ROYAL VAASSEN

SUSTAINABILITY REPORT 2021-2022

CONTENT

A WORD FROM OUR MANAGING DIRECTOR **5**

ROYAL VAASSEN AT A GLANCE **6**
- Who we are 6
- Products & Market segments 7
- Positioning & Values 10
- Organizational Chart 11
- Sustainability management 12
- Material Topics 13
- Royal Vaassen in numbers 14

PEOPLE **16**
- Code of Conduct 16
- Employees 16
- Equality & diversity 20
- Talent & personal development 23
- Workplace safety 25
- Work-related injuries & ill-health 27
- Local communities 29

PRODUCTS & MATERIALS **31**
- Sustainable procurement 31
- Recyclability 34
- Product quality & safety 35

PRODUCTION **37**
- Energy 37
- Water 38
- GHG Emissions 39
- Waste 43
- Waste reduction programme 46
- Royal Vaassen Recycling Service 48

APPENDIX **50**
- 1: GRI Content Index 50
- 2: Materiality Assessment 57

A WORD FROM OUR MANAGING DIRECTOR

At the heart of every organization is its objective of continuity, for continuity benefits all stakeholders – customers, employees, suppliers and more. This continuity can only be secured via constant adaptation to changes in the world that surrounds us. In other words, we need to operate sustainably to secure our future as well as that of our stakeholders.

In this report, we focus on sustainability in the narrower and more commonly used sense of the word – how our activities impact our environment and people and what we do to reduce and mitigate these impacts. As a company that produces innovative and sustainable packaging solutions, we recognize the importance of our products in providing safe food to consumers worldwide. We do not take that responsibility lightly and also know that we must play our part in the global sustainability challenges. Of these challenges, reducing GHG emissions to prevent climate change (SDG 13), establishing responsible consumption and production patterns in the form of a circular economy, eliminating waste along our value chain (SDG 12) and developing the skills of our employees to ensure they are equipped to make a sustainable change (SDG 4) have been identified as the most key challenges for Royal Vaassen.

This is what we are committed to, and therefore I am proud to present to you Royal Vaassen's very first biannual sustainability report, which covers calendar years 2021 and 2022. These past two years also mark the start of our renewed focus on sustainability.
We clearly defined our sustainability strategy and targets, which will be our guidelines for the coming years. Simultaneously, we worked on several projects that helped us get closer to meeting our targets.
This has resulted in reductions of our carbon emissions by 19% – meaning we are well on our way to meeting our target of reducing our direct emissions by 35% and our value chain emissions by 40% by 2030. We were able to reduce our operational waste by 21% since 2020, while we were aiming for 15% reductions.
We increased our intake of paper from responsibly managed forests to 64%, almost meeting our 65% target, and significantly reduced the average carbon footprint of purchased aluminium foil. We also increased the share of products sold that are recyclable to a total of 70%, working towards our 90% target for 2025.

Now, two years in, we feel excited to share with the world where our priorities lie and what we've been working on. I thank you for your interest in our sustainability report and hope you will enjoy reading it.

Dries Knaapen,
Managing Director

ROYAL VAASSEN AT A GLANCE

Who we are

Royal Vaassen Flexible Packaging is a private-equity-owned producer of flexible packaging materials. With Sustainability, Innovation and Service as our core values, we offer high-quality and innovative products, accompanied by first-class service, to over 350 customers worldwide in the food and green building industries.

All our products are produced and developed at our site in Vaassen, the Netherlands. Through laminating, co-extrusion, metallising, lacquering and printing, we transform our raw materials – mainly aluminium foil, paper and polyester films – into intermediate and ready-to-use materials that are used in the packaging and industry sectors. Almost all lacquers and adhesives used in our products are developed and tested in-house.

RVFP supply and value chain. Dark blue boxes indicate Royal Vaassen's position in the value chain.

Products & Market segments

Food

Food packaging is where our main focus lies. Within our range of flexible packaging materials, we distinguish four main products and applications:

Caps

Our capping films are well known by brand owners and converters all across the globe. Under our brand names Capsteryl, Capfreshly, Capmedy and Capdry, we offer a wide range of aluminiumbased lidding solutions for use on many types of bottles, cups and cans, including those made of several types of plastics, glass, metal and paper. In addition, we offer solutions that are puncture-resistant, acid-resistant, peelable and/or suitable for retorting. Our Capsteryl products are used mainly by brand owners and converters operating in the dairy industry to close off bottles and cups of yoghurt and UHT or fresh milk and dairy drinks. Capfreshly is used predominantly as lidding for (chilled) fresh products with a relatively short shelf life (usually max. 4 weeks). Capdry films are used for closing off metal and composite cans for dry foodstuffs, such as infant nutrition (baby milk powder) and snacks such as nuts, crisps and confectionery products.

Wraps

Under our Barryrwrap brand, we offer a range of high-class paper-based wrapping films for use as packaging for various types of foods. Each specific solution has its own set of barrier properties that are tailored to the specific application. Sealable and printable options are also available. Our Barryrwrap products are suitable for use with dry foodstuffs, such as bouillon cubes, instant coffees and soups, confectionery products and much more. Fully recyclable in conventional recycling systems, our Barryrwrap films offer an additional sustainability benefit over alternatives available in the market.

Caps

Wraps

Liners

As the largest European producer of innerliners for traditional cigarette packaging, Royal Vaassen has long been a well-established player in the tobacco packaging market. We offer a wide range of innerliner products that keep cigarettes fresh all the way to the consumer and are easy to process on tobacco wrapping lines. Baselyner is our traditional range of innerliner products, offering excellent protection for any tobacco product, due to the use of (very thin) aluminium foil and paper. For customers looking for the most sustainable option, we also offer alternatives based on metallised or even plain paper under our Ecolyner brand. Finally, our Seallyner product range includes reclosable and air-tight innerliners that are especially beneficial for use in markets with the harshest climate conditions.

Green building

Green building is our youngest market segment and focuses on aluminium foil-based solutions for applications in the built environment. Our focus lies with the following two applications:

Insufoyl

Our Insufoyl products function as a protective surface layer for PUR- and PIR-based insulation panels that are used in the construction of buildings. For this purpose, the foil is treated with specialised coatings that allow for easy lamination to the foam and offer good barrier properties against corrosion, gases, biofouling, water vapour and light. It is therefore an essential part of the total insulation panel structure.

Exafoyl

Our Exafoyl products are foil-based products that are used to enhance the efficiency of wheel-shaped heat exchangers. Exafoyl is treated with specialised coatings that offer high thermal conductivity, which increases the heat transfer and overall efficiency of the heat exchangers to which they are applied. With their ease of use and relatively low cost, they are an essential part of modern heat exchangers.

Insufoyl

Exafoyl

Liners

Positioning & Values

Positioning

Royal Vaassen is a collective of people who devise solutions based on innovative strength and co-makership. Through cooperation with buyers and suppliers, we build solutions that focus on sustainability, safety and ease of use for the end consumer. Companies around the world know they can trust us as a reliable partner.

