

ANNUAL REPORT 2019

INFINITUM



Infinitum owns and manages the Norwegian deposit return scheme (DRS). Our aim is for all DRS-labelled bottles and cans to be returned. We are working to make the return process itself both efficient and environmentally friendly. Our ambition is for all bottles and cans to be recycled and turned into new high-quality products.

The deposit return scheme has a significant impact on the environment. In 2019 almost 90 percent of all cans and bottles were returned. All returns are recycled, and Norway is a role model for other countries.

Choosing products with the DRS label and returning all drink containers is one of the easiest and most important things we can all do for the environment, as valuable materials are reused time and again.

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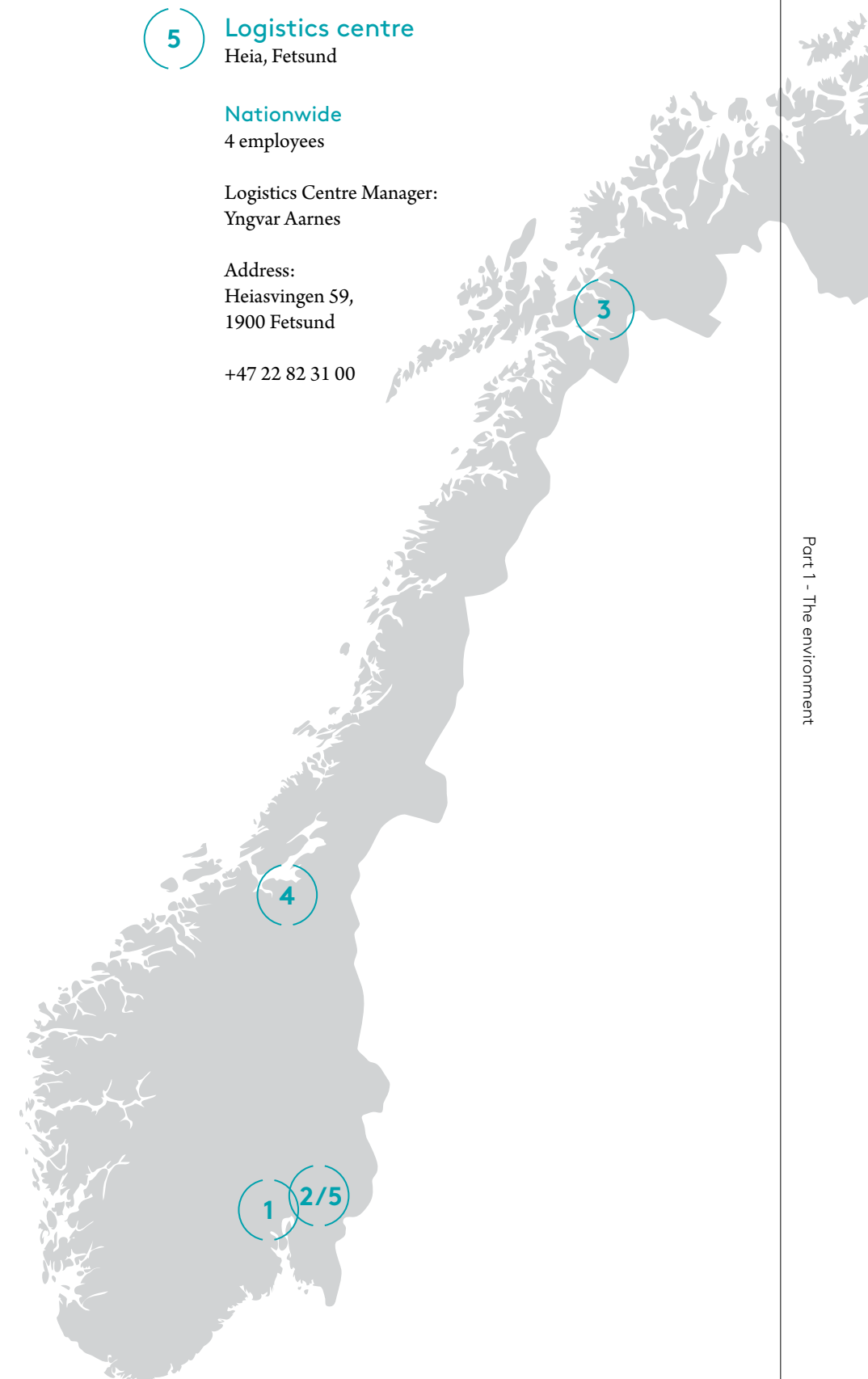
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Part 1:

The environment

WE MUST USE OUR RESOURCES WISELY

Every year we use more resources than the planet can regenerate. In 2019 we had spent all the available resources by 29 July, also known as Earth Overshoot Day. We are consuming the resources almost twice as fast as the planet can regenerate them, and Earth Overshoot Day comes earlier and earlier every year.

My grandma never let food or other resources go to waste. She kept, reused and repaired things. Conserving resources and using them as efficiently as possible came naturally to her. It was also financially necessary. Our generation has lost this inherent inclination to spend our resources wisely. Earth Overshoot Day, climate change and the loss of biodiversity are telling us that we need to rediscover it.

Infinitum is seeing the world's highest deposit return rates, and all returned bottles and cans are recycled. This is good resource management. Infinitum also operates the most resource-efficient deposit return system in the world. We think savings every step of the way. One example of this is the way in which we always use spare transport capacity. Lorries that would otherwise be driving empty are loaded up with compressed cans and bottles, thus exploiting the available resources and easing pressure on the environment.

In 2019 we celebrated the 20th anniversary of the current deposit return scheme. It was also the year in

which we achieved our target return rate of 90 percent and a documented collection rate of 95 percent – a whole ten years before the new EU recycling legislation comes into force. The reason for the high return rate is Norway's environmental levy, which gives everyone an economic incentive to return bottles and cans. A unique partnership between breweries and retailers allows us to meet the EU targets while making everyone better off. That is worth celebrating, although we still need to do more. The aim is for all bottles and cans to be returned. Every bottle and can is a resource that must be reused.

The EU has also imposed another rule on drinks packaging. Drinks bottles must contain 30 percent recycled plastic by 2030. Norwegian breweries have set the bar high when it comes to using recycled plastic. By launching bottles containing 100 percent recycled plastic they have shown that it can be done. Infinitum is now investing in a new recycling plant for PET bottles next door to our production plant in Heia in Fetsund. This will allow Norwegian drinks manufacturers to buy Norwegian recycled PET from 2020. It is an important new step for the resource-efficient circular model for drinks bottles in Norway.

This is an incredible story about an industry that is taking its responsibilities seriously. There is just one catch. It is still cheaper to buy new

plastic than recycled plastic. That makes it difficult to achieve the 30 percent target by the stipulated deadline. The politicians need to offer incentives to boost the use of recycled plastic instead of imposing punitive flat levies. We hope that the government will create good framework conditions for sensible resource management when it publishes its promised strategy for the circular economy. What came naturally to my grandma must become the new norm – but it needs to be economically rewarding.


Kjell Olav A. Maldum
Managing Director





Standing up for plastic

“We have a finite amount of resources to solve the problems we humans have created. It is therefore crucial that we focus our attention on the solutions that can actually make a difference.”

Thor Kamfjord
Director of Sustainable Development, Norner

“It’s not that I love plastic. I love smart solutions, and plastic is often the smartest solution – including for the climate and the environment.” Thor Kamfjord, Director of Sustainable Development at Norner, is happy to talk up plastic in an environmental context, and he does not shy away from pointing the finger at consumers, politicians and industry.

Photo: Katrine Lunke, Apeland

“Plastic offers a number of environmental benefits thanks to its properties. Plastic packaging also provides excellent protection with minimal use of resources and materials. It is safe in contact with food and drink, and it significantly cuts energy and transport costs because of its low weight. It is also cheap, although that poses a challenge in itself. Plastic waste is currently undervalued,” says Thor Kamfjord, Director of Sustainable Development at research and consultancy firm Norner AS.

Consumers must take responsibility

Kamfjord stresses that the problem is that plastic is emotionally undervalued by consumers rather than having low industrial value.

“We keep the things that we love, but few people are fond of plastic. That is understandable in light of the pollution problems that plastic creates and the ‘extra work’ we create for ourselves when we go on a shopping spree and are left with the spent packaging. We often feel strongly about our mobile phones, about food and drink, but we are unable to see the link between the role of plastic and the pleasure we consumers derive from these products. Buying something brings responsibility, and we must accept that consumer responsibility. The additional work involved in holding on to the plastic packaging must be part of the sales contract we agree to when we decide to buy,” Kamfjord says.

In 2017, Norwegian households and businesses used more than 200,000 tonnes of plastic packaging. Only just over 30 percent of it was recycled.

“After use the plastic has negative value for the consumer. We need to do something about that. For example, a brand new electric BMW i3 is packed full of recycled materials, including recycled plastic. We must tell consumers that

plastic packaging has value – before, during and after use – and that we have an industry that can build new, good products from recycled plastic. That might make us more inclined to sort our waste,” Kamfjord says.

