

CLIMATE CHANGE AND THE FOOD CHAIN

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Food sector looks beyond factory gates for deep CO₂ cuts

The European food and drink industry can boast a healthy track record in reducing its carbon footprint ahead of the COP21 conference, which opens in Paris later this month.

But climate campaigners — and industry sources alike — say a much bigger challenge will be to reduce emissions along the entire food supply chain, from farm to fork.

Industry chest-thumping on the environment has become an inevitable part of the United Nation's annual summits on climate change.

For the food and drink sector, the occasion this year was best served as an appetiser during Expo Milan, which focused on "feeding the planet".

In fairness, the achievements do sound impressive. A survey published in July by FoodDrinkEurope, the industry's main trade body, showed the sector managed to reduce its greenhouse gas emissions by 22% between 1990 and 2012. Fuel consumption was slashed by 65% during the same period, resulting in

4,168 Gg of avoided CO₂ emissions, according to stats from the European Environment Agency (EU-15 only).

Industry sources say the bulk of those cuts were achieved at the factory, by the large food and drink companies.

"These reductions come a lot from processing: improvements in energy efficiency and a move towards cleaner fuels — replacing for instance coal and heavy fuels with gas," said Pascal Gréverath, Head of Environmental Sustainability at Nestlé, and Chair of the Environmental Sustainability Committee of FoodDrinkEurope.

Other improvements included a gradual shift to renewable fuels, such as wood in processing plants and a switch to natural refrigerants for storage and transport, replacing hydrofluorocarbons (HFCs), which have a significant global warming potential.

"We can mention a third one, which is food waste," Gréverath told EurActiv in an interview, pointing out that 30% of food is wasted worldwide at different stages of the supply chain —whether in manufacturing, retail or with suppliers of agricultural raw materials.

Concerns over agricultural supplies

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The industry's achievements were not just motivated by a sudden desire to save the planet. Policy also played a role, says Lars Hoelgaard, a former deputy director at the European Commission's Directorate-General for Agriculture, who is now a senior fellow at Farm Europe, a think tank.

"Some major food companies which are energy intensive like big slaughterhouses and dairies are subject to the European Emission Trading Scheme," which puts a cap on greenhouse gas emissions at factory level, Hoelgaard told EurActiv.

By 2020, these factories will have to reduce their emissions by 20%, a target which "well on its way to be exceeded," Hoelgaard said. The target for 2030 is raised to at least 40% so food companies "will have to continue their good progress," the former official noted.

Other measures taken by industry were driven by sheer self-interest.

At Danone, for instance, production losses at each stage of the manufacturing process now represent less than 1% of the final product. This means less money spent on agricultural commodities, whose prices have been pushed upwards because of increased global demand and competition for land.

"All aspects of food security are potentially going to be affected by climate change, including food production and price stability," said Mella Frewen, Director General of FoodDrinkEurope.

"In particular, agricultural production may be hampered by extreme weather events such as droughts and storms, which may affect the long-term supply of safe, high-quality and affordable raw materials," Frewen said in introduction to the industry survey.

In fact, the agri-food sector as a whole seems genuinely worried about global warming. 86% of respondents to the survey said they were "concerned or very concerned" about the impact of climate change on their business.

Worries about climate change started dawning on the industry in the early 1990s. So the solutions implemented since then have tended to focus on the lowest hanging fruits, mainly at the processing stage where manufacturers have direct leverage.

But the biggest potential for future cuts lies outside of the factory, with suppliers of agricultural raw materials. And those could prove much harder to achieve.

Cutting food losses at the farm

According to the European Commission, the food and drink sector contributes to some 23% of global resource use, 18% of greenhouse gas emissions, and 31% of acidifying emissions.

So making sure none of the crops produced go to waste has become a top priority for the industry because it helps save the energy, water, and emissions which were generated to produce it in the first place.

Food waste or loss may happen due to a lack of storage capacity, or lack of proper transportation means, according to the Food and Agriculture Organisation (FAO). Harvested bananas that fall off a truck, for instance, are considered food loss while a carton of brown-spotted bananas thrown away by a shop is considered food waste.

"So there are losses after harvest but —even worse— sometimes before harvest. This means there is underperforming agriculture in many countries," Gréverath said.

The largest European food companies have taken a commitment to cut food waste and improve sustainability upstream in the supply chain. At Nestlé, hundreds of agronomists have been dispatched to assist farmers in the developing world—in areas like dairy, cocoa or coffee.

The Swiss food giant launched an ambitious programme to audit thousands of farmers with the objective

of having 100% of cocoa coming from sustainable sources by the end of 2015. "Nestlé doesn't own any farms but our technicians help farmers directly in the field to improve their efficiency, improve their yields and implementing sustainable farming practices," Gréverath said.

Mars Inc. also aims for 100% sustainable sourcing of cocoa, but at a later date, in 2020. Unilever, for its part, aims at 100% sustainable sourcing for all its agricultural raw materials by 2020, including palm oil, which has been blamed for deforestation.

For Gréverath, the business case for doing this is clear. "We are all facing risks of having supply challenges, which are exacerbated by climate change. So it's our responsibility towards our shareholders to identify and address this risk."

Environmental groups are no fan of Nestlé. But they do agree that agricultural losses are no longer tolerable at a time of high food price volatility and rising competition for land.