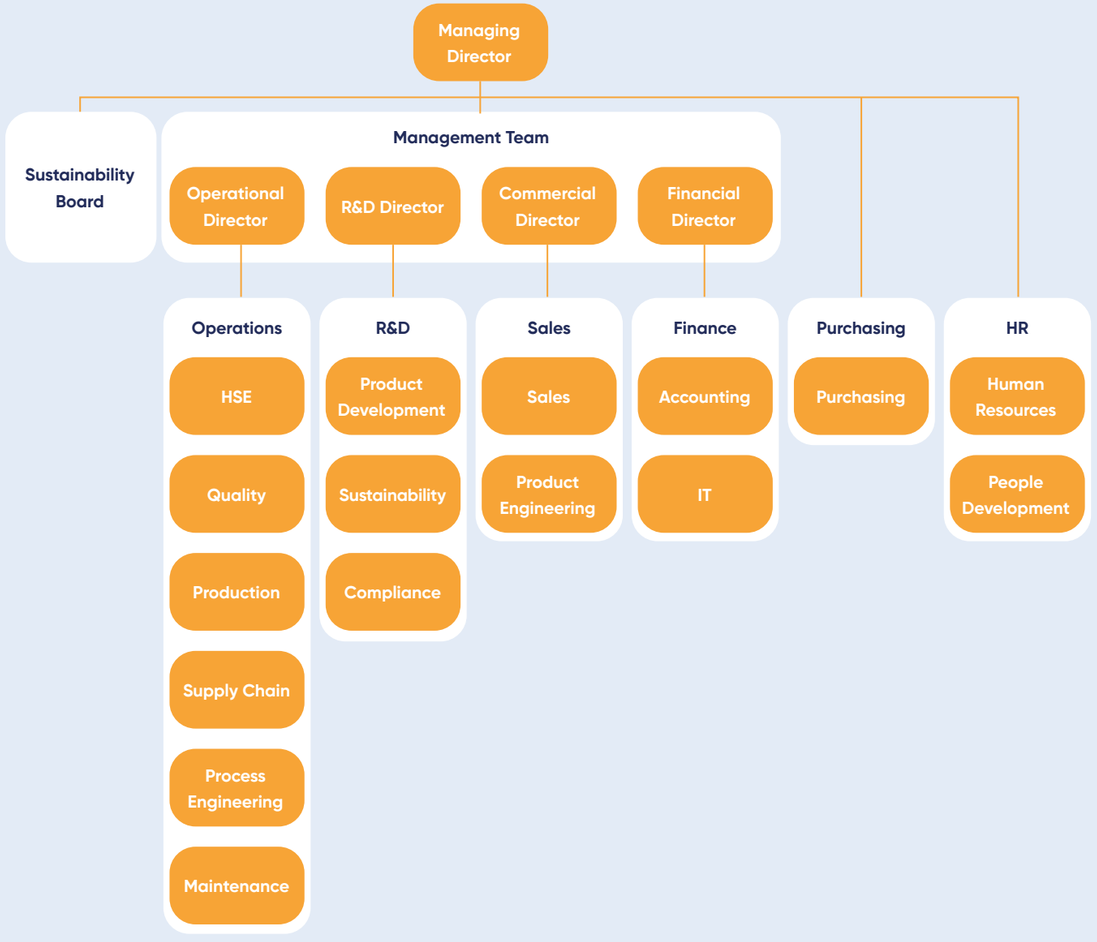
Core values

Founded in 1867 as a tin foundry, Royal Vaasen has been a leading producer of aluminium flexible packaging material since 1924. With the designation Royal, we focus on two primary markets: food and green building. We're excited about the future of these two industries and see ample opportunity within each for further development.

In all the markets we serve, four key aspects are observed:

- **Sustainability:** In all our developments, the sustainability of both the product and the process are key. This means we rely on sustainable inputs, like aluminium, which can be recycled infinitely, and paper, our second biggest raw material, which can also be recycled easily. We also process recycled PET. Further, we utilize renewable energy sources, like hydropower, and set off our carbon footprint of natural gas – not to mention our measures to reduce waste, emissions etc.and high delivery reliability.
- **Innovation:** Innovation is the essence of our competitiveness in both product and process. To be sustainable, continual improvement is a constant. We're always looking for smarter and better ways of working and serving our customers. Our recently developed customer recycling program is just one example of sustainability and innovation at work here.
- **Service:** Our customers are the reason for our existence – not only in the product solutions we choose but also in the service we deliver. The service we provide ranges from excellent technical service (remote and on-site) to assisting in new introductions, qualifying products and documents and guaranteeing food safety. We also pride ourselves on fast supply chain response and high delivery reliability.
- **People:** Our people are at the heart of who we are. They make our company. That's why, we're committed to developing our people and supporting their growth and advancement within our organization. We make every effort to provide constructive feedback to our employees and the training they need to succeed. Ultimately, we strive to be a place of constant improvement, both at the individual and organizational levels.

Organizational Chart



Royal Vaassen is a member of:

FLEXIBLE PACKAGING EUROPE

NVC NEDERLANDS VERPAKKINGSCENTRUM

Sustainability management

Royal Vaassen is committed to providing for or cooperating in the remediation of negative impacts that we contribute to, both to secure our organization's future and because we consider it our moral duty to take responsibility for the impacts our actions have on our planet and people. Royal Vaassen's sustainability program brings together stakeholders from our supply and value chains to identify and respond to our sector's most pressing environmental and social challenges. Our colleagues, customers, suppliers, industry groups, investors and local community have helped in truly understanding and addressing these challenges and thus are very relevant in shaping and executing our sustainability strategy.

Royal Vaassen's Sustainability Board, being a committee of our Management Team, oversees the execution of Royal Vaassen's sustainability strategy and initiatives and also focuses on defining the strategic direction of our sustainability programme. Our sustainability initiatives are coordinated by our Sustainability Engineer. She also holds responsibility for tracking progress towards sustainability goals and for (internal and external) communications on sustainability topics, including GHG Emissions, waste, energy, raw materials, (design for) recyclability and our biannual sustainability report. Together with our General Director, Operations Director and R&D Director, she forms the Sustainability Board. Together, they represent those parts of Royal Vaassen that are most relevant with regard to our impacts on people and the environment. Responsibility for the implementation of sustainability initiatives therefore also primarily lies with any of these Sustainability Board members, although tasks are generally delegated to designated persons within the organization.

Communicating about sustainability and disclosing sustainability-related data is an essential element of our approach to managing sustainability. Besides it being a means to inform the world of who we are and how we aim to play our part in solving global challenges, we also consider it a great way to learn and improve ourselves. The ratings that accompany our annual disclosures, via CDP and EcoVadis for example, provide clarity on what we do well and where we can improve. These are used to further develop our sustainability strategy and prioritise our sustainability initiatives.

Material Topics

Part of Royal Vaassen's sustainability management process is to understand the topics that are most important to our stakeholders. We regularly engage with all stakeholders to understand their priorities, visions and challenges as part of our daily jobs. At least every other year, we assemble these findings in a materiality assessment that we use to align our strategic plan to those topics most relevant to our stakeholders so that we can proactively work on those issues that are most likely to present risks or opportunities for Royal Vaassen.

The topics that we identified as material during our 2022 materiality assessment are covered within this report and include:

- Product Quality & Safety
- Product Innovation
- Employee Health, Safety & Wellbeing
- Resource Management
- Employment
- Waste & Recycling
- Emissions
- Talent & Development
- Energy Use
- Circular Economy
- Local Communities
- Diversity & Inclusion
- Water

A detailed description of our materiality assessment process and material topics is available in the appendix section of this report.

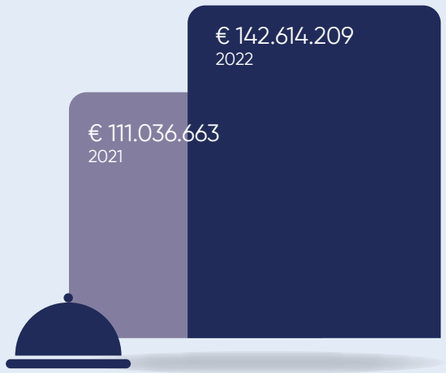
Royal Vaassen in numbers

Products sold

Food

Green Building

Revenues



Food

Green Building

PEOPLE

Our people are the driving force behind all our activities and the face of our company. We, therefore, aim to take good care of our employees by ensuring they feel valued and treated equally and by providing a safe work environment and room for personal growth.

