



# 20

of producer  
responsibility  
across sectors

# YEARS

The story of a deposit system  
for a circular economy



20 years before climate change finally became the most serious issue on the world agenda, Denmark established a deposit system, which other countries and companies are now looking to for inspiration. If emulated across the world, it could be a sensible solution to some of the major challenges we are facing today

# 90%

In 2021, the membership countries of the EU were required to collect 90% of all plastic bottles by 2029 at the latest

# 95%

In Denmark, 95% of all plastic bottles are returned - the highest percentage in Europe

# 93%

In 2021, the return percentage of disposable packaging in Denmark reached 93%.

# 81%

Recycling of plastic bottles saves 81% CO<sub>2</sub>

Photo: Ty Stange



In autumn 2021, all countries participating in the COP26-summit in Glasgow, reached an agreement to try and curb the consequences of climate change. It was more than abundantly clear to most that there is an urgent need for action and sustainable solutions. Already, initiatives and schemes have been implemented in the EU, amongst others the EU plastic directive from July 2021. This contains specific targets for recycling and more producer responsibility. Some disposable plastic is banned, while other types must be collected and recycled. By 2029, membership countries are required to collect 90% of all plastic bottles.

20 years before climate change finally became the most serious issue on the world agenda, Denmark established a deposit system, which other countries and companies are now looking to for inspiration. If emulated across the world, it could be a sensible solution to some of the major challenges we are facing today. In 2021, the return percentage of disposable packaging in Denmark reached 93%. The CO<sub>2</sub> savings from the recycling of plastic

bottles is 81%, and the fees paid by manufacturers for the Danish Return System to take responsibility for the empty packaging have more than halved in the last five years.

Dansk Retursystem is a circular company that came into being via strong partnerships and in close cooperation between public and private business sectors. We would like to tell the story of how it all began and how the company has settled into its current shape. Hoping to inspire others, we would also like to share some of the challenges that we encountered along the way, as well as the solutions we found. Let's begin our story at the very beginning when Dansk Retursystem was established.

**Lars Krejberg Petersen**  
CEO



# Lured by a deposit

23<sup>rd</sup> of September 2002. A day many had been looking forward to, but also a day that many had been fighting. It is the day when Denmark finally allows people to quench their thirst in fizzy drinks and beer from cans. Now, they are lined up on supermarket shelves next to the old standard glass bottles, labelled with bright new deposit symbols and barcodes. Because now, all of them have been registered and labelled to make it possible to return them in exactly the same way as the old glass bottles. The new disposable

cans have become part of a new common return and deposit system.

The event received a great deal of attention in the media. Ritzau sends a journalist out in the streets to test if the new deposit system actually works, and Denmark's National Radio states that the uniqueness of the cans is the deposit:

**“The lure is a deposit. Just as with regular bottles, there is a deposit on cans to ensure that consumers hand them over in the appropriate place rather than casually throwing them away wherever...”**





“The lure is a deposit. Just as with regular bottles there’s a deposit on cans to ensure that consumers hand them over in the appropriate place, rather than casually throwing them away wherever... The old prank of flattening the beer can against the forehead after downing the drink in one sip, and then throwing the can in the most annoying places, is now a thing of the past. A new chapter in the history of the beer can has begun.”<sup>1</sup>

This was a turning point in the history of packaging as well as for the environment. And today, the circular business model is more relevant and more in demand than ever. But the launch on the 23<sup>rd</sup> of September 2002, was preceded by a lot of work.

### **The Danish deposit model**

The ideas behind Dansk Retursystem and the circular business model go way back in history. Bottles are precious. Procuring new bottles is expensive for the breweries so they are keen to have them returned. By putting a deposit on them they also represent value to consumers. In 1890, Holmegaard starts to produce standard bottles for beer and fizzy drinks, which the breweries are obliged to use. So now, all drinks are sold in a common 33 cl bottle for beer and a 25 cl bottle for fizzy drinks, which replace the breweries’ own bottles.

Throughout the 1920s and 30s, the deposit system is gradually extended, and the simple arrangement with unified bottles and crates for beer and pop becomes quite popular. Already then, it was generally considered the world’s best deposit system – as very close to 100% gets returned.

So, the Danish deposit-culture is built on more than a hundred years of returning our empty bottles and is an integrated part of production, retail and food-service industries. The shops receive the returned bottles, pay back the deposit and the breweries collect the empty bottles, wash them and refill them. Production and logistics are set up for this system and the bottles are reused up to 30 times. Everybody participates and contributes to the deposit system, and its success relies on the backing of everybody, including the breweries, bottle makers, retailers, consumers and politicians – as well as on the support changing governments.

Internationally, things look different. At the same time as the Danes are building a one-stringed packaging system, the Americans and many other countries are canning their beer and soft drinks. Even in Denmark the market is changing, and in the 50s some of the major breweries start to produce beer in cans for export. During the 60s, the environment is entering the agenda, and even if cans are not yet on Danish supermarket shelves, there is an emerging opposition against them, which will continue for more than 40 years. In 1971, the debate results in a scheme that allows measures against disposable packaging for beer and soft drinks.

Around the same time, the breweries are advocating for an expansion of their options and new types of packaging emerge, including Coca-Cola bottles and the small, plump, brown beer bottle from Faxe, which is also the first brewery to launch a canned beer.

However, the Danes are rather fond of the standard bottle, and beer in cans only achieve a market share of 1-2%. And it stays that way for a number of years, as Denmark installs their very first Environmental Secretary in 1973, Jens Kampmann (S), who wishes to limit the sale of cans. The breweries enter a voluntary agreement to letting the

overall sales of cans remain at 2%. Only ten years later, Denmark implements a total ban on cans.<sup>2</sup>

Denmark's ban is not well received in the EC. It runs counter to the Rome-treaty, the inner market and the free mobility of goods between the membership countries. In 1983, the European Commission initiates a case against the Danish state. We'll get back to that a bit later.

<sup>2</sup> The breweries and their three main challenges. Bryggerierne og de tre store udfordringer. The Brewery Association's 100 years' anniversary book.

### The Ministry of the Environment

When the Ministry of the Environment was established back in 1971, it was named The Ministry of Pollution Control. It was the first of its kind - in Denmark and in the rest of the world - and the first time that pollution was on a political and administrative agenda. In 1973, the name was changed to the Ministry of the Environment.







### Plastic bottles speed up the development

With the introduction of plastic bottles, the so-called PET-bottles, in the beginning of the 90's, the market takes a new direction.<sup>3</sup> The bottles are easy to fill and also become part of the Danish return culture. But the increasing number of new variants create more challenges with the handling at retailer point. So, they demand to get paid by the breweries to cover their costs for staff to manage the empty bottles, which they are legally obliged to take back and sort.

The breweries do not feel obliged to meet this demand, but retailers stand their grounds. This marks the beginning of many years of negotiations in the Breweries' Association and work towards one mutual agreement and one common system. Finn Terkelsen who is vice-president of Carlsberg takes the initiative to sort out the issue and start the process.

### Lots of meetings

It isn't easy – in fact, it is rather complicated. There are many parties around the table in the Breweries' Association, including the Brewery Group (now Royal Unibrew), Albani (now Royal Unibrew), Carlsberg, Dansk Supermarked (now Salling Group), Coop and De

Samvirkende Købmænd (trade association for Danish grocers) – and they all have their individual agendas. Many long meetings are held, not without friction. It is very hard to reach an agreement both internally in each sector and across – while ensuring political support.

**“We had so many meetings. It was critical to get the entire value chain on board and committed.”**

“We had so many meetings. It was critical to get the entire value chain on board and committed. All along, we wanted to build one common system, which allowed nobody to be free loading. That is why we wanted everybody in the industry to join the dialogue. We needed consensus, and that is not easy to achieve,” says Finn Terkelsen.

<sup>3</sup> <https://bryggeriforeningen.dk/ansvarlighed/klima-og-baeredygtighed/pantsystemet/historisk-udvikling-af-pantsystemet/>



One of the issues debated amongst retailers is whether a common system is what is required. The question is whether the breweries and the retailers can reach an agreement about a common system or whether each of them should develop their own, so-called, island-solution.

"Some of the larger, financially strong chains considered implementing their own system. So, for me, it became really important to fight the battle for the smaller grocery shops – because what were they then supposed to do? They couldn't set up their own system. It wouldn't be in the interest of consumers either, as it would mean they had to return all bottles and cans to the same shop where they were purchased. A common system was the only way to go," says John Wagner, managing director of the trade association for Danish Grocers, since 1995.

Meanwhile, the debate about cans is still going on, and Svend Auken has become Environment Secretary. He is vehemently against cans.<sup>4</sup> Although Denmark maintains their ban on cans there's still an ongoing case against the Danish state. And it looks like they're about to lose it.

That is why three things become important to the process. If retailers are to receive compensation for their handling of returned bottles, it needs to be objectively calculated and apply to all types of recyclable bottles. It needs to be managed by an independent company and must be construed in such a way that disposable packaging can be included if the system is to be opened for a free choice. So, from the beginning there are two pillars: one to calculate the price of handling return bottles and building up an independent company to manage compensation and fees. The other pillar is about designing a construction, which allows the company to collect returned packaging, handle deposits and fees and which is mandatory to participate in.

Meanwhile, behind the scenes, Svend Auken acknowledges that it's a good idea to be ready with a model that ensures disposable packaging is collected in a deposit system resembling the old system. If Denmark were to lose the court case, it would be good to be prepared. We will get back to this a bit later...