"These companies are wholly dependent on the environment, fair point," said Eve Mitchell, a campaigner at Food and Water Europe, a non-profit consumer organisation based in the US. She stresses however that efforts to cut waste will only be effective if they focus on the whole supply chain — from transport infrastructure to storage and refrigeration — in order to "ensure the maximum amount of the crop that comes out of the field makes it into somebody's mouth."

Still, Mitchell looks at any industry initiatives with a sceptical eye. "All of those things are good, but I would want to see who benefits from those improvements. Because there are more people than Nestlé involved in that field: there is the farmer, his family and the whole government infrastructure which may or may not be benefitting from the income generated."

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At the end of the day, she says “much tougher government regulation” might be necessary to police the food industry’s dealings with farmers in Europe and the developing world.

Environmental labels

Whatever the motives, Nestlé is not alone in seeking to improve sustainability in its supply chain. 82% manufacturers surveyed by FoodDrinkEurope said they were implementing a strategy to ensure the sustainable sourcing of their ingredients. And 90% said they were already working actively to reduce emissions along the food chain by working with farmers.

For food companies, one of the key incentives is to polish their image towards consumers by showing off their environmental credentials.

Over the past decade, a wide range of labels have flourished on supermarket shelves, including the European Eco-label, the Fair Trade logo, the Rainforest Alliance logo, and various carbon index schemes, which are now commonplace.

But this has also led to widespread confusion among consumers, which prompted regulators to call for greater clarity.

“Consumers faced with hundreds of different environmental labels and claims are confused and lose confidence in their credibility,” said Janez Potočnik, the EU’s former Environment Commissioner who steered the European Food Sustainable Consumption and Production Round Table, a joint initiative with industry to harmonise the way labels are elaborated.

“We want to put an end to consumers seeing inconsistent environmental information on products,” said Pekka Pesonen, Secretary General of farmers association Copa-Cogeca, when the forum was launched in 2009.

But progress since then has been sluggish.

The Round Table’s main

achievement was the publication of a global methodology for calculating the environmental footprint of food and drink products, which was formally agreed in January 2014. On the regulatory side, the executive followed up by issuing a non-binding recommendation on how to measure and communicate the environmental performance of products.

For environmental groups, this was no less than a damp squib.

To be fair, slow progress was partly justified by the sheer complexity of calculating the environmental footprint of food. The task has proved tricky because it involves measuring greenhouse gas emissions throughout the entire lifespan of a product—from farming to processing, shipment and waste. And there are other factors to consider, like the impact on water or biodiversity, which add to the complexity of harvesting reliable data.

“The challenge is to combine different environmental indicators because you cannot have just one parameter,” said Nestlé’s Gréverath who represents the food industry at the SCP Round Table with the European Commission.

“For electric appliances, it’s energy consumption—easy. But if you take food, there are more parameters: water consumption, biodiversity impact, greenhouse gas emissions. And the challenge is to combine these dimensions which are all relevant, into a simple communication tool.”

Pilots

EU regulators tried addressing the issue by launching some pilots projects to assess the environmental footprint of specific products like beer, coffee, meat, pasta or packed water. Launched in June last year, the pilots are expected to conclude in 2017 with a harmonised methodology for each product category. The Commission will then review the pilots and decide what policy conclusions

can be drawn.

Whatever methodology is eventually agreed, the debate will inevitably turn on whether to make it mandatory or not for food companies. And whether to make the information available on the pack in the form of a label.

For environmental NGOs, the answer is clear: governments should take a command-and-control approach. “The majority of labelling confusion could be avoided if the government established labelling requirements and certified that producers met the standards before the label could be used,” says Food and Water Watch.

The European Commission, for its part, has chosen a more cautious attitude, mostly because it fears implementation would be too costly for SMEs, a concern shared by Gréverath.

“This will be voluntary, I believe, not mandatory,” said the Nestlé executive, referring to the Commission recommendation, adopted in April 2013. He also warned against imposing a mandatory certification system, saying smaller food companies would not be able to afford it.

Rather, he believes some kind of grading system can be envisaged, “a little bit like you have already today for electric appliances, a grading from A, B, C to G.”

Gréverath says Nestlé ran a pilot in France two or three years ago, for its Nescafé and Nespresso coffee brands, which could serve as inspiration for a European-wide scheme. “We came up with three indicators: on water, greenhouse gas emissions and biodiversity impact. And we provided the information via a mobile phone application. Because everybody agreed this was too much information to put on the packaging.”

“In Europe, we have to see. I don’t know if it’s feasible to have one single parameter with grading from A to G.”

Nestlé executive: 'We are all facing risks of having supply challenges'

Climate change is confronting the European food sector with an unprecedented risk related to supplies of agricultural raw materials, warns Pascal Gréverath.

Pascal Gréverath is Head of Environmental Sustainability at Nestlé. He also chairs the environmental sustainability committee of FoodDrinkEurope, an industry trade group. He spoke to EurActiv's publisher and editor, Frédéric Simon.

The COP21 opens in Paris in a just a few days. The food and drink processing industry in Europe comes there with a strong track record, since it was able to reduce its carbon emissions by 22% over the past decade. In which areas were the biggest cuts achieved?

These reductions come a lot from processing: improvements in energy efficiency and a move towards cleaner fuels — replacing for instance coal and heavy fuels with gas — which reduces significantly the emission of greenhouse gases.