Extended environmental responsibilities

Norway enjoys a high standard of living, and compared to other countries we have good systems in place for collecting waste. Such infrastructure is missing in many countries. That is why in the past two years Infinitum has welcomed delegations from more than 30 countries which have identified our deposit return scheme as part of the solution to the plastic problem. Kamfjord is keen for each and every one of us to make a contribution and stresses that it is absolutely not the case that Norway has no litter problem.

“If we turn the clock forward a couple of decades, I hope to see many countries resembling Norway in terms of infrastructure and prosperity. In many countries litter is strongly linked to poverty, and as a rich country we therefore have a responsibility for implementing infrastructure, technology and attitude change to solve the problems in the rest of the world. But we must also understand why and stop ourselves – who ‘have everything’ – from littering,” Kamfjord says.

Norwegian environmental policy is based on the principle that the polluter pays, but Kamfjord brings up several examples of it not being policed.

“Every morning local authorities have to clear up parks and streets because those of us who use them drop litter. We cannot continue to spend our shared resources on clearing up after each other. Littering has major, quantifiable, negative consequences, but nobody gets caught. We need a clear signal from society that this type of behaviour

is unacceptable. You could also envisage industries such as fisheries and tourism taking greater corporate responsibility. For instance, passengers on board cruise ships in exotic waters leave their rubbish behind on the islands they visit. These are islands without any form of waste disposal system, and we all know what ultimately happens to the plastic.”

“This is about human behaviour, our conduct and our attitudes. Each and every one of us must take responsibility for the things we consume and what we leave behind. The best way to use less plastic and fewer resources is to say no thank you to the product in the first place. The climate and carbon footprint of the product is many times greater than the packaging. We must keep our shopping instinct in check and at least take responsibility for the consequences of our consumption. The littering and consumption problems we are seeing today will only increase unless we act now,” Kamfjord concludes.

Global plastic use set to increase

Plastic consumption in our part of the world stands at 130 kg per person per year. A person living in Asia and Africa uses less than 40 kg per year.

“In Norway we can certainly use less plastic, but global plastic consumption will increase in the future,” Kamfjord asserts. “Much of the increase will be due to improved standards of living. It will be important to manage our resources better and, as an example, to package food in order to prevent food waste. Very often it is in the interest of the climate that plastic is used to protect food products that require significant resources to produce. Currently, 25 percent of all food produced in the world is thrown away because it is not packaged. Yet we must also protect our resources in a way that requires as little energy as possible. That makes plastic very important thanks to

its recyclable properties. In-depth environmental and life cycle analyses show that the alternatives to plastic are often poorer alternatives. If there is one thing we need to avoid, it is further negative climate and environmental impacts.”

Kamfjord points out that the world is facing a number of major challenges. One is plastic pollution. Another is climate change. Climate change is the greater challenge of the two and, ironically, the sensible use of plastic can be part of the solution to the climate change challenge, he believes.

“We have a finite amount of resources to solve the problems we humans have created. It is therefore crucial that we focus our attention on the real problems and on solutions that can actually make a difference. Take microplastics, for example. The main source of microplastics is decomposing plastic in nature. The EU has reviewed existing research on microplastics and concluded that microplastics are not a significant threat to human health and the environment at present, but that they will become one if we continue to throw away plastic. The obvious solution would then be to stop littering and find renewable solutions to turn plastic into a resource to prevent it from going astray,” Kamfjord says.

Circular value creation

The circular economy for waste is also largely about value creation, and that is one of the reasons why the EU has pushed through its circular economy package in record time. One of the initiatives now being considered in order to meet the recycling targets is so-called eco-modulation, or eco-modulated fees. In short, eco-modulation is a pricing mechanism that sees recyclable and environmentally-friendly materials attract lower fees or levies than materials which are less eco-friendly and less suited to recycling. Kamfjord believes that Infinitum’s proposal for



the differentiated levy on plastic is right and in line with what is now happening in Europe.

“It will be more expensive to use virgin materials not designed for recycling. The challenge today is the cost difference between virgin and recycled plastic. We need to compensate for this difference in the market to ensure that the plastic enters a circular loop and is reused. This is a cost we need to shoulder in order to create a circular economy,” Kamfjord insists.

“Price and quality are the two factors currently preventing greater use of recycled materials. We have to create a closed circle, because that would solve the problem of inferior quality. PET bottles are in a unique position with their controlled material flow. Closing this circle is low-hanging fruit. Then it is just a matter of price. We have to ensure that failing to be sustain-

able comes at an economic cost by changing the competitive relationship between virgin and recycled plastic just as Infinitum has suggested,” says Kamfjord.

Better users and more conscious consumers

“The transition to a circular economy for plastic will fail if we do not get consumers on board,” Kamfjord maintains. “All plastic must be collected, and what can be reused must be recycled.”

Last year Coca-Cola launched the campaign “Don’t buy Coca-Cola if you’re not going to help us recycle.”

“That’s the way to go! We have to raise awareness and acquire knowledge to help us work out how to behave. I hope we will see similar campaigns in Norway. We have to become better users and more conscious consumers,” Kamfjord concludes.



Holger Schlaupitz (left) and Joakim Sandvik Gulliksen from Friends of the Earth Norway say it is difficult to increase recycling rates for plastic packaging as long as the supply of new and cheap plastic continues to increase.

It should pay off to recycle

“Although we are very good at collecting plastic in Norway, the plastic bottles being produced are almost exclusively made from new plastic.”

Holger Schlaupitz
Friends of the Earth Norway

The EU has introduced rules on the collection, recycling and use of recycled materials. “We are glad that Norway has a deposit return scheme. Many people in European countries without such schemes worry about how they will be able to meet the EU criteria,” says consultant Joakim Sandvik Gulliksen at Friends of the Earth Norway.

Photo: Katrine Lunke, Apeland



Holger Schlaupitz, Head of Nature and Climate at Friends of the Earth Norway.

The EU's circular economy action plan stipulates that 77 percent of all plastic bottles must be collected by 2025 and 90 percent by 2029. All collected bottles must be recycled.

"Norway has a high collection rate, but it needs to be increased further. Norwegians are good at returning their bottles, but too many of them still end up in nature or in the ocean," says Holger Schlaupitz, Head of Nature and Climate at Friends of the Earth Norway.

Friends of the Earth Norway is concerned with how we can collect as much plastic as possible and what happens to it after collection. Joakim Sandvik Gulliksen and Holger Schlaupitz are both involved in this process. Sandvik Gulliksen is in frequent contact with environmental groups in European countries that do not have deposit return schemes.

"Environmental organisations in France are working hard to implement a deposit return scheme but are facing resistance from the industry. The organisations are worried about how they can meet the 90 percent target without a return scheme," says Joakim Sandvik Gulliksen.

Too much new plastic

The EU action plan also includes targets for recycling materials, and it has been decided that plastic bottles must be made from at least 25 percent recycled plastic by 2025 and 30 percent by 2030.

"Although we are very good at collecting plastic in Norway, the plastic bottles being produced are almost exclusively made from new plastic. It is also a major global problem. It must become more expensive to use new resources, and there must be financial rewards for using recycled resources. We therefore support Infinitum's call for a change to the tax regime. It must pay off to use recycled materials, otherwise we will not be able to recycle enough," says Holger Schlaupitz.

Infinitum wants to change the existing levy on drinks packaging to a differentiated levy so that plastic bottle manufacturers pay less as the recycled plastic content increases.

"Excessive use of new resources doesn't just happen with plastic, but it's a good place to start effecting change since we already have a good collection system for it. The system can be tweaked by increasing some levies and reducing others," Joakim Sandvik Gulliksen adds.

Higher collection rates with levies

Friends of the Earth Norway believes that a levy that works as intended can generate even more trust in the deposit return scheme which, in turn, will increase collection rates.

"When people think about recycling they often think 'like for like' – that the bottle they return is turned into a new bottle. If the levy that Infinitum wishes to introduce can help make that happen in practice, we think it will also have an educational impact that can make even more people return their bottles and cans," says Joakim Sandvik Gulliksen.

In order for packaging manufacturers to start using more recycled materials, something also needs to be done on the supply side, according to Friends of the Earth Norway.

"We want to scale back Norwegian oil production over a period of 20 years. We are therefore anxious that plastic does not come to be seen as the 'saviour' of the oil industry when less oil is being used for transportation. The argument that we need to pump up oil and gas in order to make plastic packaging does not stand up. The industry that manufactures new plastic continues to grow, and it has to be stopped before more factories are built in order to

supply cheap and new plastic," Holger Schlaupitz insists.

Transparency on costs

Friends of the Earth Norway believes it is difficult to boost recycling rates for plastic packaging as much as necessary as long as the supply of new and cheap plastic continues to increase.

"New plastic is promoted as being cheap, but not all of the cost is disclosed. The cost of clearing up plastic that ends up outside the cycle – in nature – is not reflected. The same is true for the costs involved if we run out of resources in the next century. Oil is inexpensive because someone else is picking up the bill, and that could be nature or the climate," says Joakim Sandvik Gulliksen.

The responsibility rests with the authorities, according to Friends of the Earth Norway, and they need to change the framework conditions.