<sup>4</sup> [https://www.folketingstidende.dk/samling/19951/beslutningsforslag/B136/19951\\_B136\\_BEH1\\_M90\\_referat.pdf](https://www.folketingstidende.dk/samling/19951/beslutningsforslag/B136/19951_B136_BEH1_M90_referat.pdf)  
<https://www.information.dk/2007/07/marked-paa-daase>



### Development of a concept

In 1996, an analysis is initiated, which is to map the costs of handling packaging and to be carried out by a neutral party. An agreement is entered with Logisys. Also, the industry and retailers agree to form a committee, which can negotiate and act on behalf of the industries to drive the process. The meetings are run and coordinated by the Brewery Association. Any possible scenario is discussed, and everything is described in detail. How much does it cost retailers to handle the different types of bottles? Which solutions would improve and simplify the processes? Who would be entitled to subsidies for investing in and streamlining their systems? How much should it cost to enter the scheme? What does it take to collect? What should the deposit fees be? Models are made to calculate investments in equipment, signing up, registering, fees etc. The members of the committee pack their suitcases to visit other countries for inspiration and to learn from their mistakes. They look to Sweden who is one of the first countries to implement deposit on packaging. Three years later, a 250 page long detailed project description is ready. Meticulousness and perseverance are rewarded, and the parties all agree that this is going to be the foundation for the further cooperative process towards streamlining and a common solution for the future.

Everybody agrees that an independent company must be formed to handle all administration and pay out compensations and deposits. This company should also invest in the development and modernisation of the existing deposit system for refillable bottles to make it easier for consumers to return the bottles and for retailers to handle them. The company is also to prepare a common deposit and return system for disposable packaging, which will solve the environmental challenges Denmark will be facing in case the market is to be made open for a free choice of packaging.

### A framework agreement is reached

The agreement needs approval from the Danish Environmental Protection Agency. But the agreement cannot stand alone and there is also a need for legislation to allow a monopoly to run the system, to make registration mandatory, while ensuring equal rights and conditions for access to a nationwide collection system that ensures recycling of used packaging. The plan is to invest around

250 million DKK over a six-year period in streamlining the existing system.

“We had some demands: if we were to form a nationwide return and deposit system for the sake of the environment, it would only work if everybody joined in. Also, unless everybody chipped in, the competition in the market would get out of balance. So, the deal is that, if you bring products to the Danish market, you must register and contribute to paying the costs of investments, handling and collection,” says Finn Terkelsen.

### A necessary united approach to ensure:

- Calculations, a mutual concept, financing, investments and a framework agreement
- Mandatory registering to the system
- Monopoly to run the deposit system
- Do retailers receive the bottles or are alternative solutions are necessary

### Politically it is necessary:

- To make decisions about legislation to support the system
- That the Danish Environmental Protection Agency approves concept and framework and ensures legislation
- That the Danish Environmental Protection Agency and the Danish Competition Authority approve the process
- That the Danish Competition Authority accept the construction and concept
- That there's political support for one common deposit system

### But why monopoly?

The crux of the matter is the amount of money needed to establish Dansk Retursystem and build an efficient, solid system. This is necessary for optimising the handling of returned bottles at retailer point and to achieve environmental gains. The island-solution could not have solved these challenges. It must be easy for consumers to hand in their used bottles, no matter where they were purchased in the first place. It should be possible to buy a drink in a kiosk in the evening and return the empty bottle in the supermarket next time you go shopping. Also, it is a political decision and requirement that all materials; glass, plastic and metal, should be returnable, collectable and recyclable.

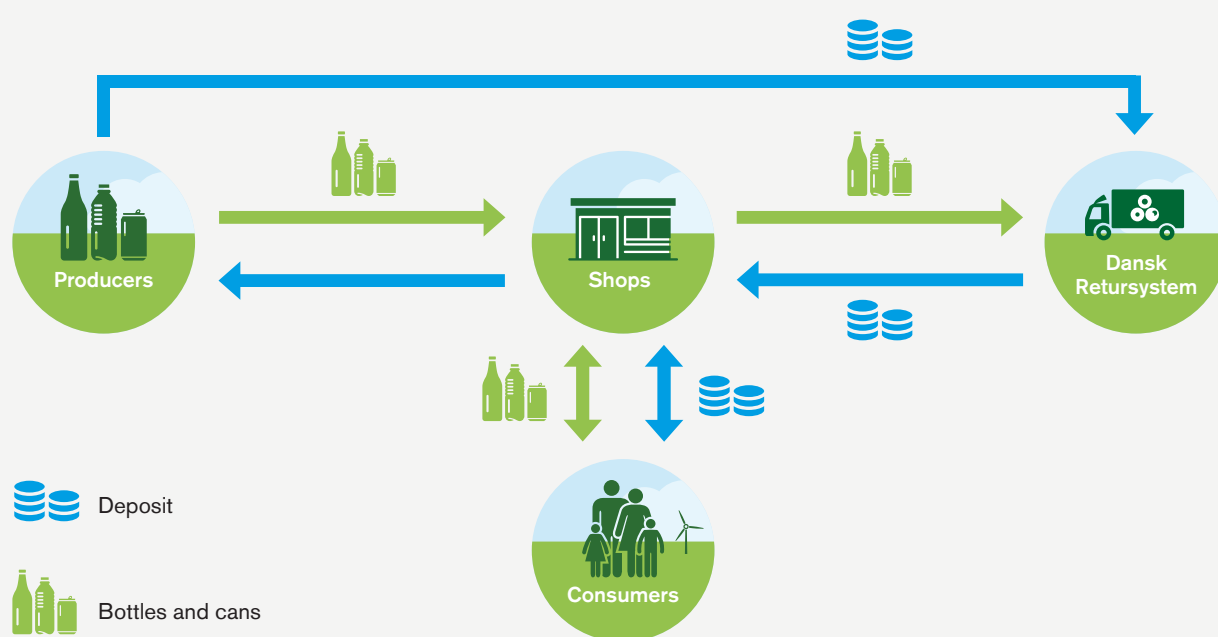
If you take a look at the island-solutions that are implemented a couple of decades later with a deposit on items such as plastic bags and coffee capsules, you'll find that the return percentage is quite low. That is why both

the industry and the trade association for Danish grocers wanted to avoid island-solutions. To secure the investment and to avoid systems being built only for materials that represent a value, a monopoly was a requirement from both parties.

### Deposit money flow:

When the breweries and soft drink producers send beverages to the shops, they send a corresponding deposit to Dansk Retursystem. The shops refund deposit to the consumers and then receive deposit money from Dansk Retursystem.

### Deposit money flow





The requirement for monopoly is yet another hurdle. Competition wise it is naturally a delicate issue. Dansk Retursystem must be able to account for calculation methods and maintain transparency towards the Danish Competition Authority and ensure that competition sensitive data won't be accessible to the owners, neither sales data nor data on the products that are encompassed by the system. There must be completely watertight shutters between them. The Environmental Agency proposal gives the company six years to establish and develop the system, after which their monopoly runs out. Every third year the Environmental Agency must evaluate their environmental and financial efficiency and based on this, decide whether to renew their monopoly for another three-year period.

### **The EC-Commission sues the Danish state**

Back to the political stage, which determines the direction for the analysis and the concept that the breweries and the retailers are working on: Now, the EC-Commission is suing Denmark for its deposit system and ban on cans.<sup>5</sup>

According to the EC-Commission, this is a trade-barrier and a violation of the Rome-Treaty. But around this time, there are no common European regulations in this area. The Danes propound the environmental gains of the system, and their claims were upheld. In a sensational verdict, the EC Court approves the Danish deposit and return system, which is a crucial part of the Danish waste and recycling system.<sup>6</sup>

But the battle of the cans is not yet over. In 1994, the EU-Commission (which had changed its name from EC to

EU in 1993) passed a packaging directive that had three purposes: to protect the environment, to further businesses' competitiveness and prevent the membership states from using packaging for protectionist purposes. The directive meant that the countries must approve each other's packaging.

Denmark votes against the scheme. They believe that the demands in terms of recycling and reusability are too low. Several countries, including Denmark were much further ahead in that respect.

The Danish Environmental Secretary Svend Auken orders a life-cycle analysis to calculate the environmental effect of disposable versus reusable bottles. This analysis is carried out by Swedish Chalmers Industriteknik and Denmark's Technical University. The results of the analysis show that the environmental footprint of reusable bottles is lower than that of disposable bottles. However, the results also show that the footprint from aluminium cans depends on the source of energy used for their production.<sup>7</sup> The Danish government decides to maintain the ban on disposable packaging for beer and soft drinks. As a consequence, the EU-Commission takes the first step towards a case against Denmark for violation of the treaty.

<sup>5</sup> Bill proposed on February 1st 2001 by Environmental Secretary Svend Auken.  
Europæiseringen af Dansk Ret, Kapitel 22 om Pant- og retursystemet, Knud Loftlund. DJØF: <https://www.djoef-forlag.dk/book-info/europaeiserin-gen-af-dansk-ret>

<sup>6</sup> Information 7. juli 1998

<sup>7</sup> Information 7. Juli 1998



“Denmark is being accused of protectionism. We are being accused of excluding foreign products from our market, because we maintain the mandatory deposit system and the ban on cans. It is still an amazing environmental story, and consecutive environmental secretaries were thrilled about the system. It was only a very limited amount of beer and soft drinks that were purchased across the borders. In Germany only 0,7% of the beer was imported,” says Director of the Brewery Association Niels Hald.