We've also started a switch to renewable fuels. For example, at Nestlé in France, we have just installed three new boilers using wood — coming from sustainably managed forests — replacing heavy fuel boilers. So this is how we started a shift to renewable energies in our manufacturing plants in France.

Another important element is the use of natural refrigerants. There is a commitment through the consumer goods forum, which is a global



Pascal Gréverath [Nestlé]

organisation involving many food companies and retailers, to use natural refrigerants instead of HFCs — whether ammonia, CO₂ or hydrocarbons. And so there is a commitment from this forum to phase out HFCs, which have a significant global warming potential.

So renewable energies and refrigerants are the two areas where the biggest cuts were achieved over the past decade?

We can mention a third one, which is food waste. There is an effort by industry to eliminate waste. Worldwide, 30% of food is wasted. And the issue is not only about treating waste but also saving energy, water, greenhouse gas emissions which were generated to produce this waste.

So by moving to reduce food waste along the value chain — in manufacturing but also in retail and with our suppliers — there is certainly a benefit in terms of greenhouse gas reduction without affecting the output, which is a win-win solution.

Is this waste being reused in the manufacturing process?

The first thing is to prevent waste

from happening in the first place. The ultimate objective of any food and drink company is to become zero-waste. And at Nestlé, we made a commitment that by 2020, all our sites will be zero-waste-to-landfill. We are already there in the UK and in Europe generally speaking we are well advanced. And we are not alone, other companies are doing this too.

So the first priority is to prevent waste by improving our processes, with better planning, so that everything that is produced is sold or used. Now, if waste happens to be generated, then instead of being landfilled, the waste can be reprocessed as an intermediary product — if quality criteria are met of course. Otherwise, it can be re-used for pig farming as animal feed or ultimately for land spreading — again provided that quality criteria are respected.

Looking ahead, where do you see the biggest potential for further cuts being made in the next 10-20 years?

I would see the biggest potential in the upstream supply chain, which is not necessarily in Europe.

Many food companies, including

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Nestlé, have taken a commitment to zero-deforestation, for instance. And also to cut food waste in the upstream supply chain. So that means helping our suppliers inside and outside of Europe to improve their efficiency and prevent food losses in the supply chain, which can be significant.

You mean losses happening at the farm, essentially?

Yes, exactly. And not only in Europe, which is not the most critical, although the Commission does not have clear figure at this stage. The FAO has identified losses in the supply chain in many countries of the world due to lack of storage capacity, lack of proper transportation means, etc.

So there are losses after harvest but — even worse — sometimes before harvest. This means there is underperforming agriculture in many countries. And at Nestlé, we have more than 1,000 agronomists in the field helping our suppliers in areas like dairy, cocoa and coffee. Nestlé doesn't own any farms but our technicians help farmers directly in the field to improve their efficiency, improve their yields and implementing sustainable farming practices. We have the Nescafé plan and the Cocoa plan which are exactly for that purpose. We even provide them with tree plantation help.

So that's the future: going towards no deforestation for which there are commitments. But it's not sufficient — there is a need to have the governments involved, and also smaller companies.

Are these programmes with suppliers just embryonic, or are they becoming more widespread across the industry?

It depends on the companies. Some have been working on it for a long time and I would certainly put Nestlé in that group.

But is it mainly the bigger companies doing it?

Not all of them. At Nestlé, we've been doing it for a number of years — sending our agronomists to the fields in order to improve farming practices. We have always made sure to maintain a contact with farmers for example in our dairy business. More than half of the milk we procure is procured directly from farmers because a majority of our factories are located in the production countries. Same for coffee — between 15 and 20% of the coffee we procure is directly from growers. That allows us as well to have a direct contact with them.

Other companies also have programmes, on cocoa in Africa, for instance. Because we are all facing risks of having supply challenges, which are exacerbated by climate change. The demand is booming, so it is a business challenge.

When we look at the survey made by FoodDrinkEurope, Time to Act, food companies are already working with farmers. 90% said they already work actively to reduce emissions along the food chain by working with farmers. In Europe, this is mostly the biggest companies doing this for the time being.

I saw Nestlé has been running a supply chain management programme, which includes auditing thousands of suppliers in all kinds of product categories. How much is this costing to Nestlé, and how do you justify those costs to investors and shareholders?

There is a clear risk identified for sustainability of supply. So it's our responsibility towards our shareholders to identify and address this risk.

But the costs must be high, I suppose?

This is part of the operating cost. We are a long-term oriented company,

we are going to celebrate next year our 150th anniversary and we have to anticipate potential risks affecting the future of the company. And one of them is sourcing of quality raw materials — especially coffee, cocoa and dairy because the demand is booming.

And maybe auditing is not the proper word to use in this case. It's not about assessing whether farmers are passing or failing a test. It's more about seeing whether our sustainable sourcing guidelines are properly implemented in the twelve different categories that we have identified.

So the purpose of this audit is not to select suppliers and stop doing business with those who fail but making sure they apply our requirements. And when we find it's not the case, helping them to achieve these performance levels.

After a certain time, if they still don't satisfy our requirements, we will have to stop doing business and look somewhere else. But our purpose is to help, especially smallholders, to improve their performance levels so that they can stay in business.

In the same way, all our own factories, distribution centres and head offices are certified — ISO 9000, ISO 14000, etc. All this has a cost of course but it also has a return which is an improved performance of our operations and our suppliers.