"As an example, the Norwegian authorities must introduce a ban on single-use

plastic like the EU has done. We also have to do our bit as individuals and not litter. The authorities must help us to be eco-conscious consumers and introduce producer responsibility schemes. The levy that Infinitum wants – and which will hopefully be implemented – can be a model for producer responsibility schemes for other packaging," Holger Schlaupitz suggests.



Joakim Sandvik Gulliksen, consultant at Friends of the Earth Norway.

REDUCING AND RECYCLING PLASTIC PACKAGING

“I bet the world will look very different when we take stock of plastic packaging in five years’ time. This is about cutting unnecessary plastic, using recycled raw materials and designing for recycling. If we succeed in this, we will meet the EU target,” says Jaana Røine, CEO of Grønt Punkt Norge.

Photo: Katrine Lunke, Apeland

The EU target for recycling plastic packaging is 50 percent by 2025. In 2019 Grønt Punkt Norge launched its Plastic Promise in which participating companies commit to reducing plastic use, designing their packaging so that it can be reused, and buying recycled plastic. Once a year the member companies report to Grønt Punkt Norge which, in turn, reports on waste prevention in the industry to the authorities.

“The Plastic Promise has proved very successful. The member companies have set themselves ambitious targets and actively participate in seminars where we share experiences and in developing and testing new, innovative packaging solutions,” says Røine.

Manufacturers are taking responsibility

Grønt Punkt Norge funds return schemes for plastic, metal and glass packaging as well as cardboard boxes, drinks cartons and corrugated cardboard. The company also runs the recycling scheme for plastic packaging, cardboard boxes and drinks cartons. Røine believes it is possible to reach the EU’s recycling target and has noted that the member companies are taking responsibility.

“In order to increase the use of recycled materials, it is important to design the packaging so that it is easy to both sort

and recycle. This is part of the statutory producer responsibility. It is also important to remind consumers and businesses to sort their waste so that most of it can be recycled,” Røine says.

Kicking off the recycling industry

When China decided to stop importing plastic waste in 2019 it sparked a waste management crisis in the rest of the world. China had been accepting waste since waste sorting and recycling were introduced in earnest in Europe in the early 1990s.

Despite continued undercapacity in the market, Grønt Punkt Norge has robust contracts in place for the next two years. The growing need for waste disposal capacity also means that several new sorting and recycling plants for plastic are set to open in the next couple of years in addition to Infinitum’s new plant for plastic bottles.

“It was not good that China shut its doors overnight. At the same time it has resulted in rapid development and expansion in the European plastic recycling industry,” says Røine.

Political instruments are needed

Infinitum and Grønt Punkt Norge are key players in developing the circular

economy, and the co-operation and dialogue between the two firms have been very good right from the start.

“We share Infinitum’s view that products made from recycled materials should be given incentives. We need political instruments to meet the recycling targets by the deadline,” says Røine.

Quality is key to increased recycling

The EU’s plastic strategy for increasing recycling rates includes a call for differentiated fees linked to the product’s suitability for recycling. Grønt Punkt Norge is in the process of developing a recycling calculator for its members in order to ascertain how the choice of material impacts the recyclability of the packaging.

“We are working with our sister companies in Europe on a methodology for differentiating fees. It is still the case that those who collect the best-quality plastic get paid more, even today. We already have eco modulation of our fees on plastic from commerce – which are often mono-materials – and household plastics that have to be sorted and are of varying quality. However, setting differentiated fees is complicated, and they must be seen as fair,” Røine concludes.



EFFECTIVE MEASURES ARE NEEDED

“The authorities cannot demand that we sort and recycle materials if no manufacturer wants to return the materials to the production cycle.”

Svein Kamfjord
Managing Director, KS Bedrift Avfall

The politicians want to turn waste into a resource in a circular economy. “If their ambitions are to be realised, they must step up and offer strategic and effective measures,” says Svein Kamfjord, Managing Director of KS Bedrift Avfall.

Photo: Katrine Lunke, Apeland

Politicians in both the EU and Norway have agreed targets for switching from a linear economy to a circular economy. By 2025, 55 percent of household waste and similar volumes of industrial waste must be recycled. 65 percent of packaging waste must also be recycled.

“The reality today is that we are a long way from reaching those targets. I’m unsure whether the Norwegian and EU authorities realise what is needed of them if we are to reverse the current consumer trend. In order to switch from a linear economy to a circular economy they need to apply political instruments. The targets and measures that currently exist do not correspond,” says Svein Kamfjord.

The market cannot solve it alone

KS Bedrift Avfall is made up of municipal waste enterprises from across Norway. They are working to increase the amount of waste that is sorted for recycling and reuse, but they are facing obstacles when trying to sell the materials.

“The authorities cannot demand that we sort and recycle materials if no manufacturer wants to return the materials to the production cycle.” For too long the authorities have said that the market itself will resolve the problem, but the fact is that the market needs help to see the value of recycled materials,” Kamfjord says.

Levies balance out cost differences

Kamfjord is clear that the authorities need to step up with a combination of political initiatives. The producer responsibility scheme needs to be developed further so that manufacturers are given incentives to switch to products designed for recycling, and minimum ratios must be set for incorporating recycled materials.

“The manufacturers’ excuse for not using more recycled materials is that they believe they are too expensive

and of the wrong quality. The cost of virgin plastic is lower than the cost of recycled plastic. This is a problem but one that can be solved by introducing a levy to level out the cost difference or by imposing stricter criteria for what the manufacturers are allowed to sell on the market,” says the KS Bedrift Avfall director.

A tried and tested tax model

Infinitum wants to change the existing levy on drinks packaging to a differentiated levy so that plastic bottle manufacturers pay less as the recycled plastic content increases. A levy would even out the cost differences and make it more financially attractive for drinks manufacturers to use recycled packaging.

“The rule could require plastics to contain a certain amount of recycled plastic. The percentage can be increased incrementally. The minimum ratios should be combined with a levy, or a ‘carrot’ whereby the levy is reduced as the recycled plastic content increases. This principle is already in use, including for plastic bottle collection. They are tried and tested approaches, and the authorities do not need to conduct an inquiry into how it would work,” says Kamfjord.

A materials register is needed

KS Bedrift Avfall is of the view that a materials register is another important measure to help meet the targets for waste reduction and increased recycling. Such a register would provide information about the volumes of plastic currently on the market, and it could also be used to record the quality of the plastic. Establishing a register, tightening producer responsibility, content ratios and “good” levies all require the politicians to step up, Kamfjord believes.

“It is naïve to think that the politicians’ high ambitions can be realised without their following up with strategic and effective measures.”





Part 2: The past year

RECYCLING 24/7

*"We will be doing three shifts,
five days a week."*

Torben Beck
Factory Manager, Veolia PET Norge AS

All empty plastic bottles collected in Norway will be melted down at the new recycling plant in Heia in Fetsund. That means shift work and round-the-clock activity.

Photo: Katrine Lunke, Apeland





Everything is running to schedule, or even ahead of schedule, when we visit the new plant in Heia in Fetsund one windy day in February. The recycling plant is still no more than an enormous empty shell – a shell that will soon be full of advanced machinery and busy workers.

Although the building is owned by Infinitum, the factory will be operated by Veolia PET Norge AS. This means Veolia will be factory manager Torben Beck's new employer.

"Here there is going to be a machine as high as 14.5 metres," says Beck, pointing towards the ceiling during our tour of the factory floor.

Numerous machines from a multitude of manufacturers are on their way and will soon fill the premises, where they will make up an automated and hyper-modern production line. They have their work cut out as the factory is expected to process 18,000 tonnes of plastic bottles every year from 1 January 2021.

Missing link

Packaging from bottles can travel in a circular loop, from being returned to the PET material being used in new bottles. The plastic currently has to be sent to recycling facilities in Sweden,

Germany or the Netherlands in order to pass through the link in the chain where the PET material from used bottles is turned into new raw material. Because oil is so inexpensive, the drinks manufacturers prefer to use new plastic to make bottles. The plastic bottles that are collected in Norway therefore frequently end up as simpler products that are discarded and incinerated after being used once instead of becoming new bottles.

CEO of Infinitum Kjell Olav Maldum is pleased that what has so far been the missing link in the chain will soon be up and running.

"If 80 percent of the raw material in new bottles was recycled material, the material in the bottles would, on average, be used five times in the closed loop. This would generate an annual reduction in domestic climate gas emissions of around 80,000 tonnes," says Maldum.

The bottles that will be processed at the recycling plant will come from the building next door. It houses one of Infinitum's three waste sorting plants.

The short journey across the yard between the two Infinitum buildings is highly valuable in itself. With the new NOK 200 million factory just a stone's throw away, the journey will be dramatically shortened for the plastic bottles being recycled for use as raw materials in new plastic products.

Transport costs are cut when the links in the value chain are in such close proximity. And the lower the costs incurred by Infinitum, the lower the fees payable by its members.

Three shifts a day

One of Torben Beck's first tasks is to recruit the 20–25 people who will be working in the building.



Torben Beck in front of the new factory only a few metres from the waste sorting plant in Heia.

"We will be recruiting them here in Norway and spend the first few months providing them with the necessary skills," Beck says.