For the Brewery Association there is also another problematic aspect of the can issue. The EU-Commission’s objection to the Danish ban is solely based on the ban’s consequences for foreign producers and importers. It doesn’t deal with the consequences for Danish producers. The system distorts competition because Danish producers are obliged to collect and recycle their bottles and because they don’t have the same opportunity to sell beer and soft drinks in various types of packaging. That is

why the Brewery Association makes a formal complaint about the Danish packaging rules to the Commission, which then adds to their objection to the Danish state that domestic producers cannot have tougher national requirements imposed on them.<sup>8</sup>

### **A legal and an illegal can**

The debate flares up again. For even if there is general consensus about Denmark’s ban on cans, both the retailers and the party, Venstre, are making a noise. They want a free choice of packaging. There is also objection from a completely different side, as EU Commissioner for the environment, Ritt Bjerregaard is not on the same side as her fellow party member, Svend Auken. According to her, Denmark cannot maintain the ban on cans, and she literally takes over the stage. During the Social Democrats’

<sup>8</sup> The breweries and their three main challenges. The Brewery Association’s 100 years’ anniversary book



congress in 1998, she walks up to the rostrum with two cans in her hands: "This can contains cola. It is illegal in Denmark. The other can contains cola too, but it also has rum in it, which makes it legal in Denmark.<sup>9</sup> This is an indisputable fact – and a dilemma.

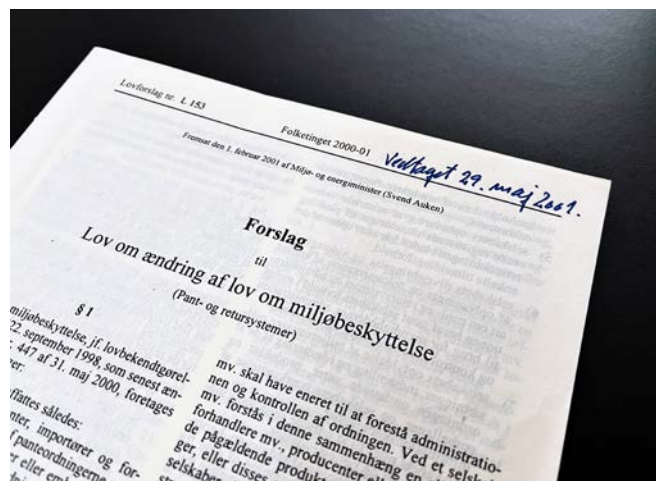
Even though Svend Auken refuses to give up the fight, he can probably sense that it is going to be very difficult to maintain the Danish ban. In all confidentiality he supports efforts between the drinks manufacturers and the retailers to reach a possible solution for the future.<sup>10</sup>

About two years later, on May 11<sup>th</sup>, 2000, Svend Auken informs the Environmental and Planning Committee about the framework agreement that the breweries and the retailers had reached. A majority of the committee approves the plans and pledges to support the legislation necessary for the breweries and the retailers to establish a deposit system for disposable packaging, which enables a free choice of packaging. This means that everything is ready if a law to allow free choice of packaging is enacted or if Denmark should lose the case about cans in the EU Court.

Svend Auken is asked to make a proposal for an amendment of the law for protection of the environment, drafting the necessary legislation.

### Public private cooperation system

With political approval, the industry and the retailers are now ready to establish Dansk Retursystem Ltd with a capital stock of 10 million DKK, compiled by 10,000 shares. But there are new bumps on the road. As the company is about to be formed, it turns out not everybody from the retail sector wishes to be co-owner. In fact, the entire grocery sector withdraws from the owner structure. Instead, it is the breweries and the drinks producers who become the actual owners of Dansk Retursystem, and the shares are based on market shares. But because the concept must be a nationwide sector solution 100% based on cooperation across sectors, the retailers are given a seat on the board. Later, The Danish Chamber of Commerce is also invited to the table to represent importers.



This means we have got a board in which the owners don't have exclusive decision power. It is a board, which on one side of the table consists of competitors - who at the same time are suppliers to those sitting at the other side of the table, who are also competitors with each other. Despite all this, they are taking mutual responsibility and succeed in developing and future proofing the Danish return culture.

Apart from the complicated composition of the board, the company is also based on a unique construction, which is quite unusual for privately owned companies. It is non-profit. Nobody is supposed to earn money from the system and at the same time, it is regulated by the Environmental Agency. The core business of the company and its environmental obligations are described in the law for the protection of the environment and in detail in the Deposit Act passed in parliament on May 29<sup>th</sup>, 2001.

<sup>9</sup> <https://www.information.dk/1999/05/problemer-paa-daase>

<sup>10</sup> Say Niels Hald and John Wagner in unison.

The 108 clauses<sup>11</sup> describe in detail the foundation of the company, how the company is to be run, its obligations and how high the return percentage must be. The act also specifies which type of drinks and packaging; which producers and importers must put a deposit on; who is obliged to receive the empty bottles and cans from the consumers, and how Dansk Retursystem must manage the work. This means that Dansk Retursystem will be operating in the cross field between producers, retailers, legislation and consumers.

And they succeed! A cooperative system is born. On June 30<sup>th</sup>, 2000, this environmental company is a reality.

**“Establishing Dansk Retursystem is the thing that I’m most proud of having accomplished in my entire career. It is one of the largest CSR projects in the Danish business sector.”**

“Establishing Dansk Retursystem is the thing that I’m most proud of having accomplished in my entire career. It is one of the largest CSR projects in the Danish business sector and an example of how companies take responsibility - and of the necessity of broad political support and cooperation. Something was created as a solution to challenges we were facing. It was an evolutionary project of huge dimensions. From a societal perspective it was exactly the right thing to do. And by involving everybody in the process, by being patient and by trying to understand each other’s agendas, we found a common solution,” says John Wagner, managing director of the trade association for Danish grocers.

### **The board when Dansk Retursystem was established:**

- Albani Bryggerierne (now Royal Unibrew)
- Bryggerigruppen A/S (now Royal Unibrew)
- Carlsberg A/S
- Harboe Bryggeri A/S
- Coca-Cola Tapperierne
- De Samvirkende Købmænd
- Fællesforeningen for Danmarks Brugsforeninger (now Coop)
- Dansk Supermarked indkøb i/s (now Salling Group)

<sup>11</sup> There were 7 clauses in the original act no. 124 of February 27, 1989 about packaging for beer and soft drinks <https://www.retsinformation.dk/eli/ta/1989/124>. There are 108 clauses in the present act no. 1787 of November 28, 2020 about deposit and collection of packaging for certain drinks, plus 3 appendices with several demands. 52 altogether. <https://www.lovtidende.dk/documents?dnr=1787&dt=10&dt=20&dt=30&dt=90&dt=120&dt=270&dt=60&dt=100&dt=80&dt=110&dt=130&dt=1510&yh=2020&yl=2020>







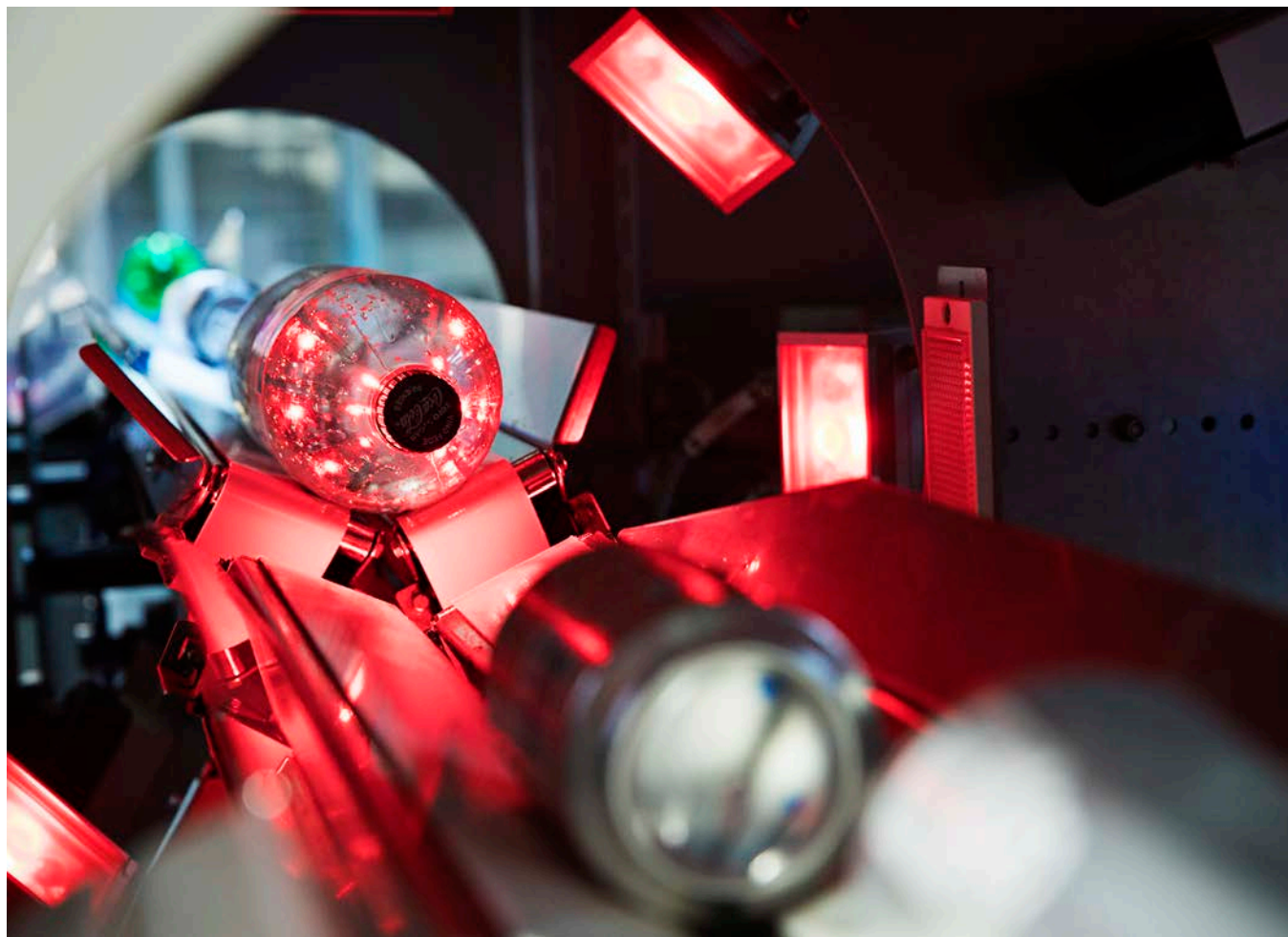
# Deposit systems are not off-the-shelf items