With those suppliers that don't meet the requirements, what timeframe do you give yourself to bring them in line or stop doing business with them? Is it five or ten years?

It's certainly not ten years! We audit and come back to them after one year at the latest. And if they're not there, we challenge them. Fortunately it doesn't happen so often because they realise it's in their interest, not only to continue supply Nestlé but also others.

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We don't do that to bother them. Our ambition is to help them understand potential risks like the evolution of the climate. Some farmers in coffee or cocoa or maybe a dairy farmer in Pakistan or India may not have the same access to information we have. So we share this information with them hoping they will understand it's in their best interest to adopt sustainable farming practices, not only in the interest of Nestlé. And generally, they understand.

Looking at the Nestlé website, I saw you had a target for 100% sustainable sourcing of cocoa by the end of 2015. We're approaching the end of the year, so can you say you are on track?

We will see. We cannot tell you anything now.

What is Nestlé going to do next? Are you going to adopt similar 100% sourcing targets in other areas?

Certainly, but we have not decided yet. Our objectives have been published, and they are the only ones which are publicly available.

Looking ahead, is 100% certified sourcing a target the industry should be aiming for generally?

It depends how. It's not just about certification, because there is evidence that certification eliminates mainly smallholders. So it's not only about getting a certificate. It's about creating awareness among farmers of the potential challenges they will be confronted with, and helping them address them.

So you're saying certification could even be counterproductive, by imposing bureaucratic requirements on smallholders?

If it's just certification, definitely. Now, the more assistance smallholders and SMEs will receive from companies or public services or traders, the better it is. But it has to be real assistance, not just delisting smallholders who are not compliant. This won't help.

In Columbia, for instance, the production of coffee is challenged, partly because of El Niño. And the younger generation is no longer interested in working in the farm. It's the same in Europe and Africa. The younger generation wants to live in the cities. So who's going to work in the farm of tomorrow?

Looking down the supply chain, what steps is the industry taking to reduce its environmental footprint?

Downstream, we can encourage and guide consumers but we don't have the same kind of influence as with the suppliers.

First, we provide information to consumers because they have a key role to play in this area. Several years ago, we identified there was a plethora of environmental labels. We drew these conclusions as part of the sustainable consumption and production roundtable where the food industry sits alongside the European Commission.

At the time, we found this was creating more sustainable confusion than sustainable consumption. And so we agreed on the need for a harmonised methodology to assess the environmental footprint of products.

So we first established some key principles on how to assess the environmental performance of products along the whole value chain and how to communicate this to consumers. Two years ago, this concluded with the publication of the first envi-food protocol. And this has now resulted in the Product Environmental Footprint pilots, which were launched by the European

Commission.

Almost half of the PEF pilots are related to the food sector. And I represent the food sector in the steering committee of the PEFs, because the Commission recognised we were the most advanced sector in terms of working towards a harmonised methodology for measuring environmental performance along the supply chain.

Several PEFs were launched in areas like beer, dairy, coffee, packed water, etc. How far have you gone?

It's a three-year process which started in 2014. For the time being, there are regular meetings of the steering committee. So where are we? First, pilots have been selected. As a company, Nestlé is very much involved, we participate in three pilots — on coffee, packed water and pet food.

We are certainly the company which is the most active in this project because we fully support the work towards a harmonised methodology. We believe this is absolutely necessary if we want to provide reliable information to consumers, which is also recognised by the entire European food and drink industry.

Now, the pilots are working to define the so-called product category rules. And they are starting to examine how to communicate the results to the public, which will happen next year.

When do you expect the first methodologies to be agreed? And once they are agreed, do they become industry standards?

The first methodology is the envi-food protocol. This is a harmonised framework to assess food and drink products, which has been defined by industry together with the Commission. Now, the PEF projects go beyond the

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food sector but the methodology is fully consistent with the envi-food protocol.

So the objective is that, at the end of next year (2016), PEF pilots will have established their specific sub-rules for categories. These will be tested on some products at the end of this year and communicated next year, which will complete the pilots. And then the Commission wants during one year (2017) to review this 3-year project and see what policy conclusions can be drawn.

Looking forward, could some of these methodologies become mandatory?

This will be voluntary, I believe, not mandatory. There are three objectives of this pilot: establish product category rules; clear validation processes so that figures are credible and comparable; and test communication tools.

But the outcome would be to replace the current plethora of labels with one single label, or certificate?

I wouldn't call it label because there is already an eco-label. Labels are like certification, either you're in or you're out.

Rather, we believe the benefit of the PEF quantified approach is that you can have a kind of progression level. A little bit like you have already today for electric appliances, a grading from A, B, C to G. Now, the challenge is to combine different environmental indicators because you cannot have just one parameter. For electric appliances, it's energy consumption — easy. But if you take food, there are more parameters: water consumption, biodiversity impact, greenhouse gas emissions. And the challenge is to combine these dimensions which are all relevant, into a simple communication tool.

At Nestlé, we did a pilot two or three years ago in France, for coffee — Nescafé and Nespresso. We came

up with three indicators: on water, greenhouse gas emissions and biodiversity impact. And we provided the information via a mobile phone application. Because everybody agreed this was too much information to put on the packaging. So that's what we did in France with the Proxi Produit pilot.

In Europe, we have to see. I don't know if it's feasible to have one single parameter with grading from A to G.