A tentative, unofficial launch of the production line is scheduled for 1 October 2020. The period leading up to full-scale operation on 1 January will be used to run in both machinery and staff.

"Once we are up and running we will be doing three shifts, five days a week." This means working round the clock. The fact that there will only be four–five people per shift tells you something about how efficient the factory will be," he continues.

Veolia already has three factories similar to the new plant in Heia. The other factories are located in Sweden,

Switzerland and Germany. The factory manager will undergo training in Sweden and Germany before the Norwegian launch. He is also planning to use personnel from Sweden to train his Norwegian staff.

"Veolia's 16 years of experience of recycling plastic is a big advantage. The company spent three years getting its first factory up to speed but only six months when the latest factory to date, in Sweden, was opened. By comparison, our factory will be commissioned over the space of just three months. We would not have been able to do that without this internal skills transfer," Beck says.

The new plant will bring with it a new level of expertise on plastic recycling in Norway.

Overcapacity

The factory manager expects to see annual volumes of around 18,000–20,000 tonnes of raw materials, i.e. empty bottles. He doesn't want to put an exact number of the factory's capacity, but he admits it is higher than the annual estimate.

"The dream scenario would be consistent production, day in, day out. Sadly, that is not how it works, so in reality seasonal variations in the flow of empty packaging will affect the pace of work. This means it is good to have a bit of overcapacity on the production side, almost like a safety buffer," Beck says.

ALL PACKAGING IS ON LOAN

“Why have we not created similar schemes for other materials?”

Aksel Lund Svindal
Infinitum Ambassador

Aksel Lund Svindal’s time as an Infinitum ambassador has come to an end. He will be passing the baton on to Karsten Warholm.

Photo: Jonatan Bendixen

“Good habits have a double bottom line. This means that returning empties makes sense both for you as an individual and for something bigger than you – the environment or the planet.”

Those were the words of Aksel Lund Svindal when he was interviewed for Infinitum’s 2018 annual report.

The alpine skiing champion has been a vocal spokesperson for the Norwegian deposit return scheme. He has now reached the end of the road as an Infinitum ambassador. Lund Svindal believes our planet is facing serious problems and that we have to lose our throwaway mentality. He wants us to change our attitudes towards waste and instead see the things we throw away as materials that can be reused.

“We could start by seeing all packaging as being on loan,” he says.

Now that Infinitum’s partnership with Lund Svindal has ended we can conclude that the former skiing champion has been a prominent exponent of the benefits of the Norwegian deposit return scheme.

“Now other countries are following the Norwegian example. All the same, we should do more. When we have long seen that it works, why on earth have we not created similar schemes for a lot of other things,” he ponders.

Perhaps it comes naturally for a top athlete to aim high and always want to strive for more. In any case, Lund Svindal believes that the world’s best bottle recycling nation should think much bigger, that we can all make a contribution, and that everyone can encourage others to make sustainable choices.

This challenge still hangs in the air as Karsten Warholm takes over as Infinitum ambassador. It is true that he has big shoes to fill, but Warholm has long been breaking boundaries.

Regardless of how he chooses to fill the role as the public face of the deposit return scheme, he will be a high-profile advocate. As Lund Svindal puts it when asked to explain why he became an Infinitum ambassador:

“Like-minded people find each other.”





ANNIVERSARY EVENTS THROUGHOUT THE SUMMER

“Returning empties is not just about making a few kroner but also about doing something good for the environment. By returning them you are contributing to something big.”

Randi Haavik Varberg
Director of Communications
and Marketing, Infinitum

The current deposit return scheme turned 20 in 2019. The occasion was marked with a myriad of activities throughout the summer. Infinitum celebrated the anniversary in the company of Oslo’s super-recyclers, at sea on board the SS Vega, and with children and young people at Norway Cup.

Photo: Katrine Lunke, Apeland

May 1999 saw the launch of recyclable beer and soft drink cans with deposits as an environmentally-friendly alternative to reusable glass and hard plastic bottles. Plastic bottles were added to the deposit return scheme the following year. Fast forward 20 years, and Norway has the world's most eco-friendly and cost-effective deposit return scheme. The anniversary was celebrated in 2019 with a series of summer events, amongst other things.

"We celebrated the anniversary in Oslo in June with a barbecue and a Ravi concert together with Jobben Oslo, an entry level work training scheme run by the Salvation Army for people struggling with addiction. Every day participants in the scheme collect cans and bottles in the streets of Oslo and in the summer in the archipelago, too. It is important to recognise those who are helping to make the Norwegian deposit return scheme one of the best in the world, and we are glad that the participants wanted to celebrate the 20th anniversary together with us," says Randi Haavik Varberg, Director of Communications and Marketing at Infinitum.

Activities for young bottle collectors

With new sails from Infinitum, the *SS Vega* sailed along the coast from Oslo to Bergen last summer. The aim of the eco voyage was to invite organisations, businesses and other interested parties to a conversation about the marine environment and sustainability while also creating a bit of a buzz in the harbours we visited along the way. At the various ports of call, Infinitum put on family events with fun activities for children.

"Norwegians recycle out of habit, but sometimes we need a little reminder to recycle everything, even during the holidays. That was the purpose of the summer tour. We want children and young people to adopt good recycling habits early on, and in our anniversary

year we sought out places where we could meet youngsters," Haavik Varberg says.

Infinitum visited Norway Cup with a huge bin full of empty bottles. Some of the bottles concealed small prizes, while one of them contained the big prize: an electric scooter.

Exploring new return schemes

Infinitum also had much success involving recyclers in its 2019 Infinitum Explorer advertising campaign. The campaign is primarily aimed at young people and asks for help and advice on how to make the world's best deposit return scheme even better. Fun video experiments conducted by Infinitum Explore to date include recycling fashion, high-tech rubbish bins and recycling police.

"We want to highlight that returning empties is not just about making a few kroner, but also about doing something good for the environment. Returning empties is a small thing that contributes to something big," says Randi Haavik Varberg.

Infinitum's annual surveys show that the message is reaching young people, who more than any other age group say that they return empties because it is good for the environment.

Infinitum maintained a high level of activity throughout the year both nationally and locally in order to generate enthusiasm around bottle recycling. Infinitum Ambassadors, Infinitum Movement and environmental groups such as Protect our Winters, Nordic Ocean Watch and Passion for Ocean have all made valuable contributions to the cause.

Thanks to its always-on strategy, Infinitum is contributing to important media outlets with films and recycling messages to highlight how important it is to return bottles and cans.



IN SEARCH OF THE PERFECT PACKAGING

*"We need to aim higher, and
we must do it quickly"*

Mette Vinther Talberg,
Senior Manager External Commu-
nications at Coca-Cola European
Partners Norway

The perfect packaging has yet to be
invented. But the breweries are making
important progress towards this goal.



Photo: The Coca-Cola Company

A circle – that perfect, mathematical shape – can serve as a metaphor for the breweries’ efforts to find the perfect plastic packaging. The very word is incorporated in key concepts such as recycling and the circular economy.

In the case of the Ringnes brewery, the goal is threefold.

“With our plastic promise we have set ourselves a goal of reducing plastic consumption by 1,000 tonnes by 2025. We got off to a good start in 2019 with a reduction of 250 tonnes, but we know that the last few tonnes will be more difficult than the first,” says Director of Corporate Affairs Johanna Ellefsen Rostad.

“We have also committed to using 50 percent recycled plastic in all packaging, including secondary packaging, by 2025.”

When Ringnes talks about secondary packaging, it means things like the plastic that holds together your six-pack.

Keg collection

Rostad says that all bottles are designed for recycling and that Ringnes has committed to playing its part in reaching the industry target, which is for every bottle and can to be returned for recycling.

“However, we have to make sure that all the packaging we use is recyclable and can be reprocessed. This is where DraughtMaster comes in. It is a new type of keg that replaces the old steel kegs. Together with Infinitum we have developed a solution for collecting and recycling used DraughtMaster kegs,” Rostad says.

The new kegs are placed in plastic bags, which Infinitum then collects from bars and restaurants and sends to be recycled.

“This shows that the collection system for drinks packaging can be rolled out more widely than is currently the case”, says the Ringnes director.

The perfect packaging does not exist

Coca-Cola is no less ambitious. It, too, is drawing circles to illustrate how plastic and other packaging must be part of an infinite life cycle.

Communications Manager Mette Vinther Talberg at Coca-Cola European Partners Norway stresses that packaging is an important issue. Not least because the level of ambition is so high.

“The perfect packaging does not exist. Not yet. All packaging comes with a footprint. Our task is to make all the packaging we use as sustainable as possible while also looking for new alternatives,” she says.

She believes that plastic is part of the solution, as long as the material is recycled and reused – even if more and more Norwegians seem to equate plastic with pollution.

“Different packaging types play different roles. Plastic is lightweight, which is a good thing from a transport perspective. Plastic bottles also generate much lower carbon emissions than both aluminium and glass.”

Talberg says that Coca-Cola, being the world’s largest drinks manufacturer, has a responsibility for taking the lead and showing the way.

The company has decided that its bottles will contain at least 50 percent recycled plastic by 2023 and 100 percent in the longer term.