The concept has been developed, the parties have reached an agreement and the legislation is in place. Now all that is missing is a director to implement the plans. Benny Rasmussen is chosen and that is not by chance. Right from the beginning he was associated with the project as a consultant employed by Logisys. He was in charge of all the analytic work and participated in the development of the technical solutions. This means that he was known to the board and to the authorities and that he was familiar with every detail of the system. With a monopoly in one hand and the deposit act in the other, he gets to work. His job is to build a nationwide deposit system for the future.

Suddenly things are moving – much faster than expected. With the change of government in November 2001, Hans Christian Schmidt (V) is appointed Environmental Secretary. And he is in a hurry. In a hurry to break with the environmental policies of Svend Auken, and one of the issues up for a challenge is the can ban. Already in January 2002, the ban is lifted.<sup>12</sup> Hans Christian Schmidt is excited about the idea of a deposit system for disposable packaging. But the challenge is that even though the deposit act and the company are ready, the EU Commission's approval of the act is still missing and so is the entire physical construction of the system.

<sup>12</sup> [http://webarkiv.ft.dk/?/samling/20012/udvbidag/mpu/almdel\\_bilag89.htm](http://webarkiv.ft.dk/?/samling/20012/udvbidag/mpu/almdel_bilag89.htm)

Bottles and cans are scanned for shape, deposit label, barcode and weight.



### Registration of new products

All new products in disposable plastic packaging, aluminium and glass must be registered and every product must have a barcode so that they can be identified when returned by the consumers.

### Products

# 50,519

In 2003 2,241 products were registered.  
In 2021, this figure rose to 50,519.

**“Hans Christian Schmidt had a strong political wish to lift the ban on cans.”**

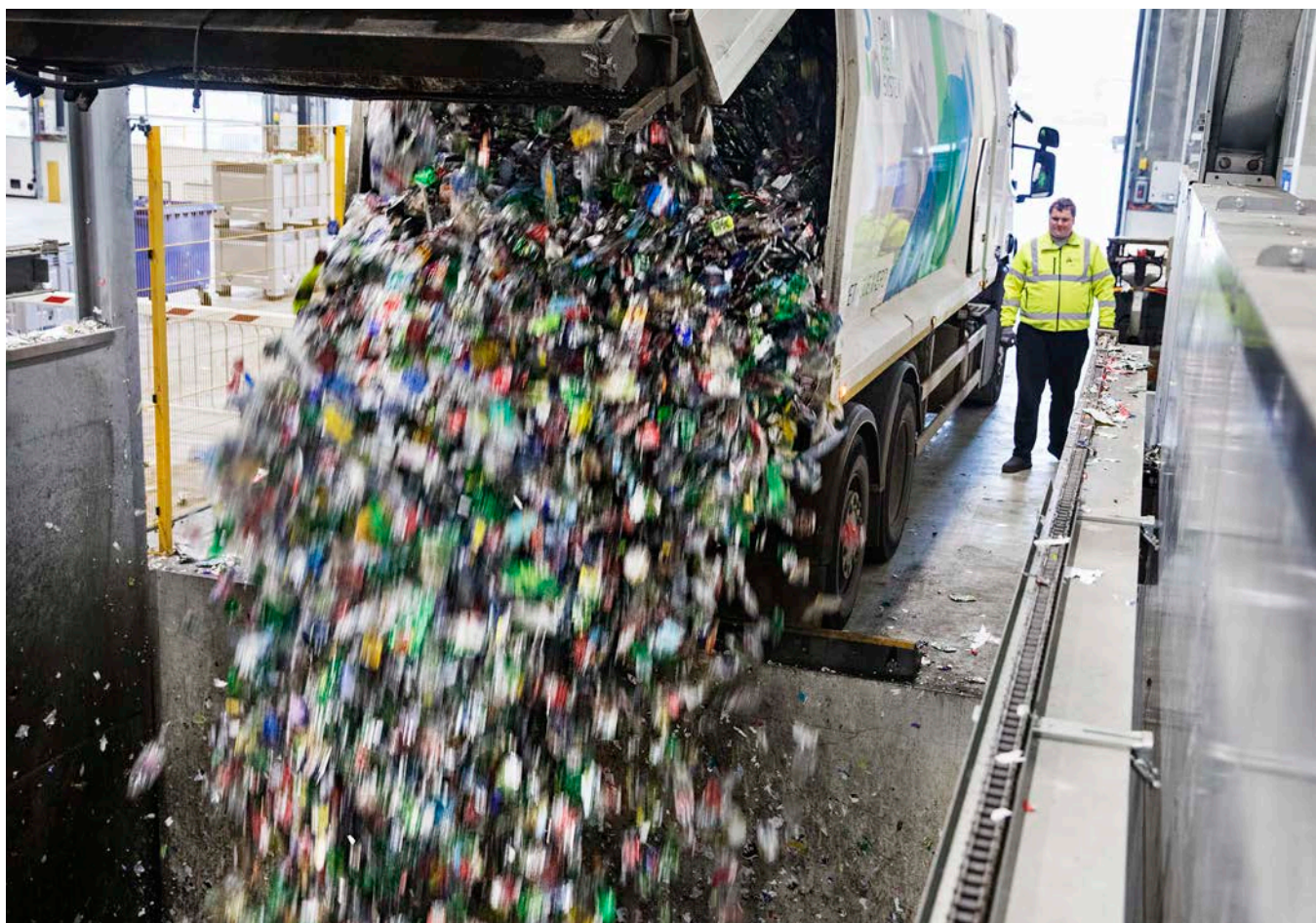
“Hans Christian Schmidt had a strong political wish to lift the ban on cans. And in order to not create problems for retailers and consumers and in order to introduce disposable packaging in an environmentally sound way, we enter a voluntary agreement with retailers and breweries, in which everybody promises to not produce or sell cans until the system is up and running. We needed time, and we were given eight months to get ready, which wasn't very much,” says Niels Hald.

#### Rolling up the sleeves

Benny Rasmussen and his team of a handful of employees had to roll up their sleeves and get to work. Deposit systems are not exactly off-the-shelf items. The 2,000 bottle machines that were already installed in the shops needed to be extended with scanners to read data, deposit labels' barcodes, shape and weight. Otherwise, anybody could throw anything into the machines. In return, the machines needed to be ready to receive all kinds of cans and bottles with a deposit on them.

Scanners and labelling are also necessary for counting the packaging and paying out the deposit. And hundreds of shops needed to have a machine installed. To carry out this task Dansk Retursystem teamed up with the bottle machine manufacturer Tomra.





Dansk Retursystem develops automatic sorting systems for the bottle machines so that the shops won't have to spend time doing it manually. Compactors are installed to compress plastic and cans in the back of the shop. This way, the packaging not only takes up less space in the shop but also during transport. This is more environmentally friendly and much cheaper. But there are not only technical solutions to be developed. Deposit and security labels must also be designed and produced in a way that makes it impossible to copy them and cheat. All the new products in disposable packaging need to be registered and labelled with a barcode for recognition in the machines when turned in by the consumers.

Also, the entire logistics for collection must be set up and the packaging must be counted and sorted before they are sent off to the factories for melting down and recycling of the materials. The packaging is not handled and collected in the same way in all shops. In the large shops that are equipped with sorting machines and compactors, glass is separated from plastic and aluminium, which can be compressed at shop point. Packaging from smaller grocery shops, kiosks, restaurants etc. is not sorted or compressed because they need to be counted at the factory before the shops can receive the deposit. Later, Dansk Retursystem develops special cars that look like bin wagons. The cars are called BT-cars for 'ButiksTømning' (Shop Collection) and they can contain between 160,000 and 240,000

pieces of compressed packaging. The vats from the shops are emptied directly into the car and the vats are washed there and then to save transport back and forth. The BT-cars save a lot of kilometres and CO<sub>2</sub>. Later, upon arrival at Dansk Retursystem's factories, the compressed plastic and aluminium packaging are sorted into separate tracks.

Benny Rasmussen establishes two factories; one in Hedehusene and one in Hedensted where counting machines and sorting machines are installed. In the beginning, the facilities were modest with, for example, only a site hut for the coffee breaks.

The implementation of the deposit system goes through stages from largely manual processes in 2002 to more and more automated processes, both at the factories and in the shops.

With an increasing number of cans and bottles registered to the programme, including bottled water in 2008, shops are faced with an issue of lack of space. They want more streamlining of the bottle rooms and more flexibility for consumers. The board asks Benny Rasmussen to develop a new technical concept, which can contribute to future proofing in terms of capacity. The concept must make it easier for people with many types of packaging, it must be financially sound, and it must meet the environmental demands laid out by the Environmental Agency.

