we have in 2020 plus 1% with a 7% limit per member state. So at the moment, Tammy, we are, I think in an uptake of around three points I think 7% for 2022 values. I think it was quite similar in 2020. So if we add 1% to, I mean, as an increase volume to 3.5, it's around 27% additional volume of crop cap we could produce in Europe.

(13:42):

I mean, this is just an approximation because it's not a calculation per member state, but that reflects to you that the amount of additional volumes of crop-based ethanol could increase, let's say by 20%, 25%, but not much more. So at some moment, where are we going to get the

volumes needed to continue to the fossil lines transport as we move to E-10. But not only that, Tammy, as you know, in Europe, we are already talking about E-20. So the technical teams discussing the standards and organization for fuels are already kind of agreeing, for example, that very likely future E-20 will contain in Europe and octane of 98. and this work continues. So yeah, I hope that E-20 will be a reality in Europe in a few years' time.

(14:39):

So how are we going to produce all these volumes of ethanol? Is 2G going to respond to the expectations? We hope so. But at some, I probably will have to rethink the crop cap provided that we're always addressing all the needed sustainability criteria for sure. but we'll have to look into it. I remember in your last podcast with Anders (Korsgaard), you were talking about 2035, some people say it's going to be the end of the internal combustion engine, you know? So, I mean, we know that's not the how we know that's not the reality. I mean, we know what happened, to kind of the final stages, in when they needed a final end endorsement from the council This blocking minority by a number of European member states. The negotiations that the commission then at that moment opened with Germany related to the UFC fuels. But the reality is that we are still pending a definition of CO2-neutral fuel. So that is going to be kind of accepted where it's being within this definition of CO2-neutral fuel after 2035. So I think that the future of biofuels will be linked to efuels. Both will be considered without the other. I think the same way we are now probably going to develop in a few years in Europe E-20 blend, where we'll have up to 20% renewable ethanol and 80% gasoline. Probably post-2035, we will see an E-20 that will be probably up to 20% percent ethanol, but then maybe 80% maybe methanol to gasoline efuel.

(16:35):

That could be a reality. So even at some moment, the standards could even, could even apply. so I think this is probably some of the opportunities that we will open in the future, but also, and this is an important time here in Europe, we have this CO2 regulation for cars. . The one that said that after 2035, we need to get a hundred percent emission savings. But they also say that in the European Union, we need to move to, not to a pipeline, I mean to, to pipe kind of methodology. We need to move into a life cycle assessment methodology. And what we see once and again with different studies is that when you move to lifecycle assessment approaches, and if you have, for example, the pure ICE car with old fossil fuels, but also you have the plug-in hybrid working with E-85

(17:35):

let's say for example, and you have the battery-electric vehicle. The interesting thing is that now with the level of emissions of electricity, the level of emissions from producing the car and the tires producing the battery and the consumption, the vehicle along the life of the vehicle, for example, in one of the studies made in France by well-respected technological institute, if then they concluded that the life cycle emissions of the plugin hybrid with the 85 were at the same level of the battery electric vehicle. Yes. At the same level now. And that in France where they have a lot of nuclear energy, so the footprint is lower for electricity. So you get the electricity mix of the European Union, actually the plug-in hybrid is performing better than the battery electric vehicle. But the same applies, for example, in a 2040 scenario in this study. So I think things will happen in Europe where we will be able to use all different options because the challenge is so much tummy that we need to use all available options. Battery-electric vehicles are essential. And I think new internal combustion and engine approaches to powertrains where we are able to use and benefit from both biofuels and efuels will be part of how we tackle this big issue of fossilization transport.

Tammy Klein (19:14):

So it sounds to me like what you're saying is, and we're going to get into the policy environment next or sort of continue that despite the fact that under Fit for 55, there's a hundred percent CO2 removal requirement for cars going forward that CO2 regulation, which is now on its way to final approval post the protesting from Germany and <laugh>, Italy and some other countries. It sounds like what you're saying is there's really an opportunity probably I would guess in the midterm review process to maybe rethink or expand our notion of what's possible to achieve that in any new internal combustion engine vehicle that was sold pre-2035 and in the legacy fleet, which is probably going to remain substantial.

David Carpintero (20:23):

Indeed. And I think we might see some, and I hope we see some technological developments. I mentioned that the E-20 standard was now being discussed with an octane of 98, if that's possible. I would say that we will have to see some carbon manufacturers trying to take advantage of the kind of high octane value and maybe try to offer higher compression rates right here that would increase the overall efficiency and therefore sustainability. and I think that if you take all these factors into account and if we continue this excellent work has, that has been taken so far in improving the GHG savings for the European producers of renewable ethanol, we can offer solutions for citizens that work in order to the fossil needs transport. So the work needs to continue. We need to continue improving our GHG savings as an industry. This isn't what we are doing here in Europe the same way you are doing it in the US and the US you had this section study a couple of years ago on the pathway to net zero. So, I think on both sides of the Atlantic, we need to continue improving the savings and providing society with more alternatives.