The solution has yet to be found

The long-term goals set by Coca-Cola

in 2017 were upgraded only two years later. The pace of change is down to concerns over the environment and the planet.

“We need to aim higher, and we must do it quickly. Our goals are demanding, and we do not necessarily know how to reach them. But we will reach them!” Talberg insists.

She explains that they are working on structures to allow more plastic to be collected. Coca-Cola has a dedicated Packaging Innovation Hub for sustainable packaging working across Europe. The hub works with partners and scientists in order to speed up the pace of development.

Plastic is not waste

Both Ringnes and Coca-Cola have invested considerable development and marketing resources in the production and promotion of plastic bottles containing 100 percent recycled plastic.

Ringnes was first out with its new Imsdal mineral water bottle. Before the launch the company had been working on the solution for two years.

For the past five years, Coca-Cola, as the only company in Norway, has been using both recycled and bio-based plastic in all of its bottles. Then, in February 2020, the company launched a new bottle made from 100 percent recycled plastic for Bonaqua’s Telemark mineral water brand.

The Imsdal and Telemark bottles both contain exclusively recycled plastic.

A clear recycling message

“Return me!” the cap on the Imsdal bottle reads. “Return me again!” the Telemark bottle insists.

In the eyes of the breweries plastic is not waste but a resource. Collecting this

“We reduced plastic use by 250 tonnes in 2019”

Johanna Ellefsen Rostad,
Director of Corporate Affairs, Ringnes



Photo: Katrine Lunke, Apeland

These bottles of Telemark mineral water from Bonaqua are made from 100 percent recycled plastic.
Illustration: The Coca-Cola Company/Bonaqua



The plastic in the DraughtMaster kegs is of a very high quality and a valuable raw material that can be put to other uses once the kegs are empty.



resource is the very key to creating a circular economy for plastic bottles.

“Plastic is not waste but a valuable material than can be reused many times over. We will be reminding people of that. They can be proud of every single bottle they put into the reverse vending machine,” said the then VP of Coca-Cola European Partners Norway, Stein Rømmerud, when the new recycled bottle was unveiled.

Since 2013 Coca-Cola has included 25 percent recycled plastic in all its Norwegian-manufactured bottles. Its Swedish sister company has become a spearhead within the group. The Swedish arm has introduced 100 percent recycled plastic in every one of the 205 million bottles it produces every year.

The level of investment says something about the company’s commitment: in 2019 the Coca-Cola Group invested €180 million in sustainable packaging in Western Europe. The money was spent across its operations and on the development of new packaging and packaging-free solutions for the future.

“In 1886 Coca-Cola was only sold from drinking fountains where you would go to fill your glass. We are now looking at how we can further develop packaging-free solutions. Refill solutions could be an alternative at venues such as festivals and universities,” Talberg suggests.

Valuable bottles

She adds that Coca-Cola, just like Ringnes, is taking action in terms of secondary packaging.

“We are switching to 100 percent recycled shrink wrap. That is the plastic wrapped around the bottles you buy in the supermarket,” she explains.

Johanna Ellefsen Rostad at Ringnes takes the view that manufacturers have a responsibility for spreading the word about the life cycle of their packaging.

“There is great consumer engagement around plastic, but we are also noting that many people are unsure which solutions are sustainable. As manufacturers we have to make it easier for them to make good decisions.”

A survey carried out in connection with the launch of the new Imsdal bottle found that most people think that the majority of bottles are recycled.

“We therefore realised that we have to allocate resources to explain where we are right now and what ambitions we have going forward. We also need to make people understand that the bottle they have bought remains valuable once they are finished with it,” continues the Ringnes director.

“How do we reach the goal of returning every single used bottle?”

“There are many answers to that question. I really believe in making it easy for consumers by ensuring there are good facilities in the supermarkets and placing recycling bins in busy locations, for example. I also think collecting empty drink containers from people’s homes is a good idea. We need more creative thinking like that,” Rostad replies.

She stresses that consumers need to feel confident that it makes a difference and that it is important they realise that their effort is genuinely valuable.

“Again and again we have to show them that returning their drink containers is about more than just money, that

it also means something in terms of sustainability.”

Bearing in mind that Norwegians currently return nine out of ten bottles, Talberg from Coca-Cola has a challenge:

“Remember to return that tenth bottle, too, the one you throw in the bin at the station because you’re in a hurry.”

Revolutionising the bottle return experience

"Everyone has to do their bit so that bottles and cans remain in the cycle. 'Get in the loop!' as we say at Tomra."

Ingrid Solberg
Managing Director, Tomra Butikksystemer AS

The TOMRA R1 is the latest innovation from Tomra. The R1 allows consumers to simply empty their whole bag of spent bottles and cans into the machine, then pick up the receipt and go shopping.

Photo: Katrine Lunke, Apeland



“This takes the bottle return experience to a whole new level. We have named the machine Revolution 1 because we feel that this is a recycling revolution. We want all bottles and cans to be returned, and it is therefore a case of making it easier for everyone to do so,” says Ingrid Solberg, Managing Director of Tomra Butikksystemer AS.

Following a long test pilot in a handful of Norwegian shops that receive large volumes of returns, the new machine will eventually be rolled out to shops across the country. Figures from Infinitum show that shops that have trialled the R1 received large volumes of empty bottles and cans in 2019 and have in some cases taken a market share from other shops.

“It goes to show that it is important for the shops to streamline the experience, since we usually return our bottles in the same place that we shop. We have received a great deal of feedback from people who appreciate not having to insert one bottle at a time or who simply find our new R1 machine fascinating,” says Ingrid Solberg.

Different markets, shops and needs

Tomra has a presence in 60 countries with more than 82,000 reverse vending machines tailored to the needs of the different markets. Its portfolio contains a string of solutions suitable for different types of shops and areas of use – from the smallest newsagents to the biggest hypermarkets.

Ease of use also is also important to those tasked with maintaining the machines in-store. We have developed an app which alerts the user before it is time to empty and clean the machine. This way the app prevents the machine from being taken out of service and makes it easier for the store manager to plan. The work can be scheduled

for a time when the shop is not full of customers,” Solberg says.

Strict criteria for technology and reverse vending machines

Tomra uses so-called flow technology in all its machines, including in the new R1. When a bottle or can enters the machine the technology reads the code on the label without having to rotate the object. It registers the weight and which material the bottle or can is made from, it looks at the shape of the packaging and checks whether it conforms to the material a drinks container of that shape should be made from.

“Tomra records all this information and then combines it to verify that that it is a product approved for recycling,” Ingrid Solberg says.

To ensure the quality of the recycled plastic and aluminium, Infinitum sets criteria for which materials the products entering the recycling system can be made from. The deposit return label shows that the product has been approved and can be returned.

“Plastic must join the loop”

“All these pictures of plastic pollution in the ocean have affected people. They worry about plastic and want to do something. Our message is that everyone has to do their bit and return their empties, or ‘get in the loop’, as we say at Tomra.

A deposit return scheme (DRS) is the most effective way of collecting empty packaging. No other solution can demonstrate better figures when it comes to collection and recycling. Up until now reverse vending machines have been a niche market, but the new EU rules on the collection and use of recycled drinks packaging represent a formidable step forward.

The extended producer responsibility makes those who take drinks products to market liable for collecting the empty packaging.

“Norway is spoilt with a well-functioning DRS. This is not the case everywhere else, and many are now realising that reverse vending machines and a system for recycling returned packaging must be put in place to comply with the EU rules,” Solberg concludes.

30 people queuing up to return their bottles – so what?



HUGE CAPACITY: Proprietor Flemming Hanse demonstrates how the reverse vending machine swallows up to 100 bottles at a time.

Imagine a reverse vending machine which is so popular that it makes people smile as they queue for their turn.

Photo: Katrine Lunke, Apeland

What makes up to 30 people wait patiently in line to return their empty bottles? Franchisee Flemming Hansen has seen this scenario play out more than once at his Rema 1000 supermarket in Gystadparken in Jessheim near Oslo.

The answer is that his shop is the easiest place to return your bottles for miles. In addition to two traditional reverse vending machines he has also invested in a machine that accepts bags and sacks filled with empties.

“We invested in the new Tomra R1 in 2018. And with that the volume of returned bottles skyrocketed. This one takes 100 bottles at a time,” says Hansen.

Following an explosive increase in bottle return figures in 2018 he expected things to flatten in 2019. That was not to be. Instead, 2019 saw record numbers of bottles and cans being returned to the supermarket.

“On a normal day some 10,000 bottles and cans pass through our machines. On a good weekend we can collect as many as 30,000 units. And these figures are just growing and growing,” he says.

Perhaps word has got out about the monster machine that munches its way through empties like they are sweets. What we do know is that Rema 1000’s customer base in Gystadparken is growing, and Hansen believes the reverse vending machine must take some of the credit.

“There is no doubt that it is drawing people to the shop. Among them are sports clubs and charitable organisations which collect bottles as an additional source of income. Some of them have come from as far away as Hadeland with mountains of empty drink containers,” the franchisee says.

Then it doesn't matter so much if there is a bit of a queue on the busiest days. When people can return their bottles and cans at lightning speed, the queue always moves quickly no matter how many customers there are.