I understand there is no unified industry position on this, because it's early stages. But I assume consumer organisations would prefer a single label that can be placed on the pack. Is this something you would support?

On the pack, I'm not sure. Even the consumer organisations realise that it's impossible to have everything on the pack. Everybody has a smartphone and there are fantastic apps with which you can get detailed info about some products. Anyway, it's not possible to put all the information on the pack.

At Nestlé, we are not ashamed of the environmental performance of our products. On the contrary, we want to communicate the information and we want to make this known and visible to consumers. Those interested have the right to have access to this information. That's why we have a plan to put progressively on our product a square code which allows getting information, not only about the environmental performance, but also nutritional information and other social aspects related to the supply chain of a product.

You mentioned water, greenhouse gas emissions, biodiversity... Would you add any others to the list? I guess you don't want to make it too long, right?

It may vary from category to category but for food products, water is definitely the key one —you know that 70% of freshwater is used in agriculture. Greenhouse gases, of

course. And biodiversity, even though it's difficult to assess, it's an area that deserves attention. So I would stick to these three ones.

What role do you see for the retailers? Some, like Leclerc in France, have taken the initiative to show the total CO₂ footprint of consumers' shopping baskets on their receipt. What do you think of such initiatives? Is it helpful, or is it adding to the confusion?

It can indeed be perceived as confusing. But we are now in phase where we need to test. Tesco a few years ago announced they would put the carbon footprint of all their products. Now, they have abandoned this idea for many reasons.

One of the consequences we have to take into account is the cost. Because if we want to calculate the environmental footprint of every product that is put on the shelves, it will have a cost. Especially because it has to be done in an accurate way, tracking and tracing the data, the origin, etc. So I think it is not for tomorrow.

Retailers have been part of the SCP roundtable. Certainly we have to collaborate but also with the upstream supply chain because it's in our shared interest to provide clear and understandable information to consumers.

So you don't believe consumers are ready to pay more for environmentally-friendly products? The growing demand for organic shows some people are ready to do it.

Organic is growing, it's true. In our products, environmental concern is something which is mainstream. It's become part of our brand, it brings value to it. And consumers will turn to products which are not only tastier and healthier but also better for the environment.

Food giants shoot for 100% renewable energy target

Unilever and Mars were among the first household names in the food and drink industry to announce plans for a 100% shift to renewable energy.

But few of them have a specific deadline, while some still heavily rely on biomass, which is controversial, because of potential competition with food crops.

A move to cleaner fuels and measures to cut energy consumption have already enabled food and drink manufacturers to reduce carbon emissions by 22% between 1990 and 2012, according to the European Environment Agency.

In total, fuel consumption across the food and drink industry was slashed by 65% between 1990 and 2012, according to EEA figures.

Most of these reductions came from energy efficiency improvements, and a move towards cleaner fuels — replacing, for instance, coal and heavy fuels with gas, according to FoodDrinkEurope, an industry trade group.

In July this year, FoodDrinkEurope published an industry-wide survey. It found most European food manufacturers had started shifting to renewable energies, with 90% of respondents saying they were already using them.

“There is a general and accelerating move towards renewable and clean energy in agriculture and the related food industry in Europe,” says Lars Hoelgaard, a former deputy director at the European Commission’s Directorate-General for Agriculture,



[David Clarke/Flickr]

who is now a senior fellow at Farm Europe, a think tank.

The former EU official points out that these changes were partly driven by policy. “Some major food companies which are energy intensive like big slaughterhouses and dairies are subject to the European Emission Trading Scheme,” which puts a cap on greenhouse gas emissions at factory level, Hoelgaard told EurActiv.

So one way of staying within the limit was to increase use of manure and silage as biomass for the production of electricity on the farm, Hoelgaard says.

Bio-waste

Switching to renewables probably

comes more easily for the food sector than elsewhere. After all, the biological origin of by-products and waste coming from food and drink processing makes the switch more natural.

According to the European Commission, every tonne of bio-waste sent for biological treatment can deliver between 100-200 cubic meters of biogas, thereby reducing dependency on fossil fuels and cutting greenhouse gas emissions.

Lured by the potential, some companies have embarked on ambitious plans to go 100% renewable. At Mars Inc., a number of European factories are already producing biogas

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from waste water, helping to reduce emissions and energy consumption.

"We have an ambitious goal — reduce our dependence on fossil fuels and eliminate 100% of GHG emissions from our operations by 2040," said Juan Manuel Banez Romero, European Government Relations Manager at Mars.

"To do so, at our European sites, we use biogas to heat water and fuel boilers," Romero explained, saying this prevents methane from being released into the atmosphere and reduces natural gas consumption on those sites by "approximately 3% annually".

More generally, the industry is growing increasingly aware of the need to cut its energy consumption, whether directly or indirectly by cutting waste.

"The issue is not only about treating waste but also saving energy, water, greenhouse gas emissions which were generated to produce this waste" in the first place, remarked Pascal Gréverath, a Nestlé executive who chairs the sustainability committee at FoodDrinkEurope.

The first priority for food companies is to prevent waste from happening at all. But where waste is generated, it can be reprocessed as an intermediary product instead of being landfilled or burned for energy recovery.

"Otherwise, it can be re-used for pig farming as animal feed or ultimately for land spreading," Gréverath said, provided some quality criteria are met.

In the end, he says, this is "a win-win solution".