Code of Conduct

Royal Vaassen is committed to the highest standards of product quality and business integrity and ensuring that working conditions in our supply chain are safe, that workers are treated with respect and dignity and that manufacturing processes are environmentally and socially responsible. This commitment to integrity, fairness and care for both people and the planet is embedded not only in our company's positioning & values, but also in our Code of Conduct, which is mandatory for all our employees as well as our suppliers.

Fundamental to our Code of Conduct is the understanding that a business, in all of its activities, must operate in full compliance with the laws, rules and regulations of the countries in which it operates. Dutch law therein is the minimum standard. However, we encourage our employees and business partners to go beyond legal compliance, drawing upon internationally recognized standards (ILO and ETI Base Code), in order to advance social and environmental responsibility. The principles embedded in our Code of Conduct are integrated into all our activities, operations, performance reviews and auditing. All policy commitments for responsible business conduct are communicated to our personnel via our QMS, personnel handbook, notice board at the factory entrance and e-learning courses. Employees can seek advice on implementing the policies and practices included in our business conduct with their manager, the QHSE Manager or our HRM department. Concerns can also be directed to these persons, but can also be shared confidentially with one of our confidants or shared with a wider group of responsible persons via our incident notification system.

Our suppliers have to sign our Supplier Code of Conduct or submit their own CoC to us. If they have any questions or concerns, they can reach out to their primary contact who will collect the required answers or connect them to another contact person within Royal Vaassen to follow up on the concern in more detail.

Employees

While we have seen people come and go, the number of employees remains relatively stable at just below 300 FTE. The majority of employees are hired on a permanent basis. There are fewer temporary employees. They will be offered a permanent contract after one year under a temporary contract, which is standard procedure. We also work with several hired forces. Some are interim positions, but the majority of hired forces are independent business owners that offer support on specific topics, such as training and project management. Many of them have worked with Royal Vaassen for several years already and are considered colleagues by most employees. Most employees work full-time, meaning 40 hours per week, although there are also some employees that choose to work on a part-time basis.

Total number of employees by gender & type. The total number of employees is expressed in FTE and is based on the number of employees at the end of each calendar year.

2021	Male	Female	Total
Total number of employees (FTE)	253	20	273
By employment contract:			
Permanent employees	229	18	247
Temporary employees	24	2	26
Workers who are not employees (hired workers)	16	4	20
By employment type:			
Full-time employees	237	10	247
Part-time employees	16	10	26

2022	Male	Female	Total
Total number of employees (FTE)	250	18	268
By employment contract:			
Permanent employees	232	17	249
Temporary employees	19	1	20
Workers who are not employees (hired workers)	11	0	11
By employment type:			
Full-time employees	227	11	237
Part-time employees	24	7	31

New employee hires and employee turnover

	2021	2022
New hires	61 (100%)	40 (100%)
By age group:		
<30 years old	15 (24%)	14 (35%)
30-50 years old	28 (46%)	18 (45%)
>50 years old	18 (30%)	8 (20%)
By gender:		
Male	57 (93%)	33 (83%)
Female	4 (7%)	7 (17%)

	2021	2022
Employee turnover	47 (100%)	34 (100%)
By age group:		
<30 years old	8 (17%)	7 (22%)
30-50 years old	17 (36%)	13 (38%)
>50 years old	22 (47%)	13 (38%)
By gender:		
Male	39 (83%)	29 (85%)
Female	8 (17%)	5 (15%)

Parental Leave

All employees with children under the age of 8 by law are eligible to a fixed amount of hours of parental leave. These hours can be used all at once, or distributed over a longer period. Most employees choose to use their parental leave to spend one or more days per week with their children.

Since august 2022, part of the parental leave is paid, at 70% of the employee's regular salary. This paid leave should be used before the employee's child turns 1 year old. In 2022, this paid parental leave was used by both women. The men used the parental leave without pay.

Parental leave

2021	Male	Female
Number of employees entitled to parental leave	4	0
Number of employees that took parental leave	4	0
Number of employees that returned to work in the reporting period after parental leave ended	2	0
Return to work rate	50%	0%
Retention rate	50%	0%

2022	Male	Female
Number of employees entitled to parental leave	2	2
Number of employees that took parental leave	2	2
Number of employees that returned to work in the reporting period after parental leave ended	2	2
Return to work rate	50%	50%
Retention rate	50%	0%

Equality & diversity

It is our belief that a workplace in which all employees are treated equal, no matter their gender, race, beliefs, preferences or position within the organization is essential for making employees feel valued and happy within their work environment. We trust that employees who feel valued for who they are, dare to be the best version of themselves, speak up and step outside their comfort zone, resulting in growth – for the individual employees, but also for our organization as a whole. This is why we do not tolerate discrimination of any sort – be it in hiring, pay or on a personal level. All employees, hired workers and our business partners must commit to this rule, as it is an essential part of our Code of Conduct.

That said, we also value diversity, for each gender and personal background can bring its own unique set of skills and perspectives to the table, which can be extremely powerful when combined. And most importantly: the variety it holds simply makes our work much more fun.

Diversity of governance bodies and employees
Alike many other technology-driven companies, we too struggle with creating a good gender balance in our workforce. Women are by far outnumbered by men, but it should be noted that this is not a deliberate choice, but rather the result of a male-dominated field.

Composition of our management team

By gender	
Male	100%
Female	0%

By age group	
<30 years old	0%
30-50 years old	0%
>50 years old	100%

% of employees per employee category

	2021	**2022**
Full-time employees		
By gender		
Male	96%	95%
Female	4%	5%
By age group		
<30 years old	11%	11%
30-50 years old	36%	39%
>50 years old	53%	50%
Part-time employees		
By gender		
Male	62%	77%
Female	38%	23%
By age group		
<30 years old	0%	0%
30-50 years old	28%	21%
>50 years old	72%	79%

Pay equality

All employees are treated equally with regard to the compensation they receive for their work, regardless of their position or type of appointment. Which rewards everyone receives and the amount of salaries is in principle determined on the basis of the job profile, in which the required competencies, training and skills are determined. Most positions are valued according to the Integral System for Job Evaluation, which is linked to the salary scales. This is laid out in the Collective Labour Agreement Metalektro. For positions that are not valued, a salary is set that is in line with the market.
In concrete terms, all employees receive a basic salary, 8% holiday allowance, accrual of pension and any profit distribution. In addition, they are entitled to travel expenses. Some functions also include a shift allowance, a car lease or a performance bonus. Specifically for MT members, an incentive plan also applies, which means that after a possible sale of the company, they must remain employed for at least one year, against which there is a bonus.

Salary increases result from the annual performance evaluations. These conversations are conducted according to a fixed methodology between manager and employee. On the basis of the core competencies described in the job profile, the performance of each employee is assessed. With a satisfactory assessment or better, the salary is increased periodically.

Due to various causes, an employee might disagree with the outcome of the assessment interview or with the job evaluation (in the case of a new or adjusted job profile). In principle, it is expected that the employee and employer first try to discuss the dispute in order to reach an agreement. If this does not work, the employee can turn to the internal complaints procedure, whereby a partly independent complaints committee advises the management on the relevant issue. The management then decides whether or not to follow this advice. The decision of the management is no longer subject to internal appeals or defences. In the event of a complaint about a job evaluation, employees can still turn to an external complaints procedure. In addition, an expert from the FME-CWM (often together with an expert from the trade union) will investigate the complaint and come up with a binding ruling.

Ratio of basic salary and remuneration of women to men

	2021	2022
By employee category		
Full-time employees	18,3%	18,9%
Part-time employees	29,3%	22,8%
By age group		
<30 years old	19,3%	13,8%
30-50 years old	48,1%	25,7%
>50 years old	16,6%	17,1%

It should be noted that the figures mentioned above not necessarily provide a good reflection of reality, due to the limited amount of women that are employed and because not all employees are allocated to a function level.