BOTTLE DEPOSITS FUND ACTIVITIES FOR STUDENTS

Empty bottles that would previously end up on the ground or in the bin are now being collected by students at almost 100 Oslo schools. Last year Lambertseter upper secondary school collected more than NOK 8,000 for student activities thanks to a return scheme for schools.

Photo: Katrine Lunke, Apeland

The scheme is operated by Infinitum and managed by Niklas Barre, who also came up with the idea. He has been working to get schools involved in bottle recycling since 2016.

“The idea was to make it easier for schools to collect cans and bottles. It lets them make money and spend the funds on whatever they want,” Barre says.

Recycling pays for school prom

The way it works is relatively simple: The school buys recycling bins made from old oil barrels. Most schools opt for three to five barrels. A plastic liner is placed inside the barrel and collected by Infinitum when it is full of empty cans and bottles. The money arrives in the school’s account a few days later. In 2019 schools in Oslo raised almost NOK 40,000 from the empties they had collected.

For Lambertseter upper secondary school it has become a new and important source of income that benefits the students. The school has placed five bins in its grounds, and in 2019 it raised more than NOK 8,000 from the empty cans and bottles it collected. Some of the money was used

to reduce ticket prices for the school prom. The students also gave NOK 2,500 of the money to the Pink Ribbon campaign.

“In the past empty bottles and cans would just lie there. Some ended up in the bin, while some were returned to the shop by the students themselves,” says Maria Almaas Vold, chair of the Lambertseter student council.

“Now that we are collecting everyone’s empty bottles and cans it actually means something to us. It is much more fun to recycle when you know that it contributes to the community,” Almaas Vold says.

The recycling bins are placed where people are – by the three entrances and near toilets and seating groups.

“We try to promote the scheme, including on Facebook. We explain how to sort the waste and how the money will be spent on the students. And how easy it is for everyone to do their bit.”

Going nationwide

Now that the school return scheme has been launched in a number of Oslo schools, the plan is to roll it out in

schools across the country. Infinitum is already up and running in the former counties of Akershus and Østfold. “It has been so popular that we are now expanding the scheme to every school that wants to participate. I think most of those taking part see that it is such an easy thing to do and that there are only benefits to be had,” Barre says.

To get started, the school pays a one-off fee for the recycling bins, bags, strips and labels. Other than that, the scheme and the collection is free. Niklas Barre advises each school to nominate one person to oversee the scheme.

“For the return scheme to work, it is important that there is someone who spurs it on and keeps track of the collections and money. It can be anyone from the headteacher to the student council. Then it is just a case of getting on with it and watching the money trickle in to the benefit of the school,” he says.

COLLECTING FOR STUDENTS:
“The school return scheme lets us collect empty bottles and cans and spend the money on things that benefit the students,” says Maria Almaas Vold (in the middle), chair of the Lambertseter student council. She is pictured here with the rest of the council and one of the school’s five recycling bins.



The world looks to Heia to learn

"I am inspired by what I have seen at Infinitum and believe this is useful information that I can take back to my home country."

Nuha Anfaresi
Environmental activist

Every year Infinitum receives visitors from all over the world. Politicians and environmental activists who want to introduce deposit return schemes in their home countries travel to Norway to visit Infinitum's plant in Heia.

Photo: Katrine Lunke, Apeland

In the past couple of years representatives from more than 30 countries have visited Infinitum's plant in Heia. In 2019 Infinitum saw visitors from Turkey, Portugal, Slovakia, France, Poland, Ireland and Indonesia.

"Everything ends up in the sea"

In 2019 Infinitum played host to the young environmental activist Nuha Anfaresi. She had travelled all the way from Indonesia to learn about the Norwegian deposit return scheme. She is working on a waste disposal project at university and wants to transfer recycling expertise from Infinitum to Indonesia.

"Back home we throw everything in the same bin. The waste is collected by bin lorries and most of it taken to the same site. Most of the plastic resources and most of the plastic bottles eventually end up in the sea. I am inspired by what I have seen at Infinitum and believe this is useful information that I can take back to my home country," said Nuha Anfaresi after her tour of the Infinitum plant.

Pilot project in Portugal

Most of the visiting delegations are politicians and experts, however. Portugal is one of the countries that have clocked up the most visits to Infinitum. Infinitum's Finance Director Tor Guttusrud has also given a talk about the Norwegian deposit return scheme in Lisbon.

Shortly after the first visit in 2018, Portugal's politicians voted to roll out a DRS within two years. In 2019 Infinitum received another Portuguese visit, this time from APED, an umbrella organisation for retailers, wholesalers and online stores. In autumn 2019 the first DRS pilot for drinks packaging in Portugal was launched.



The young environmental activist Nuha Anfaresi travelled all the way from Indonesia to Norway to learn about the Norwegian DRS.

Spreading the word

Infinitum is always happy to receive visitors. In the past year CEO Kjell Olav Maldum has also given talks at conferences in the Czech Republic and Poland, amongst other places. Some of the talks were at the behest of the Norwegian Foreign Ministry and Innovation Norway. In the past he has also been invited to speak in Brussels in connection with the EU's circular economy package.

“It is inspiring to see that others look to Infinitum and Norway to learn about our efficient deposit return scheme. Our system really works well. When we listen to the debate about plastic pollution and plastic in the oceans, we want to share what we know to help others set up effective deposit return schemes,” says Kjell Olav Maldum, CEO of Infinitum.



RAMPING UP BOTTLE RETURN RATES

“Although Norwegians are world champions when it comes to returning empty bottles and cans, the aim is to get even better.”

Svein Sollie
Chairman of Infinitum

“Infinitum is well run, and there are plenty of interesting projects underway. They include the new recycling plant in Heia,” says Svein Sollie, who took over as chairman in April 2019. His ambition as chairman is to increase the return rates even further and to pick up even more of the few bottles and cans that go astray.

Photo: Katrine Lunke, Apeland

Sollie is Director of Transport at ASKO Norge AS and has sat on the Infinitum board for many years. He first joined the board in 2007 and remained in the role until 2011. He rejoined the board in 2015. The board comprises representatives from different parts of the grocery and brewery sectors, which own Infinitum.

Good co-operation is key

“Infinitum has a long history of transparent co-operation between retailers, producers and breweries whereby we all work towards a common goal and good green solutions. Of course, there are discussions from time to time, but we are always able to resolve issues in the best interests of the retailers, producers and breweries. We when do have a discussion we are keen to arrive at a solution that also benefits the consumers, who are doing an incredibly important job when they return their empty bottles and cans,” Sollie says.

He believes that good co-operation between all the actors in the value chain is key to the good deposit return system in Norway.

“Although Norwegians are world champions when it comes to returning empty bottles and cans, the aim is to get even better. We will be working to increase the return rates and pick up more of the bottles and cans that do not enter the system,” Svein Sollie says.

Pride in the new plant

Test production will begin at Norway’s first recycling plant for PET drinks bottles in 2020. Sollie is proud of Infinitum and the decision he helped make as a board member in 2019.

“Infinitum and the sector have taken action. The new plant shows that we want to do our bit to create a circular economy. If the politicians get on board and change the fee structure, we can reach the EU target for recycled plastic. As chairman, I also want to stress that with the new advanced recycling facility in Heia comes new and green jobs,” Sollie says.





In theory it looks simple: count the number of cans and bottles dispatched from the breweries and compare them with the numbers going through the reverse vending machines, and *voila*, you have a return rate. But wait... what about the products that are still on the supermarket shelves and all the empty cans and bottles sitting around in kitchen cupboards, attics and garages? How many of them might there be?

Infinitum has asked the number crunchers at the Norwegian Computing Centre to find out. The centre has been solving complex maths problems since 1952 and was the owner of Norway's first electronic computer. The computer is called Nusse and now resides in the Museum of Science and Technology. Today we all have computers, and the centre's most important resource is its 75 researchers.

Assistant Research Director Anders Løland has been doing the numbers on bottle return rates and can confirm that the equation is not entirely straightforward.

"We cannot say for certain how many cans and bottles there are on supermarket shelves and in homes around the country, but we have created statistical models that allow us to estimate it fairly accurately.

The researchers have been helped by seasonal products – such as a special Christmas soft drink – in their work. "Seasonal products have helped us estimate how long it takes from point of sale to return. All products come with a unique barcode which lets us see when the Christmas soft drink bottles are returned. We use this information to perfect our models," Løland says.

The work of the Norwegian Computer Centre allows Infinitum to submit solid reports to the Norwegian Environment Agency. The figures show that around 90 percent of all bottles and cans were returned in 2019. The number crunchers say the return rates are rising.

"It is good to see that the increased returns in 2018 are yielding results. Energy drinks have seen a particularly healthy increase. There is no doubt that the deposit return scheme is working as intended," Anders Løland concludes.

CRUNCHING THE NUMBERS

"We cannot say for certain how many cans and bottles there are on supermarket shelves and in homes around the country, but we have created statistical models that allow us to estimate it fairly accurately."

Anders Løland
Assistant Research Director,
Norwegian Computer Centre

What proportion of bottles and cans are returned? The number is not clear cut. Infinitum has therefore teamed up with Norway's finest number crunchers.