'No magic bullet'

Environmental activists are more sceptical however. They warn that bio-waste cannot be a long-term renewable energy solution.

"There is no magic bullet," said Ever Mitchell, from Food and Water Europe, a green campaign group. And although these initiatives might sound good, she says the devil often lies in the detail.

"For instance, I see mention of biofuels, which for us is unacceptable. Using food for energy is really questionable when people are hungry," Mitchell said.

The risk of misusing bioenergy is actually recognised by the industry itself. British-Dutch food giant Unilever for instance has been pushing for governments worldwide to carry out in-depth impact assessments of their bio-energy policies in order to avoid negative side-effects on the environment.

"One such risk is the potential impact of biomass energy programmes and biofuel targets, in particular on food security and sustainable agriculture," said Unilever, advising against first-generation biofuels based on vegetable oils, starch ethanol or sugar ethanol.

"The use of valuable food crops for energy purposes will increase pressure on eco-systems and biodiversity. Deforestation, particularly in the case of palm oil and soybeans, could lead to the devastation of the last remaining rainforests in Borneo and the Amazon region," Unilever said in a statement.

The warning also applies when using bio-waste for burning, which the Commission says is currently "very common" in the European Union.

"Burning food out of the waste stream is not the same thing as eliminating waste," Mitchell pointed out. "Burning waste seems a quite inefficient way of generating energy when you consider all the petrochemicals —diesel and agro-sprays —that went into producing that food."

And while the incineration of bio-waste can be carried out using the efficient cogeneration of

heat and electricity, burning also generates greenhouse gases and other pollutants such as dioxins, the Commission warns.

"So, yes, it's better than putting that waste into landfill but it can't be claimed to be a solution really," Mitchell said.

Long term switch to renewable electricity

Over time, bio-waste may become less of an issue however, as food companies gradually switch to renewable electricity.

In the US, Mars launched a gigantic wind farm project to supply its 70 production sites there with renewable energy. Called Mesquite Creek, the farm project spans 25,000 acres, or around the size of Paris.

"This makes Mars the first major food business to source all of its electricity for its US operations from renewable sources," boasts Romero, the European Government Relations Manager at Mars.

Other large food companies have similar goals. For instance, all of Unilever's manufacturing sites in Europe now purchase electricity from renewable sources, aside from those that source electricity from energy-efficient combined heat and power (CHP) plants.

In the long run, the company's goal is to rely 100% on renewable energy although it doesn't have a set date for achieving that.

Looking forward, the carbon constraint placed on the food industry is only likely to encourage renewables, says Hoelgaard, the former Commission official.

"By 2030 the reduction has to be at least 40% for the companies subject to ETS. Food companies will have to continue their good progress. It should be doable but requires an extra effort," Hoelgaard said.

Commission seeks solutions to 'confusing' Green labelled products

Adopting common methodologies to measure products' environmental footprint is part of the EU's efforts to move toward a green single market. But communicating this environmental information is a huge challenge.

The European Commission is trying to find a solution to the complexity of products' environmental performance, to address consumer concerns about the products they buy, as well as to help EU companies minimise the cost of green labelling frameworks.

Measuring the environmental footprint

The European Food Sustainable Consumption and Production (SCP) Round Table was an initiative launched in 2009 by the European Commission, and industry.

Its main goal was to establish the food chain as a major contributor to sustainable consumption and production.

On 20 November 2013, the SCP Round Table adopted the ENVIFOOD Protocol, a science-based and harmonised methodology for the environmental assessment of food and drink products.

The European Commission issued a recommendation suggesting the use of the Product Environmental Footprint method in member states' policies, in order to measure and communicate the potential environmental impact of a product.

The executive launched the



Karmenu Vella [European Parliament/Flickr]

Environmental Footprint Pilot Phase for the period 2013-2016, where more than 280 organizations and almost 10,000 stakeholders are participating.

Its main objective is to come up with a harmonized methodology for each food product category, reflecting the various parameters that affect the environmental footprint.

Speaking in the mid-term conference on the Environmental Footprint pilot phase organized by the Commission's DG Environment in Brussels (3 November), the European Commissioner for Environment, Maritime Affairs and Fisheries, Karmenu Vella, said that the task was not easy.

"This is the first time that anyone has created a tool that can help us to compare similar products, based on their environmental performance, through the value chain," he noted.

Towards a Green single market

"We want the pilot phase of the Environmental Footprint to be a great success," the Commissioner said, adding that it could make a significant contribution to the transition to a Circular Economy, a priority initiative of the EU executive.

"It could aim, for example, to facilitate reuse and recycling, while minimizing impacts throughout the whole life-cycle- what could be called design for circularity," Karmenu noted.

In late 2015, the Commission will present a new, more ambitious circular economy strategy aiming at transforming Europe into a more competitive resource-efficient economy, addressing a range of economic sectors, including waste.

Vella said that on the way towards a circular economy, the EU needed a single market "in which products are green [...] and it's easy to demonstrate a product's environmental performance".

"It should be easy to compare products, with a common methodology for measuring that performance," he added.

But for the Commissioner, the environmental footprint also reflects the 2030 Agenda for Sustainable Development, adopted at the end of September, in New York.

"If you look at the text itself, you can see that world leaders have made an explicit commitment to giving people the relevant information and awareness for sustainable development and lifestyles in harmony with nature," he noted.