From 2007 to 2010, Dansk Retursystem develops the deposit station concept, which is tested in Høje Taastrup and Horsens. The system makes it possible for consumers to deliver one big sack of packaging. Over the years, the concept is developed and streamlined.

### **The commercial market**

However, not everybody is thrilled about the Dansk Retursystem construction, which on September 23<sup>rd</sup> makes it possible for Danish consumers to buy beer and soft drinks in all kinds of packaging with a deposit on them and return them for recycling. Importers, the Consumer Council, and Beer enthusiasts are not happy that Carlsberg

possesses a majority of the shares and therefore has a deciding vote on the board. They think that it has become harder to be a competitor in the Danish market, partly because the importers are obliged to stick deposit labels on each beer and because the fee is higher for glass bottles than for cans. They believe that the new system scares importers off and squeezes small producers out.<sup>13</sup>

Klaus Rehkopff chairs the Beer Enthusiasts. He is also a member of the contact committee for Dansk Retursystem, which is an open forum for dialogue and information for suppliers, shops and interest groups that don't have a seat on the board.

**“Today, we support the system. For the environment, recycling is a good solution.”**

“Today, we support the system. For the environment, recycling is a good solution. But our role is still to raise our voice if something seems unfair for the small breweries. It needs to be financially viable so that deposits don't turn into a factor that distorts competition. One example is that the fee for entering is the same for small as for big breweries. Our focus is to further the small brewer's conditions and to promote beer culture.”

The grocery sector is now seeing more diversity in the beer category.

<sup>13</sup> Information <https://www.information.dk/2002/10/minister-giver-carlsberg-monopol> 2012. oktober 2002

**“Because of the nationwide collection system, local breweries can now sell their products across the country.”**

“Because of the nationwide collection system, local breweries can now sell their products across the country. They don’t need to build their own logistics system to collect their own empty bottles, because Dansk Retursystem does that for them. This paves the way for much more diversity in the beer category. Even international beers find their place in the Danish market and the entire category grows. Suddenly, retailers can make money on beer, which becomes a category as big as the wine section,” says John Wagner, managing director of the trade association for Danish grocers.

When a producer brings a new product to the market, the packaging must be registered with Dansk Retursystem, who will then check its design, test it in a deposit machine, enter it into the system and make sure that the barcode is readable in all bottle machines across the country. Despite all these steps it only takes two weeks before the product is ready to be on the shelves.

## Number of producers and importers

# 1,525







### A court case that leaves indelible traces

The criticism levelled against Dansk Retursystem reached a peak shortly after the ban on cans was lifted. The company is accused of giving the board insight into confidential data about competitors' sales. Benny Rasmussen ends up in court. There was no substance to the accusations and Dansk Retursystem wins the case. But there is no doubt that both Benny Rasmussen and the company are deeply affected by it.

"Of course, there was no substance to those accusations. We neither could nor would pass on such data. My job was to build and run the deposit system based on a law described in detail, which was the constitution of the company, our DNA. And the Environmental Agency were supervising us. There is a decency and orderliness built into the structure, which we were following to the letter. The monopoly was my guiding star. Not because of the exclusive rights, but because it means that we have everything under complete control to be fit for assessment when the time is up for renewal. But the court case meant that our employees didn't feel like talking about their workplace and that we didn't do much on the

communication front. Which was a real shame as we had so many good results to show for ourselves in terms of the environment and society in general," says Benny Rasmussen.

However, the general support for the system is still intact. And over the years, the discourse in the surrounding world changes too. The environment comes into focus along with the climate agenda and the issue about shortage of resources. In this context the Danish deposit system represents a model for how an entire sector takes responsibility and together ensures circularity via recycling based on a strong and persistent cooperative effort – despite opposing commercial interests.

### Data handling

Dansk Retursystem does not have access to market data nor information about individual brands. No data about packaging is passed directly on to Dansk Retursystem, but goes via an independent accounting firm.

**“Our task was to connect people, technology and the environment. We needed different competencies, and people can accomplish a lot if they are met with trust and respect for their work and for the human being inside each of us.”**

### **Social responsibility**

For Benny Rasmussen the task is not only to build an environmental company but also to establish a company culture. The environment, people, innovation and social responsibility are written into the task ahead for Benny Rasmussen. There is no trodden path for deposit systems and circular business models, which means the company must be founded on an innovative and pioneering spirit. What are the implications of that for the company culture? For Benny Rasmussen it is also important that social responsibility is not only linked to environmental responsibility. He also believes that the company should take social responsibility by making room for people who for one or the other reason find themselves on the edge of the job market and need a helping hand to find their footing. He wanted an inclusive working environment where people look after each other and where there's room for professional and personal development. The sustainable business model also applies to the company culture.

“Our task was to connect people, technology and the environment. We needed different competencies, and people can accomplish a lot if they are met with trust and respect for their work and for the human being inside each of us. Some people's job is to work the counting machines, other people work with development, and others deal with legal matters. Together we were to take a company from a 250 pages long document to a reality with buildings, systems and people. Meanwhile, more and more products appear, and technology becomes more advanced. But all results and successes are created by people,” says Benny Rasmussen.

His focus on people is not just internal but also external. Because, in the end, the environmental effect relies on consumers' behaviour and whether they maintain the positive return culture. That is why Dansk Retursystem does a lot of information and campaign work, including school campaigns, which contribute to forming good habits at an early age. The entire population becomes familiar with the deposit label. Later, it also becomes a recognised environmental label.

### **The number of shops, restaurants etc. signed up for the deposit system**

**14,490**

In 2003, 7,000 were signed up  
In 2021, this figure had risen to 14,490







# The circular business model

Let's take a closer look at the economy of a circular deposit system. As mentioned before, the company is non-profit and there are three sources of income:

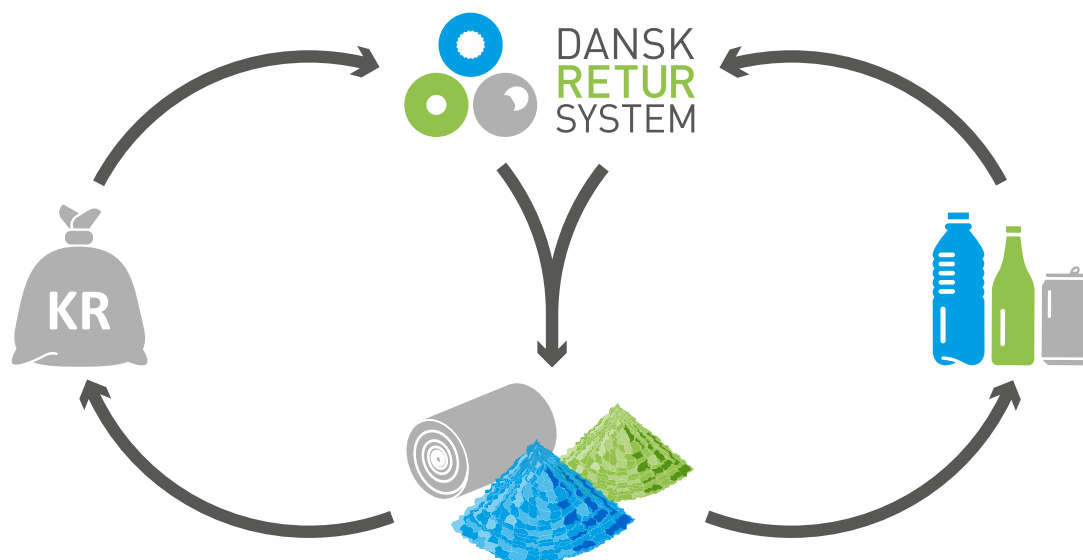
- The fees that producers and importers pay for the handling, transportation, storing, counting and recycling of empty packaging.
- Income from the sales of materials to be recycled.
- Income generated from the bottles and cans with a deposit on them that are never returned.

Producers and importers of drinks with a deposit on them must pay a fee according to the type of packaging they come in. Every type of packaging must pay for its own costs minus the price of the sale of the collected bottles and cans. No type of material is allowed to cover the cost of another type, and it is not possible to carry out packaging policies within this system. This means that Dansk Retursystem could not put an extra fee on one type to reduce it on another. It costs what it costs.

This means that the more efficient the system becomes, the lower costs for the handling of the packaging, and the more the materials are worth, the cheaper it gets. This is how the circular mechanism behind the system works.







For example, if a plastic bottle is dyed in a colour or if packaging consists of several types of materials, there will be an extra fee. This is either because the material will be less recyclable or because the process will be more complex as the materials need to be separated. Every year the Environmental Agency must approve the fees according to the rules in the deposit act.

Even though it can be complicated to run a company based on 108 clauses, it is also a tool, which can be used to document everything, and which plays a key role in the interaction between all parties. It ensures credibility and transparency.