Annual total compensation ratio

	2021	2022
Ratio of annual total compensation for the highest-paid individual to the median annual total compensation for all employees	596%	581%

Talent & personal development

As Royal Vaassen, we attach great importance to the personal growth and development of our employees. Be it through learning on the job or through formal education, developing ourselves will help to keep us sharp, which strengthens us as an organization. Hence, we stimulate all employees to work on their personal development and employability.

Our competence management system, that was implemented during the period of 2021-2022, includes annual performance and career reviews for all employees. Both employees and managers are able to express their wishes with regards to personal development. In some cases, training or education can be a requirement to properly fulfil the tasks associated with an employee's role within the organization.

An example thereof is that all production staff is required to have received formal process operator training (VAPRO) prior to starting at Royal Vaassen, or within the first 2,5 years of employment. In case they do not meet this requirement, their employment contract can be terminated.

Reasons for requesting training and education can be personal development, as a requirement to properly fulfill the tasks associated with an employee's role within the organization, or to gain knowledge and competences for future positions.

Average hours of training per FTE in 2022: 57 h.
The average amount of training hours per FTE was not tracked prior to 2022.

E-learning

E-learning is a household name within Royal Vaassen. It is a practical and effective method of learning that is easily accessible to all employees. There are many different e-learning courses that have already been developed. Some are of a very general nature and therefore applicable to all employees, such as those about our Code of Conduct and (food) safety. Most of these are repeated by all employees every year as a means of raising awareness and freshening up our knowledge on the topic. Other e-learning courses are much more job- or workplace-specific and are therefore applicable only to a selected group of employees. These are typically completed only once. A total of 47 new e-learning courses have been developed in 2021 and 2022, on topics such as quality, food safety, information security and several workplace-specific e-learning courses. In addition, regular workplace training has been transformed into e-learning. A total of 4,344 e-learning courses were completed.

Other forms of training

Besides our own e-learning system, our employees also receive other forms of training. (Re-)certification training for working with forklifts and for our emergency response team are training programs that are repeated yearly. Other staples are the training of process operators to A-, B-, or even C-level (VAPRO), workplace-specific on-the-job training and individual coaching courses. Besides that, there have been several pieces of training that have enabled employees to build on their skill sets or deepen their knowledge on topics relevant to their position. Examples include negotiation training for our sales team, assessment training for all managers and yellow belt training for key employees in our efficiency-improvement programme.

Internships

Besides educating our own people, we also aim to contribute to the training of the next generation of employees. We do this by offering internship positions to students. A total of eight different students have worked on different projects within our company in 2021 and 2022.

Workplace safety

We work safely, or we don't work at all. We aim to minimise damage to health as well as the environment and prevent exceeding the limits presented to us by permits and the law. Our primary safety risks relate to working with moving machinery and chemicals. While we do all we can to ensure our factory is a safe workplace, small mistakes can have great consequences when it comes to our health and environment – especially if not responded to adequately. Therefore, we demand that everybody working at and visiting Royal Vaassen – employees, third-party workers and visitors alike – are aware of and operate in conformity with the safety rules laid out in our health and safety management system (defined in accordance with the Dutch Working Conditions Act). This also applies to the business partners we work with; they should have similar standards. We discuss safety risks on a daily basis to ensure proper and speedy follow-up and have employees in every team and every shift (65 total) that receive annual first aid training to provide an adequate response to incidents if they arise.

An increased focus on health and safety

While we have always been strict on following our safety rules, such as the use of personal protective equipment that is provided to all workers and visitors, we have upped our game with regard to health and safety during the past year. The underlying goal is to create extra awareness among employees on health and safety topics and reduce incidents. We increased the frequency of internal health and safety audits and made health and safety a foundational part of operational and MT meetings as well as our Works Council. All employees were asked to repeat the general e-learning course on health and safety, and more specific training on working with hazardous chemicals and ATEX training were provided to those employees for whom that was relevant. We also made reporting risks and incidents easier by adding a prominently visible reporting button on our intranet homepage. Clearly, our efforts paid off as we have greatly reduced the number of Lost Time Injury (LTI) incidents. At the same time, we have seen an increase in the number of risks and incidents reported, indicating that awareness really did increase.

Identification of health and safety risks
Everybody can contribute to a safe(r) workplace, simply by reporting risks. All reported risks and incidents are registered under a unique case number. Within 24 hours of reporting, a risk level (Near-Miss, Incident without LTI or Incident with LTI) is appointed based on the risk matrix, and a risk owner is appointed, who will be responsible for following up on the reported risk. Follow-up on near-miss and non-LTI cases is handled by a team leader, who is responsible for identifying the hazard or cause(s) of the incident and defining corrective and preventive measures. The safety expert subsequently decides whether or not the proposed measures are adequate. For LTI incidents, the safety expert is responsible for handling the entire case. All reported risks are shared with all employees via the intranet homepage on a monthly basis.

In addition, general health and safety risks are identified during (internal) safety audits that are performed on a monthly basis and a general risk inventory and evaluation (RI&E) that is performed every two to three years. These are used to track whether we are headed in the right direction and where more general safety risks lie. The RI&E in particular feeds back directly to management and is used to define KPIs and projects related to operational and environmental safety for the next one to two years. The most recent RI&E was performed in 2022 and has recently been presented to the Works Council for review. After they have given their consent, it will be shared with all employees.

Occupational health services & health promotion
We care about our employees' well-being. To that end, we offer a number of benefits and services, including those listed below, to promote overall health and wellness.

- **Consulting Physician:** An occupational physician is available to advise on how to deal with any illnesses or injuries that prevent employees from working as usual, as well as to decide on an appropriate recovery and reintegration plan. At the beginning of 2022, a new occupational physician was appointed to collaborate more closely with our HRM department towards a lower illness rate and faster reintegration into work.
- **Employee Confidants:** There are three confidants available for employees feeling unsafe socially or emotionally: one male and one female internal confidant, plus one external confidant. The internal confidants have been selected by the Works Council, taking into account that they are perceived as accessible and do not fulfil any positions that could conflict with their role as a confidant.
- **Flu Shots**: Royal Vaassen offers a free-of-cost flu shot to all employees at the end of every calendar year.
- **Check-ups:** Starting in 2023, all employees will be offered a voluntary and free-of-cost medical check-up.
- **Fitness Benefits:** To promote a healthy lifestyle, we offer employees a fitness plan, which includes discounted use of fitness equipment and swimming pools at a local gym.
- **Bike Plan:** We offer a bike plan to our employees. This means employees can purchase a bike at an attractive cost in exchange for holiday hours.
- **Social Fund:** We have a Social Fund that employees can sign up for. The Social Fund provides financial assistance for (unexpected) incidental and healthcare expenses.

Employee participation and consultation
Our employees are key to keeping our workplace healthy and safe. Anyone working at Royal Vassen can report an incident. Of course, we try our best to prevent safety incidents before they even happen. We currently have one designated prevention officer, but, at the advice of the RI&E, we would like to move to one officer per shift. Participants would be required to undergo training and would focus on a specific risk area, such as Personal protective equipment, hazardous substances or general safety, for example. While we rely on all employees to help keep our workplace safe, prevention officers would be more involved than others and would help with the general implementation of safety policies.

Our employee confidants specialize in promoting social and emotional safety at work. In their signalling and advisory role, the confidants have their feelers out to get a sense of the workplace atmosphere and propriety within the workplace. They can then communicate their findings to Management Team, HR-department, Works Counsil or other managers and advise on these matters.