The communication challenge

Today, EU companies wishing to indicate the environmental performance of their products, face a number of hindrances mainly due to the wide range of existing labels.

Member states have adopted several

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methods to measure and communicate the environmental impact of the products, making it costly and practically difficult for the companies to adjust and promote their green products in the single market.

From the companies' perspective, the cost to adjust to the different methods in order to prove a product's green credentials is high, and this questions the proper circulation of green products in the EU market.

The European Commission believes that having a common method could significantly reduce the cost for the companies.

"What is causing extra cost now, is that due to the many methods used, companies in the supply chain might be asked the same data in different formats, calculated in different ways", Dr Michele Galatola from the Commission's DG Environment told EurActiv.

The different measurement methods, though, are not only a problem for the business sector.

According to Eurobarometer surveys, 48 % of EU consumers are confused by the stream of incomparable and diverse environmental information they receive when they purchase green products.

Despite that confusion, four out of five EU consumers buy environment-friendly products "at least sometimes", but nearly half of them don't fully trust the environmental claims.

On the other hand, only 55% of EU citizens feel informed about the environmental impacts of the products they buy and use, with 14% claiming that "they know a lot", and 41% saying they are aware of the most significant impacts.

The PEF communication is, therefore, a huge challenge for the stakeholders who want to help EU consumers as well as businesses.

For the Commission, communicating the environmental footprint of a product with a label is a solution among others, but it is not "necessarily the best for all products".

Galatola told EurActiv that there were many different communication vehicles that could be used to convey this information and the most appropriate vehicle changes with the typology of product and the targeted stakeholder.

He added that during the pilot phase industries were testing several approaches in order to identify those that could work best.

"The companies will also test how far consumers are able to understand PEF information and many of them will go through an exercise of explaining PEF to consumers and in Business-to-Business settings," he noted.

He continued, saying that 70-80% of the benefits in implementing the PEF come from the way one will be able to better design products and manage the supply chain.

"We think there is currently too much focus on consumers and labelling only," he underlined.

"It is important to keep in mind that PEF is a tool, not a policy. We rather see it as the possibility to build an internal consistent knowledge base that could then feed either existing policies or new ones," Galatola stressed.

The "French experiment"

France's Ministry of Ecology tried to test consumers' behavior by making an "environmental labeling experiment", in which 168 companies and organizations participated from July 2011 to July 2012.

The survey showed that consumers wanted a generalized environmental information framework while they rejected the too many types of green labeling.

Presenting the conclusions of the survey as well as the proposals of a working group on the format (2014-2015) to the mid-term conference in Brussels, Alexandra Bonnet said that the standardization of PEF methodology and communication ensures that information is "understandable, comparable, trustworthy and robust as it's based on

scientific ground".

"It is important to communicate at the consumer's level in order to give to this process its best potential effectiveness and because consumers asked for it," she said, adding that a right balance between comprehensive and simple information is needed.

She underlined that it was the role of the public authorities to standardize the format of communication but emphasized that they should work together with the stakeholders.

Bonnet also stressed that a visual and recognizable "signature" was required for credibility as well as immediate identification.

The Internet is the best way

Luigi Cristiano Laurenza, Secretary General of the Union of Organisations of Manufactures of Pasta Products of the EU (UN.A.F.P.A) which is a member of FoodDrinkEurope, told EurActiv that communicating the environmental footprint with a label is not the best solution and prefers instead the use of the internet.

"We deem that a label on the pack may not be the best solution since the environmental performance of a product is not a simple concept that can be expressed in labels", he stressed, adding that various factors should be taken into account and clarified to the consumers.

"Labels may be not transparent and useful enough to deliver this kind of message", he noted.

He continued, saying that the internet and new media could be the best way to deal with these themes as "they allow giving further information to consumers that are really interested in sustainability".

According to Laurenza, a life cycle analysis of pasta shows that from farm to table, the environmental impact of pasta is quite low, and some pasta producers already measure and communicate the environmental impacts through voluntary certification schemes.

Food industry focuses on sustainable sourcing to mitigate climate change

Faced with a raw materials scarcity due to climate change, food and drink giants have turned to a sustainable management in order to protect the environment and ensure their future viability.

The global population is expected to rise from 7.3 billion today to 9.7 billion in 2050, according to UN projections.

As a consequence, according to a survey published in July by FoodDrinkEurope, this will require a 60% increase in food supplies globally, as well as a 30% rise in global demand for water for agriculture.

A report of the Intergovernmental Panel on Climate Change for 2014 has warned that the climate change will eventually affect "all aspects of the food security", including food production and price stability.

"Global temperature increases of 4°C or more above late-20th-century levels, combined with increasing food demand, would pose large risks to food security globally and regionally," the report warns.

The food and beverage industry is the world's biggest purchaser of agricultural raw materials, and the impact of the climate change jeopardizes its future viability.

In the light of the industry risk due to climate change and increasing pressure on natural resources, the food and drink industry is increasingly focusing on the primary stages of the supply chain.

Sustainable sourcing



Valley farm. West Wratting, United Kingdom [Andrew Stawarz/Flickr]

The sustainable sourcing of raw materials is considered to be a critical phase at the beginning of the economic cycle.

Many food industries have set up partnerships with farmers aiming to ensure the sustainable sourcing of their raw materials, taking at the same time full account of environmental, social and economic considerations.