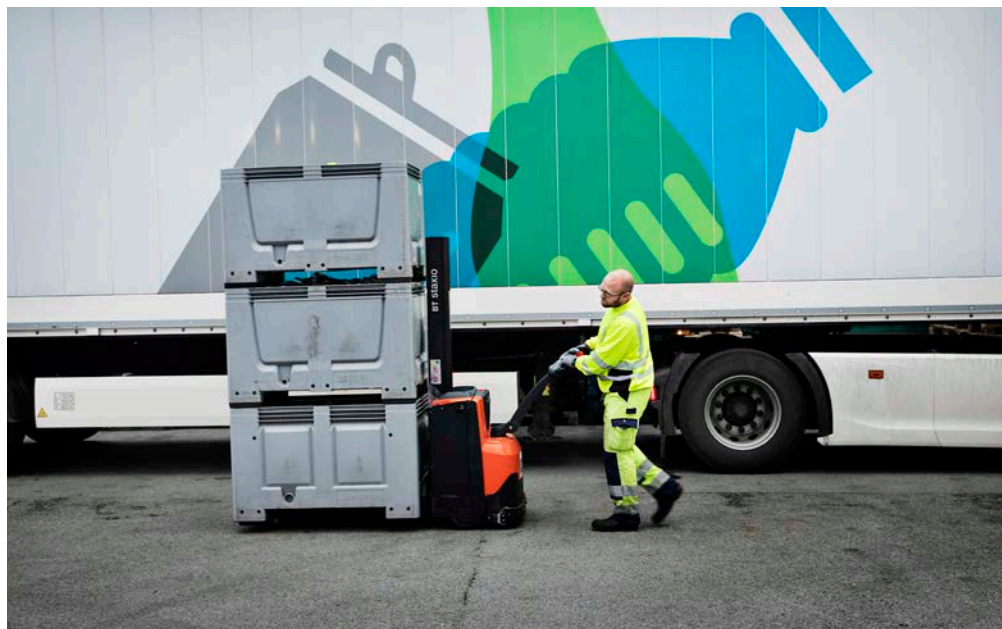
These two words; credibility and transparency, combined with his interest in and insight into the unique construction of a non-profit company operating on private conditions but publicly regulated, become key to Michael Christiansen, as he enters the stage to chair the board in 2008.

“When I stepped in as chairman, I thought: how hard can it be? Everybody is pro – politicians, the public, consumers and all parties involved. And we’re not even supposed to generate a profit. This must be really simple.

**“When I stepped in as chairman, I thought: how hard can it be? Everybody is pro.”**

But it turned out to be much more difficult than I thought. We’re operating in a cross fire of interests, and nobody must have an advantage over the others, neither the sectors involved nor the various types of packaging. And as it was still a loss-making business, the constant question was who was to pay. That is why the balance and the calculations were critical,” says Michael Christiansen.

He also realises that the deposit act, which he finds unnecessarily complex and detailed, is an important tool in this context and that the members of the board follow it carefully.



No matter how many empty bottles and cans there are in the market, it is the job of Dansk Retursystem to make sure that they are collected, sorted and sent to recycling. Collections are made from around 15,000 shops, offices and restaurants.

**“It obviously means a lot to the parties how the calculations are made and how the company is run. Just a one penny increase of the fee per bottle will affect their bottom line.”**

“It obviously means a lot to the parties how the calculations are made and how the company is run. Just a one penny increase of the fee per bottle will affect their bottom line. That is why transparency is crucial. The deposit act documents the system, and the main principles are the same now as they were 20 years ago. But I still believe that it would be a good idea to make it more simple,” says Michael Christiansen.

### **Targets and ambitions**

One of the most important questions that is discussed is how the fees can be reduced to make it cheaper for producers, without compromising on customer satisfaction. In 2014, the number of returned packaging per year has reached the billion mark. It is Dansk Retursystem's job to empty the market of empty bottles and cans, but the company has no influence on the number of cans sold or whether the producers should use reusable bottles. The company is expanded and extended to handle the development and the growth, which nobody could have predicted. The time has come for a change of gear. The company needs to move from being a start-up to becoming a version 2.0. Because even though the company has no influence on its top line, the market has grown to a size where there is no more uncertainty.

## Strategic focus areas 2015-2020

- New ways of handing in deposits
- Increase customer and consumer satisfaction
- More efficiency
- The environment
- CSR: Heading towards certification
- Our employees are our foundation

Disposable packaging is here to stay. It makes sense that the company should be acting more like a commercial company and operate in a way that matches its owners.

So, in 2014, when Lars Krejberg Petersen becomes the new director, the first and most important issue is streamlining, optimisation of processes, automation and logistics. One ambition is to reduce the fees, another is to go for a deposit system that can carry itself financially. The latter is more a guideline, a principle to follow, because nobody really believes that it would be possible.

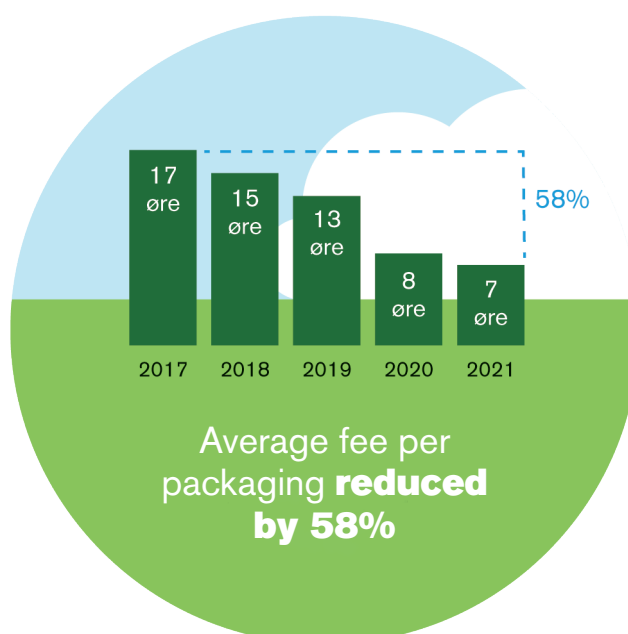
"It was a crazy efficiency target. For the first time, the company was to work on an actual strategy process along with the board. We're going to find a balance between three factors: customer and consumer satisfaction, efficiency and the environment. And we begin to set up targets. This is a completely new way of working for the company," says Lars Krejberg Petersen.

The 2020 strategy marks the beginning of a process towards efficiency. This takes place in every stage of the value chain, from sales of materials and planning of routes to more compactors in the shops and larger amounts of glass transported directly from supermarkets to melting factory. Streamlining of the factories are implemented via managerial tools, such as autonomous teams, LEAN and improved working environments. But it gets harder and

harder to find ways of streamlining the factories. Space is getting more and more limited as the number of packaging increases. There are also challenges with a lot of manual processes in a working climate impacted by a need for new solutions while the market just grows and grows.

A major project laid out in the strategy for 2020 is to build new, automated factories. The first one in Zealand where the biggest challenges are and, later, one in Jutland. In 2020, the first factory is completed. With its brand-new automated processes, an optimised flow as well as modern technology and equipment, it is the first green step made on the efficiency agenda.

The results of the many initiatives and changes are reflected in the average fees, which during the 2020 strategy's five-year period are reduced by 58 percent.



But there are also other targets and themes in the 2020 strategy, such as satisfaction amongst consumers and customers. Several deposit stations are established to make it easier for consumers to get rid of large amounts. And to make the handling easier for customers, the customer journey is moved into a much more digital space. One example of this is that new technology is implemented, which makes it possible to see if a bottle machine in a shop isn't working. Generally, digitalisation becomes part of many of the new solutions to make it easier and more efficient throughout the value chain both internally and externally.

## Everything in order

Before CSR became a common issue for most companies, it was already a part of Dansk Retursystem's DNA. Not only because of the company's core business as an environmental company but also as the foundation for a company culture based on decency. And in 2015, it also becomes a target in the 2020 strategy to ensure documentation and a systematic approach to the company's work with social responsibility. Things must be thoroughly in order, and in 2018, the company achieves CSR-certification according to the Danish standard DS 49001.

Dansk Retursystem has set up deposit stations across Denmark.









# From scrap to valuable resources

Are we working with scrap or with valuable resources? Are we moving empty packaging or are we working in service of the environment? And does it make a difference whether it's one or the other? Aren't the results the same? one could ask. No, they are not the same. For our employees and for most of the parties involved it makes a difference. And of course, it also needs to be easy, practical, fast and cheap. But when you spend time and money, the good old point about whether you are moving stones or building a cathedral is valid – also for the results. Strategy and targets are based on the company vision and mission, and focus is on the places where the light strikes.

That is why not only the strategy work but also communication becomes an important tool for Dansk Retursystem to take their results to the next level.

"For me it gets important to increase awareness around the company. Dansk Retursystem carries out an important environmental task for Denmark. It is a unique system, which almost everybody has a share in and can be proud of. We have a business model that can inspire others and we have built knowledge that can be shared. But I realised that only few know about the company and its effect on the environment and the climate. Our core product was

The employees are very conscious of the environmental task they're carrying out. Every day, they handle 4 million cans and bottles that are sent off for recycling.





In 2019, reality star, Linse Kessler becomes the face of Dansk Retursystem's campaign for the environment. People love the different approach – and the return percentage goes up – yet again!

**“For me it is important to increase awareness of the company. Dansk Retursystem has taken on an environmentally relevant task for Danish society.”**

talked about as scrap more than as a valuable resource. I wanted to change that,” says Lars Krejberg Petersen.

This means that Dansk Retursystem becomes more visible. The company opens up, talks about themselves, gets involved and participates in public debate. Its reputation

and people's awareness change significantly – and the interest in the company and the circular business model grows. This again, affects the return percentage.

“The biggest success is the return percentage, because there is a reversed incentive structure built into the model. The more packaging that is returned the less income. So, the better people become at returning their empties, the harder it gets to make the economy hang together without increasing the fees. That is why it is quite interesting that the company has succeeded in increasing the return percentage, while actually lowering the fees,” says Michael Christiansen.