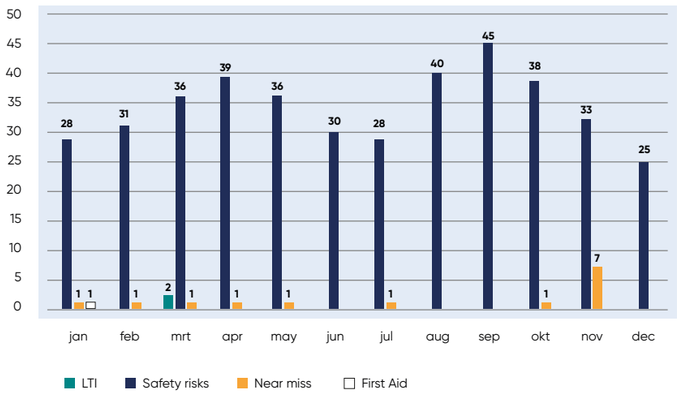
In addition, the Works Council has an advisory committee dedicated to health and safety. They have fixed agenda topics, including the Risk Inventarisation & Evaluation (RI&E). The committee advises the Works Council, and the Works Council in turn has regular meetings with the management team in which any topics that arise can be discussed.

Work-related injuries & ill-health

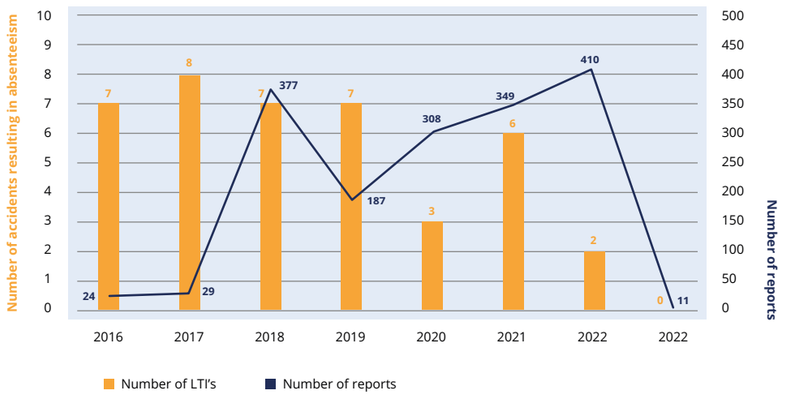
There have been a total of eight incidents with LTI over the reporting period; six in 2021 and two in 2022. Most of these incidents were accidents that involved pallet trucks or forklifts and cuts resulting from working with utility knives. Through increased awareness of safety risks and a dedicated project on optimising traffic movements within our site that is planned for 2023, we aim to reduce the occurrence of these types of incidents in the future.

We have seen an average illness rate of 5.9% and 7.8% in 2021 and 2022 respectively.

Reported safety risks & incidents 2022



Accidents and reports at Royal Vaassen



Reported health & safety risks and incidents during the reporting period.

	2021	2022
Reported risks		
Total no. of reported risks	349	410
Incidents		
No. of fatalities	0	0
No. of incidents with LTI	6	2
No. of restricted work cases	3	1
Incident rate per 200.000 hours worked		
No. of fatalities	0	0
No. of incidents with LTI	2,5	0,9
No. of restricted work cases	1,3	0,4
Total number of hours worked	**471.744**	**460.744**

Local communities

Being located in the heart of the town of Vaassen, we are closely connected with our local community. With our production running 24/7, we are highly aware of the impact our operations (can) have on the people living in the near vicinity of our site. On the one hand, we have been valued as an employer to many inhabitants of Vaassen for more than 150 years already. On the other hand, people living in the near vicinity of our site at times also experience disturbances caused by our activities, especially related to noise and traffic. We want to remain on good footing with the local community. This is why we have clear rules that aim to prevent noise, especially outside office hours, and regularly look at our operations critically to see whether there are things we can do to reduce our negative impacts on the local community. We also aim to make a positive impact, for example by being a loyal sponsor of local sports clubs.

Negative impacts

Despite all our efforts, sometimes the local community still experiences hindrances from our activities. Complaints generally relate to noise and are brought to our attention by the local environmental services. We aim to respond to their notifications adequately and on short notice and always solicit feedback on if and how we were able to resolve the issue.
In 2021 and 2022, there were a total of three complaints related to noise. All complaints could be resolved by adapting our behaviour and could therefore be solved rather easily.

Project: traffic reduction

In 2021, we carried out a traffic reduction project also known as 'the great move'. The aim was to significantly reduce the traffic through the village to our production site. To that end, we took a critical look at where we store which materials. At our transport company, we already had a warehouse located on the outskirts of the village. There was a lot there, including semi-finished products. In practice, this was not always convenient – for example when we changed the production schedule and the required semi-finished product turned out to be just in the external warehouse. We optimised the layout of warehouses in such a way that all raw materials and semi-finished products are now stored on-site and the finished products are stored at our distributor location. As a result, trucks now come to our location only to unload raw materials. A daily shuttle between our location and the transport company (one truck per day) picks up the finished product from us and takes it to the warehouse at the carrier. From there, the finished products are transported to our customers, whic greatly reduces the number of trucks that have to come through the village to our location.

PRODUCTS & MATERIALS

Our vision, with regard to products and materials, is a circular economy in which materials can be recycled and reused over and over again – without giving in on factors such as quality, safety and compliance. It is our responsibility to design our products in such a way that their material use is as efficient as can be and that valuable materials can be recovered from our products after they have served their purpose. Current strategies to optimise our use of raw materials are based on strategies of source reduction and design for recyclability, combined with selecting the most sustainable raw materials to start with.

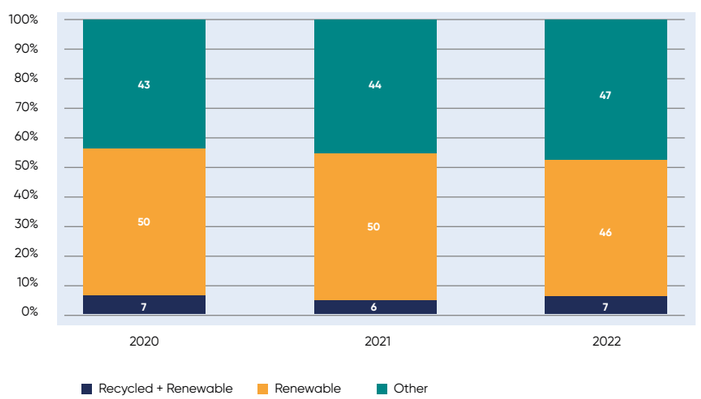
Sustainable procurement

We are aware that as a production company that processes large amounts of materials each year, our impacts are highly connected to the materials we purchase. Even if we are not directly responsible for the impacts our purchased materials have on people and our environment, we still feel responsible. That is why we take sustainability very seriously in our procurement activities. We therefore only work with suppliers that can meet our minimum standards, as defined in our Code of Conduct.

With regard to the types of materials we use, we aim to do the best we can. We have deliberately chosen to use aluminium foil and paper as raw materials for our products because they are highly recyclable. Aluminium can be recycled infinitely without loss of quality, and paper can be recycled at least seven times as well before fibres become too short to be reused again. In addition, paper is also renewable. Purchasing only those materials that come from responsibly managed sources with the lowest possible carbon footprint is also part of our sustainable procurement strategy.