Photo: Katrine Lunke, Apeland



Part 3:

Facts and figures

The deposit return system

For us Norwegians, the deposit return system is a given. For specialists from all over the world, it is brilliant and remarkable.

Climate, recycling and plastic in the world's oceans are attracting increasing attention around the world. Huge quantities of drinks packaging are part of the problem, and retail, industry and authorities are looking for solutions. The best solution they have found is in Norway. No other country is quite as good at collecting and recycling cans and bottles. The key to this success is eco-thinking and efficiency in every link of the chain.

The first link are consumers, who takes their empties with them when they go back to the store. This is much less energy-intensive than other forms of collection, with large lorries driving around just to pick up.

The reverse vending machine is the next link. It crushes cans and bottles so that they take up as little room as possible when transported.

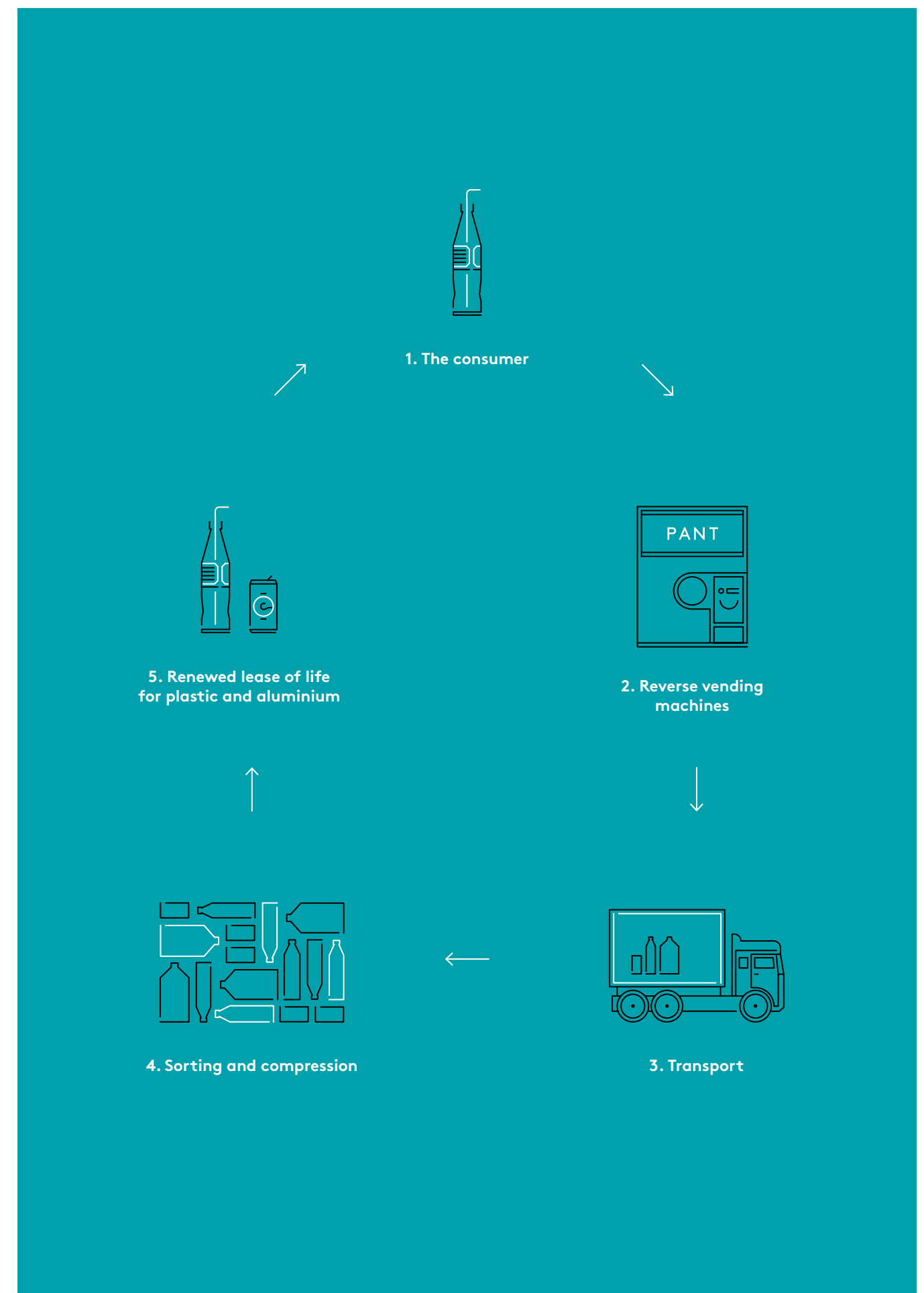
The third link is transport from the store. Empty space on lorries that have

delivered goods and either have other deliveries to make or are returning to the wholesaler's warehouse is used for this purpose.

The fourth link is transport from the wholesaler to Infinitum's facility, where plastic and aluminium are separated, and everything is compressed even more.

The fifth link is the most important of all: plastic and aluminium are given a new lease of life by one of Infinitum's selected recyclers.

Because the deposit return scheme is a closed system, all the materials are of the same high quality. Only cans and bottles that satisfy Infinitum's technical requirements may enter the system. This means, for example, that all the plastic from the bottles is suitable for new bottles. This makes Infinitum's DRS highly resource efficient and eco-friendly.



The deposit return story

In 2019 we are celebrating the 20th anniversary of the current deposit return system. The DRS for reusable bottles was launched in the early 1900s. When in the 1980s, retailers wanted recyclable disposable packaging that could be crushed before being returned it became the start of the present deposit return scheme. Jan Tore Sanner, the current Minister of Finance, returned the very first bottle for recycling in 1999.

1995:

The deposit return scheme is approved by the Norwegian Pollution Control Authority, now the Norwegian Environment Agency.

1996:

Norsk Resirk is founded with retailers and industry as equal shareholders through their industry associations.

1999:

Norsk Resirk's deposit return system for drinks cans and bottles is set up. The system is open to all. The first can is returned through the system on 3 May 1999.

2000:

The first recyclable bottles are registered in the DRS. Norsk Resirk opens its own facility at Alnabru in Oslo.

2003:

In what is just the fifth year of operation for the company, 92 percent of all cans and 77 percent of all drinks bottles are collected through the DRS.

2004:

Norsk Resirk has another successful year with an increase in the number of both drinks cans and recyclable plastic bottles collected, leading to a reduction in the environmental levy of 93 percent on cans and 80 percent on PET.

2006:

A production facility opens in Bjerkvik to serve North Norway.

2007:

Kjell Olav Maldum takes over from Jarle Grytli as CEO.

2008:

TINE, Norway's largest producer, distributor and exporter of dairy products, launches drinks bottles for the first time in 40 years. The decision to use bottles is down to the DRS.

2009:

The Norwegian Climate and Pollution Agency gives its approval for DRS-labelled bottles and cans used in waste-to-energy recovery to count towards

Infinitum's collection rates as well. The share of these drink containers accounts for around 4 percent of the overall collection rate for cans and around 8 percent for bottles.

2011:

The environmental levy on bottles is removed because the collection rate has exceeded 95 percent of packaging sold.

Small importers are invited to join the DRS.

2012:

The environmental levy on cans is removed because the verified return rate has exceeded 95 percent of packaging sold.

Mack Bryggerier, Ringnes and Coca Cola Enterprises switch from refillable bottles to recyclable PET. The other drinks manufacturers follow suit.

A new production facility opens in Heimdal, just outside Trondheim, to serve Central Norway.

2013:

A new production facility opens in Heia in Fetsund to serve Southern Norway. A new production facility opens in Bjerkvik to serve Northern Norway.

2014:

Norsk Resirk changes its name to Infinitum. The name and logo are inspired by the infinite number of times bottles and cans can be recycled in the DRS.

2017:

Producers worldwide change their mind and take a positive view of deposit return systems and their responsibility as producers.

Sky News broadcasts a piece on the Norwegian DRS, generating an influx of visitors from all over the world wanting to learn more about Infinitum's deposit return scheme.

The Ministry of Climate and Environment decides to increase the deposit from NOK 1.00 and NOK 2.50 to NOK 2.00 and NOK 3.00, respectively.

2018:

Infinitum achieves its highest ever collection figures, with 88.6 (95.1) percent of bottles and 87.3 (98.9) percent of cans collected.

Vinmonopolet, Norway's state-owned alcoholic beverage retailer, launches wine in PET deposit bottles for the first time.

The EU is pushing towards a circular economy and adopts ambitious targets and strict requirements for both collection and material recycling. PET bottles must be made from at least 25 percent recycled plastic by 2025 and 30 percent by 2030. The collection rate for beverage bottles must be at least 77 percent by 2025 and 90 percent by 2029.

The deposit on bottles and cans is doubled from NOK 1.00 to NOK 2.00, the first increase since 1986. The deposit on bottles and cans larger than 500 ml also increases from NOK 2.00 to NOK 3.00.

2019:

Infinitum celebrates the 20th anniversary of the current deposit return scheme and achieves a collection rate for both bottles and cans of 90 percent.

Construction of the recycling plant in Heia in Fetsund begins.