#### **Ambitions for closed loops**

When building a cathedral you need good plans, you need to find the right type of stone and you need to agree on the inflow of light. In 2017, Dansk Retursystem appoints a new chairman with a green profile. Thomas Dalsgaard has a background as group managing director in Ørsted for Bioenergy and Thermal Power. Around this time, Dansk Retursystem is in the process of revising its 2020 strategy.





Cooperating with packaging manufacturers, we have succeeded in creating “pure” production lines for material that can meet the tough demands on food and drinks packaging.

“We wanted to raise our ambitions. Not only did we want to ensure the recycling of materials and a high return percentage, we also wanted to maintain the value of the materials by working toward closed loops, in which a bottle could become a bottle again. We needed more knowledge about the latest results from research in circular economy to set the right targets and initiate appropriate activities for the ongoing work towards closed loops. So, in our strategy work we proceeded by taking our board on an educational journey in circular economy,” says Thomas Dalsgaard.

The strategic challenge was mainly about the recycling of plastic bottles. Glass and aluminium cans are already in closed loops. Glass is used for new food and drinks packaging and alu-factories have dedicated lines for cans, because the material is so clean and requires very little processing. You can melt down a can and reproduce it almost one to one. That is why the most interesting task for us was to try and move the recycling of plastic to a new level. There are very high demands on plastic for use in food and drinks packaging. This means that Dansk Retursystem needs to find partners who are interested in building capacity and capability to set up production lines solely based on plastic bottles, so that they can meet the quality demands.

This is a long-term perspective. Dansk Retursystem will have to lower the price of the plastic, but the company hopes that prices will go up over time, as the packaging manufacturers will be able to use the ‘pure’ melted down material instead of crude oil.

**“We wanted to raise our ambitions. Not only did we want to ensure the recycling of materials, we wanted to maintain the value of materials.”**

The strategy is successful. Good partners are found and over time, prices go up – so much in fact, that Dansk

## **Facts about plastic**

It takes 2 kilos of crude oil to produce 1 kilo of plastic.

# 657 mill.

In 2021, the Danes returned app. 657 mill. plastic bottles.  
This is a return percentage of 96%.

# 81%

81% CO<sub>2</sub> is saved by recycling a plastic bottle, rather than producing a new one.

# 6 kg

6 kg of raw materials are saved when 100 plastic bottles are recycled.



Retursystem can sell their materials at a higher price than those deposit countries where the materials are not dedicated to pure food and drinks loops. This is a victory for the environment. But there is another challenge; until now, it has only been possible to make undyed plastic part of a pure drinks packaging loop, because it is much easier to recycle. Dyed plastic still ends up lower in the recycling hierarchy, primarily as food packaging, which of course is better than if it were used for furniture or other plastic products. The company continues its work. In 2021, the process is repeated and now it becomes possible to create a separate track for pale green plastic. This results in a new closed loop for the benefit of the environment and the climate, as well as a reduced fee for the producers.

### Cans in a loop

Even though Dansk Retursystem is already a circular company, they're still working on finding better and more sustainable solutions – also financially. The ambition is that producers shouldn't have to pay fees to participate. "The company aims high. The employees are focused on their job while taking some giant leaps, one of which is the establishment of a fully automated factory. It is a pleasure

to see how the work comes to fruition and how, year after year, fees are reduced. In 2021, we have the first breakthrough. A half-litre can is now completely fee-free," says Thomas Dalsgaard.

The cost of handling a half-litre can and the earnings on the sale of the materials even each other out. This means that the product is now fee-free.

**“In 2021, we have the first breakthrough. A half-litre can is now completely fee-free”**

“This breakthrough is only for one product, but it has shown us that it is possible. And already in 2022, it will be a reality for aluminium cans of all sizes. The circular story is now almost complete. Cans have entered a closed loop

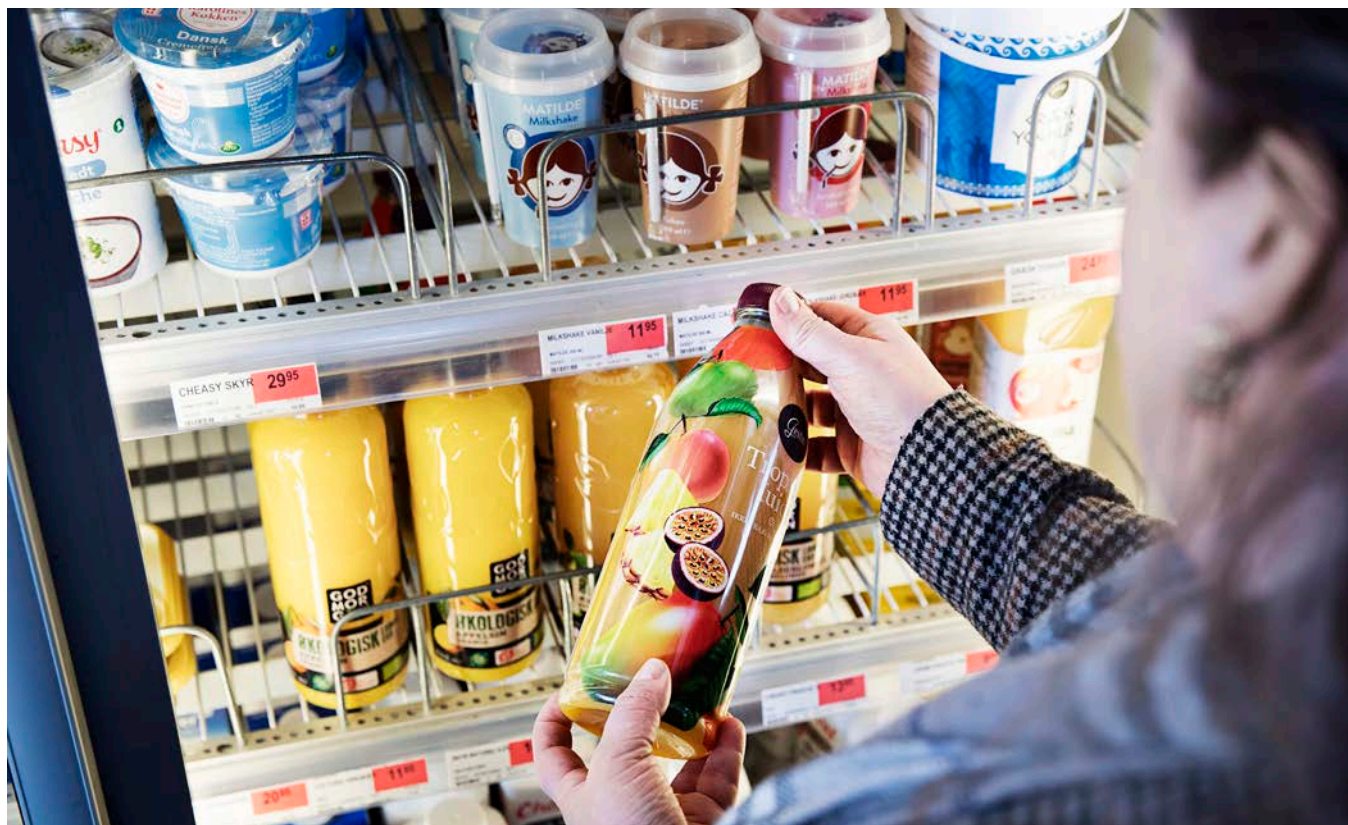


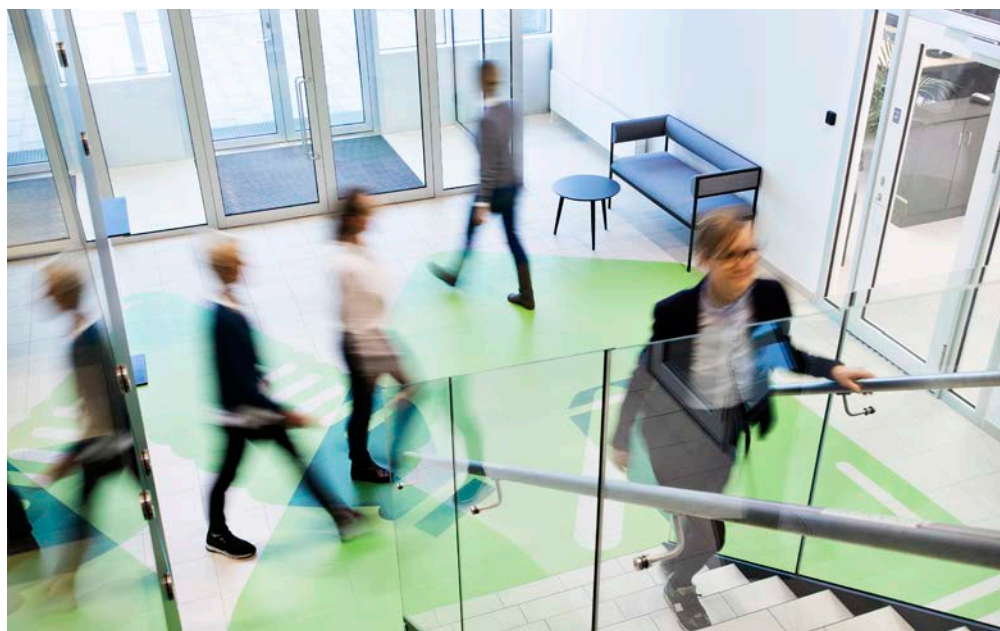
with a recycling percentage of almost one hundred, in which they are melted down again and again and turned into new cans with hardly any waste. And it costs nothing for the producers. So now, the environment and economy go hand in hand. Now we're raising our ambitions to do the same for plastic bottles. What if we could also create a one hundred percent closed loop and financial circularity for plastic? This is the dream," says Lars Krejberg Petersen.