	2020	2021	2022
Raw materials	39.662.898 kg	37.607.590 kg	37.081.826 kg
Aluminium foil	11.408.875 kg	10.756.100 kg	11.294.233 kg
Paper	21.883.822 kg	20.361.229 kg	18.926.675 kg
Plastic films	2.812.935 kg	2.800.108 kg	3.274.490 kg
Granulates	226.378 kg	165.975 kg	119.540 kg
Lacquers & adhesives	3.330.888 kg	3.524.178 kg	3.466.888 kg
Packaging materials	4.143.069 kg	3.314.204 kg	3.693.678 kg
Paper	3.085.304 kg	2.194.368 kg	2.618.394 kg
Plastic	937.799 kg	1.006.010 kg	960.116 kg
Wood	116.913 kg	110.869 kg	111.630 kg
Metals	3.053 kg	2.957 kg	3.538 kg
Total renewable materials	25.086.039 kg (57%)	22.666.466 kg (55%)	21.656.699 kg (53%)
Total non-renewable materials	18.719.928 kg (43%)	18.255.328 kg (45%)	21.656.699 kg
Total recycled input materials (%)	3.202.217 kg (7%)	2.305.237 kg (6%)	2.730.024 kg (7%)

Share of purchased materials that is recyclable, renewable or both

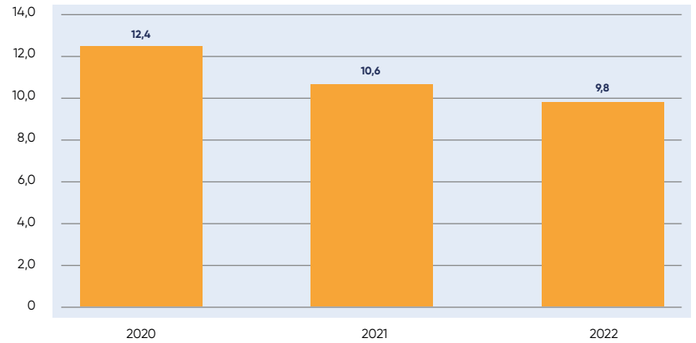


Low-carbon aluminium

The carbon footprint of one tonne of aluminium can vary greatly, depending on how it is produced. The average worldwide footprint for one tonne of aluminium lies just below 12 t CO_2 eq., but differences between two sources can be enormous. One tonne of aluminium can have a footprint of 18.0 t CO_2 eq. when purchased from a Chinese supplier, or 6.7 t CO_2 eq. when purchased from the average European supplier. Or, even lower when so-called Green Aluminium is purchased – this is produced using only green power, lowering the footprint to roughly 5.2 t CO_2 eq./t of aluminium foil.

This is precisely why we have worked on analysing our suppliers' per-tonne footprints during the past few years. We have reduced our intake from Chinese suppliers and shifted our purchasing efforts more towards the European market, thereby reducing the average carbon footprint per tonne of aluminium purchased from 13.4 t CO_2 eq./t aluminium in 2020 to 9.8 t CO_2 eq./t aluminium in 2022 – a 21% drop!

Average emissions per tonne aluminium (t CO2 eq./t)



Paper from responsibly managed forests

Implementing the use of certified paper from responsibly managed forests was one of our projects for 2022. While we already used some FSC-certified paper prior to 2022, we made a large step forward this past year by shifting a large share of all paper purchases to FSC-certified paper. This has increased our use of FSC-certified paper from 2% in 2021 to 64% in 2022.

Recyclability

Design for recycling revolves around (re-)designing our products in such a way that materials are combined only when they can be easily separated by hand or recycled as a whole. In this strategy, aluminium foil and paper – two materials that are highly recyclable – play a key role. A large share of our R&D capacity is targeted towards improving the recyclability of our products and the development of recyclable alternatives for products that are not currently recyclable. Our goal is to reach 90% recyclability by 2025.

Since sector standards on what defines recyclability do not (yet) exist, we are using our own definition of what recyclability means:

Products that are recyclable can be recycled in one of the waste fractions publicly available in most European countries, without hindering the relevant recycling processes. Any limitations with regard to the amounts of non-recyclable material fractions are defined by the specific recycling processes and can be different for each waste type and recycling process used.

Considering our current product portfolio with regard to this definition, all products containing at least 60% aluminium, such as not only our Capsteril lids and insulation products but also our paper and metallized innerliner products, can be considered recyclable. This adds up to a total of 70% worth of products that were sold in 2022.

Product quality & safety

Royal Vaassen is a supplier of (food contact) packaging materials to the food and tobacco industry. In order to guarantee the (food) safety and quality of products RV has implemented a certified quality management system based on the standards BRCGS Packaging Materials and ISO-9001:2015. Management analyses/reviews actual and potential negative and positive impacts on the economy, environment and people, including impacts on their human rights annually. Fundamental choices for the mid- to long-term with action plans are stated in a Management Team Business plan.

Health and safety impacts are assessed for improvement for all products sold to the food and tobacco industries. This covers 98% of all products sold.

There have been no incidents of non-compliance concerning the health and safety impacts of products during the reporting period.

PRODUCTION

We are committed to clean, efficient and effective manufacturing. Through efficient planning and planning to order, using as much green energy as possible and reducing our use of energy as well as waste and emissions, we keep our impacts on the environment to a minimum. Process improvements, targeted facility investments and other sustainable manufacturing initiatives help us to improve even further.

Energy

As a company with energy-intensive manufacturing processes, we know that the type and amounts of energy we consume to a large extent define the environmental impacts of our production site. It is exactly therefore that we consume only green electricity and carbon-compensated natural gas.

In support of our carbon emission reductions, we also aim to continue improving our energy efficiency, targeting a year-on-year 10% reduction in our use of natural gas and electricity – starting in 2023.

Energy consumption

	2020	2021	2022
Natural gas used	96.669.212 MJ	108.895.253 MJ	86.487.004 MJ
From renewable sources	0 MJ	0 MJ	0 MJ
From non-renewable sources	96.669.212 MJ	108.895.253 MJ	86.487.004 MJ
Electricity used	39.074.206 MJ	39.364.250 MJ	36.216.626 MJ
From renewable sources	39.074.206 MJ	39.364.250 MJ	36.216.626 MJ
From non-renewable sources	0 MJ	0 MJ	0 MJ
Total energy consumption	135.743.418 MJ	148.259.503 MJ	122.703.631 MJ
Energy consumption per 1.000 m^2 of products sold	259 MJ	314 MJ	260 MJ

Energy reduction initiatives

Recent strategies to lower our energy use have primarily revolved around lowering our intake of natural gas, as this has the largest impact on lowering our carbon emissions as well. Considering that our use of natural gas is mostly related to heating purposes and fueling our afterburners, initiatives aimed at reducing our use of natural gas have focused primarily on the insulation of processes and buildings, the recirculation of residual heat and optimising the efficiency of our afterburners. Repairing leaks of pressurized air and installing LED lighting have made a start in reducing our electricity use as well, although this will receive more focus in the coming years. Replacing worn-out equipment with more energy-efficient, modern machinery has also helped reduce our energy use.

Energy reduction initiatives and corresponding annual energy savings in MJ .

Project	Natural gas savings	Electricity savings
Afterburner optimization	3.517.000 MJ	-
Recirculation of hot air	2.635.000 MJ	-
Insulation of processes and buildings	246.000 MJ	-
New slitting machinery	-	90.000 MJ
Repairing leaks of pressurised air	-	308.000 MJ
LED lighting	-	331.000 MJ

Water

We are located in a country that is water-rich and for the most part below sea-level, meaning we are very connected to the water that surrounds us. Climate changes such as heavier rainfall and sea-level rises could have significant impacts on our organization, although we have not experienced any floods or other water-related climate incidents. On the other hand, we also rely on water in our processes. Groundwater is used for cooling our buildings and processes, cooled back and then discharged to the nearby creek after use. Tap water is used as a solvent in the production of lacquers and adhesives, which mostly evaporates in our dryers as well as for sanitary purposes. With regard to water quality, we make sure that any discharges meet the requirements of our local water bodies. It can thus be said that while water is essential to our operations, our direct water-related impacts are slim.

Water-related impacts are significantly larger in our supply- and value chain; the production of the paper we purchase and the foodstuffs that are packaged using our products, for example, are known to be very water-intensive. Through optimising our use of raw materials and providing optimum protection for the packaged foodstuffs with our products, we play our part in minimising the water used in our supply and value chain.

Water withdrawals & discharges

Our water use, expressed as withdrawals and discharges, is shown in the table below. As can be seen, groundwater withdrawals and discharges to surface water (which is the same water) have increased significantly from 2021 to 2022.