Extended producer responsibility becomes an increasingly important element in the EU's efforts to create circular economies for packaging.



In 1999 the now Minister of Finance Jan Tore Sanner returned the very first can to Norsk Resirk's new return scheme for bottles and cans. Then chairman Øyvind Winther and Managing Director Jarle Grytli were also present.



In 2019, the then Climate Minister Ola Elvestuen could conclude that the increased deposits the previous year were having an effect. In the anniversary year of the current deposit return system, Infinitum saw a 90 percent collection rate for both cans and bottles.

Board of Directors



Svein Sollie
Director
DMF (Asko Norge AS)



Stein Rømmerud
Deputy chairman
BS (Coca-Cola European Partners Norge AS)



Helge Hasselgård
Board member
DLS (DLF)



Sven Serck-Hansen
Board member
BS (Ringnes AS)



Tore Nygaardsmoen
Board member
CNH (Coop Norge Handel AS)



Benno Graser
Board member
DMF (Rema 1000 Distribusjon AS)

Deputy board members 2019:

Jens Olav Flekke
DMF (DMF)

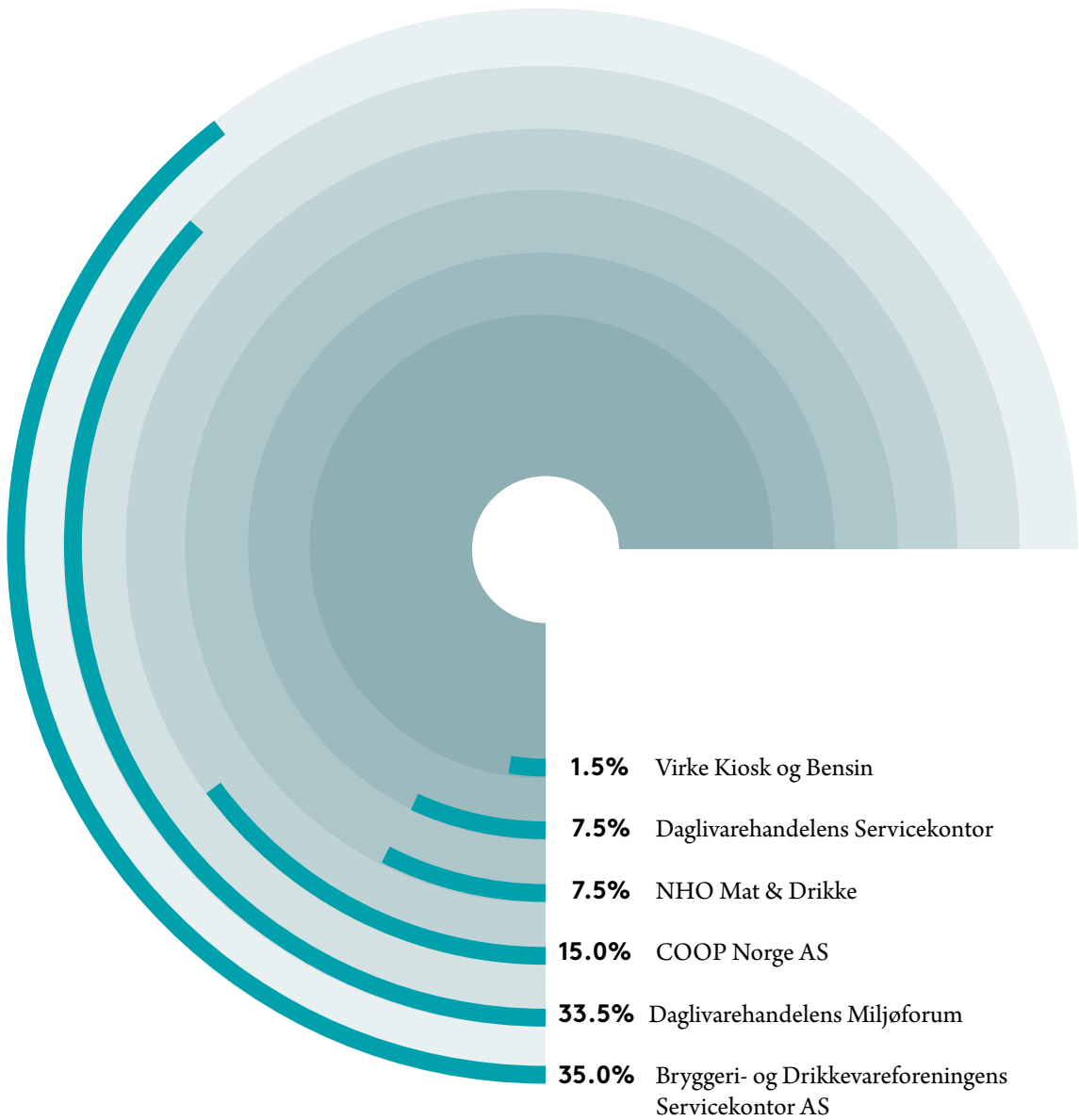
Torgeir Løftingsmo
CNH (CNH)

Siv Grønning
BS (Ringnes AS)

Christian Aass
BS (Aass Bryggerier AS)

Thomas Weihe
DLF (DLF)

Infinitem's owners



Statistics for 2019

*Collection figures for reverse vending machines



598,643,369

cans returned*

89.5%

of all cans sold



556,570,503

plastic bottles returned

89.4%

of all cans sold



1,155,213,872

total returns

9,025

tonnes of aluminium were returned
and recycled by Norsk Hydro

20,219

tonnes of plastic were returned and
recycled by Veolia and Wellman

Financial statements

Infinitum AS - Income statement (figures in NOK 1,000)

Operating revenues and costs	2019	2018
EPR revenues	40,759	118,075
Deposit return revenues	2,934,976	2,206,991
Sale of collected materials	180,164	182,503
Other operating revenues	45,695	36,413
Net operating revenues	3,201,594	2,543,982
Deposit return expenditure	2,682,941	2,031,246
Handling fees	249,241	243,089
Transport costs	126,091	114,929
Other production costs	74,569	75,533
Total operating costs	3,132,842	2,464,797
Profit from operating activities	68,752	79,185
Admin, marketing and depreciation	64,704	62,426
Operating profit	4,048	16,759
Net financial items	5,361	1,986
PROFIT AFTER FINANCIAL ITEMS	9,409	18,745

Key figures

Supply chain	No. of cans	Tonnes of cans	% of added	No. of PET	Tonnes of PET	% added to the market
Total sales	684,093,737	9,478	-	619,262,956	22,323	0%
Value chain	-14,079,824	-180	-	10,631,013	405	0%
Added (sales + value chain)	670,013,913	9,297	100%	629,893,969	22,728	100%
Total returned through reverse vending machines	598,643,369	8,324	89.5%	556,570,503	20,316	89.4%
From central sorting plant	5,328,154	74	0.8%	1,132,496	39	0.2%*
From slag sorting	40,832,520	566	6.1%	-	-	0.0%*
From materials sorted at source	4,595,052	61	0.7%	1,329,523	44	0.2%*
Waste-to-energy	9,664,485	134	1.4%	42,228,252	1,343	5.9%
Total recycled from waste	60,420,211	835	9.0%	44,690,271	1,426	6.3%
Total recycled	659,063,580	9,159	98.5%	601,260,774	21,742	95.7%
Incineration waste in bottom ash	13,610,840	189	2.0%	-	-	-
Energy recycling incineration	1,884,106	26	0.3%	7,536,117	236	1.0%
Unknown allocations	-4,544,613	-76	-0.8%	21,097,078	750	3.3%**
Total not returned	71,370,544	973	10.5%	73,323,466	2,412	10.6%
Total	670,013,913	9,297	100%	629,893,969	22,728	100%
Foreign items	36,729,975			5,854,506		

* Materials recycling

** Also represents uncertainties in the analysis

Balance sheet (figures in NOK 1,000)

Assets	2019	2018
Non-current assets		
Plant and equipment		
Land, buildings and other real property	115,142	55,821
Plant and machinery, equipment, fixtures, etc.	45,740	44,108
Plant and equipment	160,882	99,929
Financial non-current assets		
Net plan assets	536	577
Financial non-current assets	536	577
Total non-current assets	161,418	100,506
Current assets		
Receivables		
Trade receivables	278,568	261,797
Other receivables	19,014	21,573
Total receivables	297,582	283,370
Cash at bank and in hand, etc.	309,326	263,076
Total current assets	606,908	546,446
TOTAL ASSETS	768,326	646,952
Equity and assets	2019	2018
Equity		
Contributed equity		
Share capital (200 shares in denominations of NOK 7,500)	1,500	1,500
Total paid-in capital	1,500	1500
Retained earnings		
Other capital	51,828	42,418
Total retained earnings	51,828	42,418
Total equity	53,328	43,918
Liabilities		
Current liabilities		
Trade payables	145,951	139,178
Unpaid government charges and special taxes	2,975	2,839
Other current liabilities	8,330	6,275
Provision for deposit liability	557,742	454,742
Total current liabilities	714,998	603,034
Total liabilities	714,998	603,034
TOTAL EQUITY AND LIABILITIES	768,326	646,952



INFINITUM