### A design guide for recycling

Almost two billion cans and bottles are now circulating through the deposit system every year, of which 36% are plastic. More and more producers and consumers are focusing on sustainability. That is why Dansk Retursystem also enters into a dialogue with producers about the design of their packaging. Not because Dansk Retursystem wishes to sanction their choice of packaging but rather to make their knowledge accessible to those companies who are interested in making their packaging as sustainable as possible.

Dansk Retursystem has prepared a design guide aimed at the marketing and design departments of companies. The point is to inform about possible solutions so that, already at the design stage of their product development, they become aware of how their decisions affect the recycling process. The dialogue is primarily about plastic, but there are also other topics on the agenda. For example, the new wave of cans covered in paper. Very few are aware that this reduces the value of the aluminium. Because of the paper a small part of the metal burns up. This means that some of it disappears out of the closed loop, which also reduces the price of the material. The fees are reflected in the recyclability and the companies are rewarded with a lower fee, which in the end means that consumers save money. And the design guide? Well, this is the manual for how the companies get there.





Via many years of cooperating with interested parties, Dansk Retursystem has achieved deep insight into commercial needs and market mechanisms.

### Free access to the market

In Denmark there is a free choice of packaging. This is only possible because registering is mandatory, and because Dansk Retursystem then makes sure that all packaging is collected and recycled in the best possible way. If the environmental profile of a package is complicated to handle, an extra fee will be applied to the product, but any type of packaging is permitted. This is reflected in the diversity of products that consumers have access to in the drinks category. In the other Nordic countries, there is no rule of mandatory registration and consequently no demand on the deposit systems to receive any type of packaging. If a product is rejected, the producer must take care of collection and recycling themselves. But as this is a very complicated operation, most producers don't even make the attempt.

In Denmark, more than 50,000 products are registered. In 2021 alone, more than 9,000 different article numbers are entered into the system, whereas in Sweden, there are only 4,500 products in the entire deposit system. This is a significant difference. According to Lars Krejberg Petersen the Danish solution is an example of how it is possible to create circular solutions that don't become technical trade

barriers. Many years of cooperation between Dansk Retursystem and all the interested parties have resulted in deep insights into the commercial needs and market mechanisms, such as the importance of getting a product to market fast, retailers' challenges and consumers' demands.

"There's no doubt that we possess unique experience when it comes to packaging for fast-moving consumer goods with an environmental value - packaging which typically doesn't end up in the waste sorting system but in the street, in nature or other places. Looking along supermarket shelves, it is still only the drinks category that has a sustainable story to tell about their packaging. Fortunately, we are now approaching new times where demands about producer responsibility are likely to change that. And in contrast to June 30, 2000, we have now built a lot of knowledge about the market, cooperation with interested parties and about the circular economy. We've made mistakes that others can learn from, and we have come up with solutions that don't distort the market during the process. We would like to contribute with all this experience – and perhaps Dansk Retursystem can play a role," says Lars Krejberg Petersen.

We cannot continue to use nature's limited resources the way we do now. According to the Danish Climate Act from 2019, the emission of greenhouse gasses must be reduced by 70% by 2030\*. This means that we need to implement business models with circular solutions, such as recycling and reusing. In some areas it will make sense to do this large-scale. Even though the conditions in many ways are different now than 20 years ago, the establishment of the deposit system and its subsequent development is a case that can be used as a model. We have created a system, in which producers take responsibility, which includes the point of sales, and which makes it easy for consumers to contribute. Dansk Retursystem presents a solution to some of the challenges many of us are facing in the coming years.

Changing your business model from linear to circular can be a big mouthful. Dansk Retursystem may be able to contribute by sharing some of the principles that we believe are behind the results we have achieved in our first 20 years.

\* <https://kefm.dk/Media/1/D/aftale-om-klimalov-af-6-december-2019%20FINAL-a-webtilg%C3%A6ngelig.pdf>

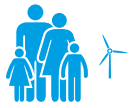
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## **What to consider if your company is changing its business model**

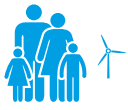
- Be patient with the process. It takes time to get everybody on board.
- Include the entire value chain. Listen to your partners, customers and consumers.
- Understand the mechanisms of the market. What do you need to know in terms of demands, needs and behaviour to succeed?
- Form a mutual foundation with your partners.
- Bring insight and knowledge into the organisation and the board to give you a high level of professionalism.
- Do thorough preparatory work with the possibility of testing pilot solutions.
- Work closely together with all the other sales partners.
- Not everything needs to be perfect right from the beginning. Set realistic targets, while striving for what seems impossible.
- Consider the option of entering into partnerships.



# Timeline



	Market	Politics	Dansk Retursystem
<b>1890</b>	1890: Holmegaard produces standard bottles with a cork, and in 1912, bottles with caps are introduced		
<b>1920</b>	1922: the breweries commit to buying standard 33 cl bottles		
<b>1930</b>	In the 1920s and 30s the deposit system is gradually extended. Named the world's best – close to 100% returned		
<b>1960</b>		60s: debate about banning cans for beer and soft drinks	
<b>1970</b>		1970: the VKR-government passes a law to allow measures against disposable packaging	
		1973: the first Environmental Secretary, Jens Kampmann (S)	
	1976: Faxe produces the small, plump bottle in crates of 12		
<b>1980</b>	Faxe introduces beer in cans and achieves app. 2% market share		
		January 1 <sup>st</sup> , 1982: total ban on cans  EC sues Denmark. The ban on cans is against the free movement of goods in the inner market	
<b>1990</b>	1991: 1.5 L PET-bottle		Retailers want compensation for handling empty packaging



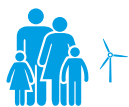
	Market	Politics	Dansk Retursystem
<b>1990</b>	1995: 0.5 L PET-bottle		1995-1996: analysis and time study of retailers' handling of refillable bottles
		1996: the government maintains Denmark's deposit system and ban on disposable packaging	1996-1999: development of concept for administration of deposit, fee and handling compensation as well as streamlining development of concept for an extension of the deposit system to include disposable packaging
		1997: Environmental Commissioner, Ritt Bjerregaard (S) informs Environmental Secretary, Svend Auken (S) that the ban on cans cannot be maintained	Development of sorting system for bottle machines
	1999: Carlsberg launches beer in refillable plastic bottles		1999: a principal agreement between the breweries and retailers
	1999: 13 breweries in Denmark (10 breweries, but 13 production sites)		
<b>2000</b>			June 2000: framework agreement between retailer and the breweries in place. Benny Rasmussen is appointed director of Dansk Retursystem
			July 1 <sup>st</sup> , 2000: establishment of Dansk Retursystem Ltd. Capital 10 mill. DKK.  Board consisting of the breweries and retailers (later, also the Danish Chamber of Commerce)

# Timeline



	Market	Politics	Dansk Retursystem
2000		June 7 <sup>th</sup> , 2001: the law for the protection of the environment is changed. Dansk Retursystem is granted monopoly	Terkel Lund-Nielsen is appointed as the first chairman of the board
		2001: The Danish Competition Authority are sceptical about the monopoly and business critical data	
		December 21 <sup>st</sup> , 2001: the first Deposit Act is signed	
	January 15 <sup>th</sup> , 2002: mandatory registration, uniform deposit for everybody and handling compensation implemented  The sectors enter a voluntary introduction agreement, as they need time for the transition and for the establishing of a deposit system	January 2002: Environmental Secretary Hans Christian Schmidt (V) lifts the ban on cans	January - September 2002: establishment of a new deposit system. Scanners in machines, deposit label, safety label, barcodes etc.
	23. sept. 2002 Engangsemballage introduceres på markedet		Dansk Retursystem establishes factories in Hedensted and Hedehusene.
	Around 2,000 bottle machines are re-set to receive new types of bottles and cans. More than 250 new machines are installed per year	October 2002: importers, The Consumer Council and Beer Enthusiasts criticise the deposit system	Dansk Retursystem wins a court case where they are accused of passing on confidential data
	2003: 200 producers, suppliers and importers are now signed up for Dansk Retursystem	The Deposit Act is approved by the EU	Dansk Retursystem develops trucks that can contain up to 160,000 compressed plastic bottles and cans
	Compressors are installed behind the bottle machines	Decision about alco-pops, cider and energy drinks in the deposit system	Special safety vessels are designed for storing deposit packaging in shops





	Market	Politics	Dansk Retursystem
<b>2000</b>	2005: the deposit system is extended with alco-pops, cider and energy drinks	Decision about bottled water, lemonade and ice-tea in the deposit system	2004: Kresten Philipsen is appointed chairman of the board
	2008: the deposit system is extended with bottled water, lemonade etc.		2008: Michael Christiansen is appointed chairman of the board
<b>2010</b>	2010: the return percentage reaches 89%		
	400 safety containers are installed in shops. 3,000 computers in shops with bottle machines make it possible to register 80% of all packaging online		2012: test of deposit stations in Høje Taastrup and Horsens  2014 Lars Krejberg Petersen is appointed managing director
		Decision about juice, cordials and smoothies in the deposit system	2015: Dansk Retursystem gets a new modernised branded universe
			2017: Thomas Dalgaard is appointed chairman of the board
			2018: 2nd generation deposit systems with compactors
	2019: the deposit system is extended with juice and cordials		
<b>2020</b>			2020: fully automated factory opens in Taastrup
	2021: no fees on cans		2021: the first can becomes 100% circular
	The return percentage has risen to 93%		The number of producers and importers rise to 1,525

**Dansk Retursystem A/S**

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