Water withdrawals, use and discharges. Discharges of third-party water are not measured.

	2020		2022	
	Withdrawal	**Discharge**	**Withdrawal**	**Discharge**
Groundwater	46.494 m^3	0 m^3	193.780 m^3	0 m^3
Surface water	0 m^3	46.494 m^3	0 m^3	193.780 m^3
Third-party water	8.824 m^3	unknown	6.523 m^3	unknown
Total	**55.318 m^3**	**Min. 46.494 m^3**	**200.303 m^3**	**Min. 193.780 m^3**

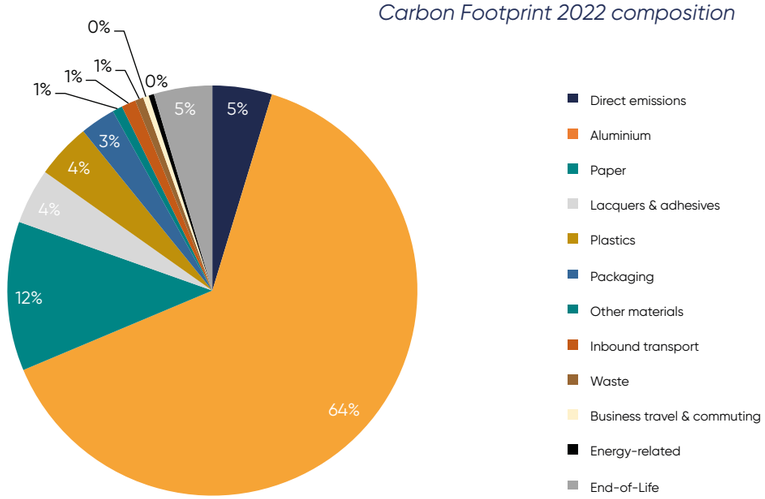
GHG Emissions

We take responsibility for our share in worldwide climate problems. This is why we started calculating our GHG emissions in 2020 so that we could get a better understanding of the sources of our emissions. As is common for production companies, the majority of our emissions take place in our value chain. The aluminium and paper we purchase are responsible for 64% and 12% of our total emissions, respectively, and thus are responsible for the largest share of our Scope 3 emissions. Of our direct emissions, about 60% relate to our use of natural gas, which we (mostly) compensate for via verified carbon credits. The remaining 40% is related to our afterburners, which burn the solvents that have evaporated from our lacquers and adhesives. Also worth noting is that we have virtually no Scope 2 emissions because we make use of only green electricity. The small amount of Scope 2 emissions we do have relates to the on-the-go charging of electric vehicles.

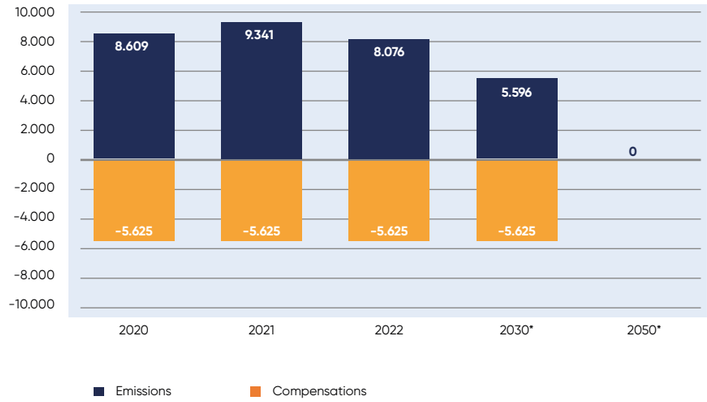
GHG emissions and intensity figures. Scope 3 emissions include categories 1-8 and 12-15.

	2020 (base year)	2021	2022
GHG emissions			
Scope 1	8.619 t CO_2 eq.	9.366 t CO_2 eq.	8.089 t CO_2 eq.
Scope 2 (market-based)	0 t CO_2 eq.	10 t CO_2 eq.	12 t CO_2 eq.
Scope 3	203.854 t CO_2 eq.	164.012 t CO_2 eq.	164.147 t CO_2 eq.
Total	212.472 t CO_2 eq.	173.389 t CO_2 eq.	172.249 t CO_2 eq.
Carbon offsets	5.625 t CO_2 eq.	5.625 t CO_2 eq.	5.625 t CO_2 eq.
GHG emissions per million m² products sold			
Scope 1	16 t CO_2 eq./mln m²	20 t CO_2 eq./mln m²	17 t CO_2 eq./mln m²
Scope 2	0 t CO_2 eq./mln m²	0 t CO_2 eq./mln m²	0 t CO_2 eq./mln m²
Scope 3	390 t CO_2 eq./mln m²	347 t CO_2 eq./mln m²	348 t CO_2 eq./mln m²
Total	406 t CO_2 eq./mln m²	367 t CO_2 eq./mln m²	365 t CO_2 eq./mln m²
GHG emissions per million € revenue			
Scope 1	71 t CO_2 eq./mln €	79 t CO_2 eq./mln €	55 t CO_2 eq./mln €
Scope 2	0 t CO_2 eq./mln €	0 t CO_2 eq./mln €	0 t CO_2 eq./mln €
Scope 3	1.677 t CO_2 eq./mln €	1.385 t CO_2 eq./mln €	1.116 t CO_2 eq./mln €
Total	1.748 t CO_2 eq./mln €	1.464 CO_2 eq./mln €	1.171 t CO_2 eq./mln €

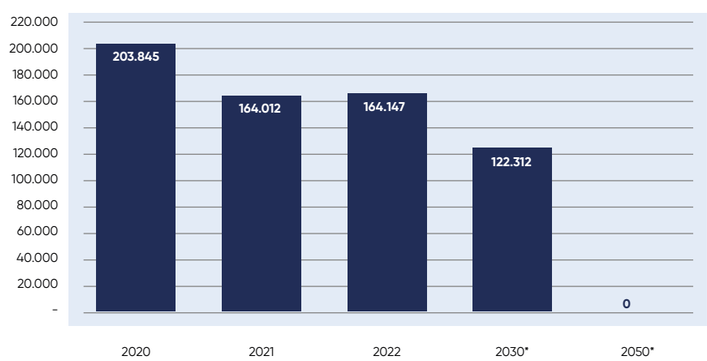
Carbon Footprint 2022 composition



Scopes 1+2 emissions (t CO2 eq.)



Scopes 3 emissions (t CO2 eq.)



Even though 95% of our emissions take place in our value chain, we feel responsible for all our emissions and know we can play our part in lowering these emissions. This is why we have defined ambitious emission reduction targets, which are aligned with the worldwide targets as defined in the Paris Agreement:

1. Reduce our Scope 1 and Scope 2 emissions by 35% by 2030, compared to a 2020 base year.
2. Reduce our Cradle-to-Gate (including end-of-life) Scope 3 emissions by 40% by 2030, compared to a 2020 base year.
3. Climate neutrality by 2050.

So far, we have managed to reduce our total footprint (Scopes 1, 2 and 3) by almost 19%. Our direct (Scopes 1 and 2) emissions have been reduced by 6.0% since 2020 by means of several small projects that have resulted in a lower intake of natural gas. Our value chain emissions (Scope 3) have been reduced by 19.4% over the same period by purchasing aluminium with a lower footprint.

GHG emission reduction initiatives

GHG emission reduction initiatives that were active in 2021 and/or 2022. Projects marked with 'R' indicate emission reductions that have been realised during this period. Projects marked with 'E' include emission reductions that are underway. The figures mentioned indicate the savings that are expected once the project has ended.