Tammy Klein (21:47):

So let's get into it further with respect to the policy environment. We've been talking about some things already. First of all, do you think, based on what we were just talking about, that there is interest in openness from the Commission and from the Parliament in having those discussions? You know, are they interested in the potential blend that you mentioned, sort of an E-20 with a methanol-based sort of efuel blend. Are they looking at these kinds of things? Are they interested in having these kinds of discussions? Because it seems to me the interest has been largely on electrification, but it's kind of like, "well, we do kind of have this legacy fleet, what are we going to...not everybody's going to go out and buy an electric vehicle tomorrow," <laugh> or that everybody could and some people like their internal combustion engine vehicles.

David Carpintero (22:57):

Yes, but they're also different mobility needs, Tammy.

Tammy Klein (23:00):

Exactly. Right.

David Carpintero (23:01):

In some cases a battery-electric vehicle is an excellent solution. I mean, you have urban traffic in areas where you have multiple options to recharge.

Tammy Klein (23:15):

Exactly. Right. Right.

David Carpintero (23:18):

I mean, a battery electric vehicle is an ideal solution, but that's not always the reality. If I go to see some relatives in a remote rural area in Spain, I tell you, I think in a situation if I only have a...

Tammy Klein (23:37):

Not going to be finding any fast charging, I don't think yet...

David Carpintero (23:40):

<laugh>, no, no, not yet.

Tammy Klein (23:42):

And same story here.

David Carpintero (23:44):

And probably the range will not cover my needs. And yeah. It becomes more complex, and I mean, if it is winter and suddenly your charge capacity is dropping unexpectedly, I mean, it's not that the I situation. We have answers for those mobility needs. So I think this is part of the challenge of how policymakers are able to provide options that satisfy the different mobility needs. Some cars are private cars, some cars are part of a fleet, and they have a fleet manager. So, there are different complexities, different situations, and for that, we need different solutions. That's why I think as an industry, we need to work together with all different parties involved to make sure we deliver optimal solutions on every front.

Tammy Klein (24:38):

So what has been your members' reaction to the whole range of policies that have been proposed? And now some are finalized like the CO2 regulation under Fit for 55, particularly RED3. Do you believe at the end of the day that policymakers sort of get the contribution that ethanol can make to the sort of the whole mobility landscape like you were just talking about? So you have two reduction landscapes for mobility.

David Carpintero (25:11):

Absolutely. To me the revision of Grade 2 also called Grade 3 is bringing higher ambition when it comes to fossilizing transport. So at the moment we are at a 2021 value and basically we have to reach in 2020 the 10% value. And we had previously a target of 14%. At the moment we are at 10% in 2020 went down to nine percent in 2021. But that's because we are using multipliers. I don't know if this works with your multipliers. So that's part of some trick we have here in Europe, which is that if you are using crop-based ethanol, that counts for the volume you're replacing. But if you are using an advanced biofuel, it counts double. But if you are using renewable electricity, you know, it counts at four times the volume you're replacing. So that is a little accounting trick. But nonetheless, I mean the target that we have privileged was 14%. And the revision of two is moving it up to 29%. So if we are at the moment at 9%, 2021, 2022, 2023, and we want to go in 2030 to 29% you will say, well, is that going to be too doable? So let's see where we're coming from. But I mean, in 2010 we were below 5%. So in more than 10 years, we have just progressed from 5% to 9%, including multipliers without multiple layers. We've moved from 5% to almost 7%. And we want to reach in 2030, a target of 29% is very ambitious. So <laugh>, I think member states will have to meet remaining policies that really favor the adoption of all the available solutions, because otherwise we are not going to be able to reach these targets.

(27:49):

and there is a responsibility for member states here. I mean, they, they, they commit to this target. They also have the possibility to get a target expressed in GHG savings beyond the one on volume. And they will have to use every available technology. There is not going to be another solution here. there's going to be a legacy fleet here on the roads. and you said we need to make sure we decarbonize as much as possible the existing fleet as well. And there will also be new cars if you look at new vehicle sales in Europe. That's interesting. In 2022, new car registrations were only petrol, only gasoline, 36% of the new car sales. Diesel is still at above 16% and the 47% were divided between 12% battery electric vehicles less than 10% 9.4 hybrids, 22% normal hybrids and then others at 30%.

(29:13):

So I mean, the Europeans are still buying the classic internal combustion engine cars. And of course, if you look at the current fleet is 93% gasoline or diesel. So ethanol needs to continue to be a significant component of the solutions to the fossilized growth transport in Europe. And as I said with renewable ethanol growth base still is, it is the major kind of driver of fossilization. So it still needs to play a very significant role here in Europe as well.

Tammy Klein (30:03):

Well, David, thank you so much for coming on the show today and talking to us about the ethanol industry now and in the future in the EU. And I look forward to staying in touch and continuing to follow the work that you are doing there.

David Carpintero (30:21):

Thank you.