According to FoodDrinkEurope's data, 82% of its food and drink manufacturers are implementing a strategy to ensure the sustainable sourcing of their ingredients.

As part of that strategy, actions include encouraging their agricultural suppliers to undertake sustainable agricultural management practices in order to try to mitigate climate change, researching and developing more resilient raw materials, and working with smallholder farmers.

In addition, a significant part of these partnerships are the evaluation and systematic monitoring of farming practices based on environmental, social and economic criteria.

Several food giants have launched their own sustainable farming initiatives which are considered a "win-win" game for the food industry, the environment and small farmers.

Kellogg is committed to supporting to 15,000 smallholder rice growers across the world by 2020, while Pepsico is using its own programmes to help farmers in Belgium, the Netherlands, France and Germany to step up the use of organic fertilizers.

Ambitious objectives

For Unilever, a British-Dutch multinational corporation and one of the world's leading suppliers of Food, Home and Personal Care products, the sustainable sourcing of raw materials is vital for its future, and has set ambitious goals on this purpose by 2020.

The company has set a quite ambitious target to source 100% of agricultural raw materials sustainably by 2020 (10% by 2010; 30% by 2012; 50% by 2015).

"55% of our agricultural raw materials are now from sustainable sources, up from 14% in 2010," Freek Bracke, Corporate Communications Manager Unilever Benelux told EurActiv.

Bracke continued, saying that approximately 800,000 smallholders had engaged with the agricultural raw materials strategy of the company.

"By working with our agricultural suppliers and other partners, we have helped around 800,000 smallholder farmers gain access to training and support," he noted.

Unilever is highly dependent on raw materials. It is one of the biggest buyers of black tea (12% of global production volume), tomatoes for processing (3%) and palm oil (3%).

In addition, by the end of 2014, 96% of Knorr's top 13 vegetables and herbs were sustainably grown, with carrots, peas, potatoes and tomatoes reaching

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100% in the EU, the company states on its website.

Bracke noted that the company had a number of tools in place to help its suppliers and farmer's source sustainably and it relies on its suppliers "self-assessment".

"These include working with software developer Muddy Boots to implement our Sustainable Agriculture Code (SAC) and with Control Union to provide training. For some of our crop suppliers, we are using Greenlight, a software tool that enables our suppliers to carry out self-assessment," he said.

In order to ensure the proper implementation of the environment-friendly standards, the company relies on the suppliers' self-assessment.

With every crop cycle, farmers and suppliers perform a self-assessment of their operations against the requirements of the Unilever Sustainable Agriculture Code.

After that, through an independent verifier, the company checks whether these self-assessments are robust and credible.

"In addition to this process for self-assessment against our SAC, we also rely on the certification of suppliers who use sustainability standards such as those of the Rainforest Alliance, the Roundtable on Sustainable Palm Oil or the Round Table on Responsible Soy," he added.

Certification: Not an end goal

Bracker told EurActiv that certification is one way of helping to improve the livelihoods of smallholder farmers, and could play an important role in capacity building in agricultural supply chains.

But this is not the ultimate goal, he noted.

"However, verification and certification are not end goals in themselves. The real challenge is to show the positive impacts that sustainability can have on the lives of farmers, their communities and the environment.

We need to communicate the value of sustainable sourcing to consumers. In doing so, we will influence their buying habits towards sustainably sourced products."

Pascal Gréverath, Head of Environmental Sustainability at Nestlé, shares this view.

In a recent interview with EurActiv, he stressed that it was not only about getting a certificate.

"It's about creating awareness among farmers of the potential challenges they will be confronted with and helping them address them."

Special focus on biodiversity

Protecting biodiversity is central to its Sustainable Sourcing Programme, according to Unilever.

The Code has a specific chapter devoted to biodiversity. This encompasses both functional aspects (ecosystem services) and the protection of rare and vulnerable species and ecosystems on and around farms.

"We have found that many of our suppliers and their farmers have no experience of working directly on biodiversity or in partnership with conservation organizations. They are often unsure of how to start or how much work will be needed to make a significant impact", the company claims and adds that the implementation of the Code by the farmers involves "a commitment to identify, and act on, local biodiversity and/or ecosystem services issues".

A recent Eurobarometer survey showed that the vast majority of EU citizens are deeply concerned about the effects of biodiversity loss.

At least eight out of ten Europeans consider the various effects of it to be serious, while 55% of them think this is a serious issue in the local area where they live.

More than three-quarters of Europeans believe that mankind has a responsibility to look after nature and that it is important to stop biodiversity loss.

More than half of EU citizens agree that biodiversity and nature are important for long-term economic development (56%).

Most Europeans might have heard the word "biodiversity" (60%) but just half of them know what it means.

The new "greener" Common Agricultural Policy focuses on the biodiversity challenge and the sustainable use of natural resources.

Daniel Rosario, a spokesperson for Agriculture and Rural Development, recently told EurActiv that the new Common Agricultural Policy offers a number of instruments to find adequate answers to the challenges of climate change, and to a more sustainable EU agriculture.

"Sustainable management of natural resources and climate action represent one of the three main objectives of the CAP," he said.

"Looking across the 28 member states, a total of €25.3 billion from the EU budget for rural development has been earmarked to actions that have a positive impact on biodiversity and around 20% of all farm land in the EU will be under management contract to improve or preserve biodiversity," he added.

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