	Scope 1	Scope 2	Scope 3	Total
Low-carbon aluminium - R Purchasing aluminium foil with a lower footprint.	0 t CO_2 eq.	0 t CO_2 eq.	30.660 t CO_2 eq.	30.660 t CO_2 eq.
Afterburner optimization - R Maintenance to and updating settings of our afterburner, to make it less reliant on natural gas to keep its temperature.	179 t CO_2 eq.	0 t CO_2 eq.	0 t CO_2 eq.	186 t CO_2 eq.
Recirculation of hot air - R Re-use of hot air to reduce the amount of cold air that needs to be heated, saving on natural gas.	141 t CO_2 eq.	0 t CO_2 eq.	0 t CO_2 eq.	141 t CO_2 eq.
Insulation of processes and buildings - R Insulating roofing of one building as well as several pipelines and processes to save on natural gas.	13 t CO_2 eq.	0 t CO_2 eq.	0 t CO_2 eq.	13 t CO_2 eq.
Waste reduction - E Ongoing project to reduce operational waste by 16% for tobacco products, resulting in energy use reductions, and a lower need for raw materials besides a reduced need for waste treatment.	906 t CO_2 eq.	0 t CO_2 eq.	1.815 t CO_2 eq.	2.721 t CO_2 eq.
Water-based lacquers and adhesives - E Replacing solvent-based lacquers and adhesives with water-based alternatives to lower afterburner emissions and scope 3 emissions related to the production of solvents.	459 t CO_2 eq.	0 t CO_2 eq.	216 t CO_2 eq.	675 t CO_2 eq.

Waste

Responsible consumption of materials, which includes waste prevention and adequate waste treatment, are essential to prevent the depletion of valuable resources and pollution of our soils and waters. It is also one of the three key aspects of our sustainability strategy.

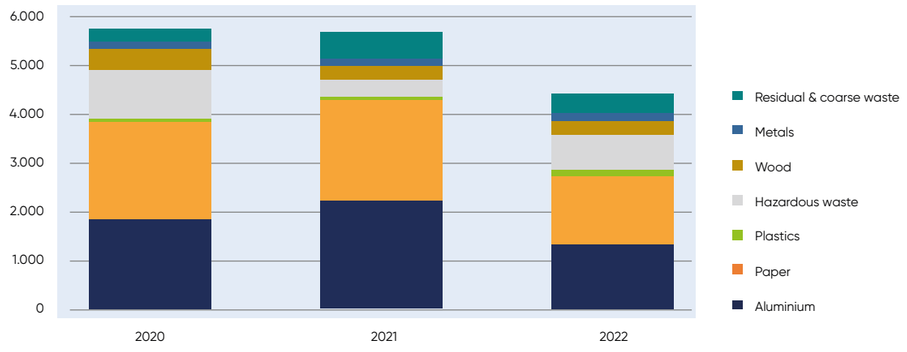
Even though the majority of our products and materials can be recycled, they should not be wasted unnecessarily. Therefore, we limit waste in our own operations as much as possible and ensure the waste we do produce is separated to facilitate recycling. Essential thereto is the live tracking of any events resulting in operational waste, which is done in every production process.

We work with three different partners in the treatment of our waste, taking care that the maximum amount of our operational waste gets recycled. In addition, we also take responsibility for those parts of our products that become waste when processed outside the borders of our own facilities, in the form of our own recycling service that we set up in 2022.

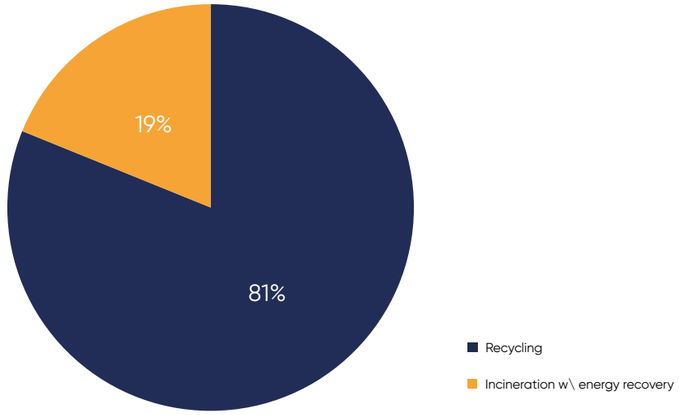
Waste generated & waste treatment

Our operations have generated roughly 5.500 and 4.350 tonnes of operational waste in 2021 and 2022, respectively. This waste primarily consists of aluminium, paper and hazardous waste in the form of excess lacquers and adhesives – the primary materials used in our products. In 2022, 81% of our waste was recycled. Only some types of hazardous waste, residual and coarse waste cannot be recycled and therefore are sent to incineration with energy recovery.

Waste generated (t)



Waste treatment



Operational waste by waste type and management scenario.

Waste type	Amount recycled	Amount incinera-ted (with energy recovery)	Total
2021			
Aluminium	2.118 t	0 t	**2.118 t**
Paper	2.053 t	0 t	**2.053 t**
Plastics	13 t	0 t	**13 t**
Hazardous waste	143 t	550 t	**693 t**
Wood	153 t	0 t	**153 t**
Scrap metal	90 t	0 t	**90 t**
Residual & coarse waste	0 t	372 t	**372 t**
2021 Total	**4.569 t**	**922 t**	**5.491 t**
2022			
Aluminium	1.338 t	0 t	**1.338 t**
Paper	1.483 t	0 t	**1.483 t**
Plastics	44 t	0 t	**44 t**
Hazardous waste	357 t	473 t	**830 t**
Wood	198 t	0 t	**198 t**
Scrap metal	96 t	0 t	**96 t**
Residual & coarse waste	0 t	344 t	**344 t**
2022 Total	**3.515 t**	**818 t**	**4.333 t**

Waste reduction programme

At the beginning of 2022, we initiated a waste reduction programme with the aim of reducing our operational waste in the production of tobacco packaging products by 15% by the beginning of 2023. With the support of specialised consultants in the field of production efficiency and effectiveness, seven different projects were defined, each targeting a different waste source.

Stains

Within the tobacco segment, we have a lot of waste due to stains. In metallised paper alone, we throw away at least €240,000 of product per year because there are stains on it. We have investigated what causes this. Different operators and the product technologist have assessed samples with different stains and samples of good material. They determine what is acceptable and what is not and identify what the stains turn out to be resulting from. Our customers are not as strict as we are, but a number of types of stains are not acceptable. We started working with those stains.

These specific stains appear to be caused by contaminated coater blades and too high a paint yield. We see that happen especially on the main machine. Wear and tear and the design of the coater system on the main machine turned out to be the underlying reason. The coating technology on two otherwise identical production lines are different, and as a result we suffer from stains more on the one line than on the other. We, therefore, expect to be able to prevent a lot of disapproval on stains by updating the coating system on the main machine we see most issues on the main machine. This is scheduled for 2023.

In addition, we set up a process to train operators to assess stains. We help them determine what kinds of stains are acceptable and which are not. We also want to introduce a grey area.

This means that in case of doubt of the operator, a product engineer decides whether or not to accept the material. In this way we keep more insight into the number and type of stains we encounter, and we can continue to learn about this.

Start-up pieces

Start-up pieces are the number one cause of waste on our main machines. By 'start-up pieces' we mean the metres of product that we make during the start-up of an order before they are of good quality.

On one of our main machines, we have a relatively large number of long start-up pieces. This is because one or more colour prints have to be made to check whether the colour is correct. And, that only possible at full speed. When the colour is not good and a colour print has to be made two to three times, the number of metres of start-up pieces increases quickly. That is why we started looking for the fastest way to bring the machine up to speed. This way we make a colour print with as little waste as possible.

The starting point for this approach was a good record of the number of colour prints and of the length of the start-up pieces – among all shifts. When that was in order, the differences in working methods between the teams became clear. By letting the teams learn from each other, it has become clearer what works well and what does not, and the difference in start-up pieces between the different teams has been reduced.

Right now, we're about to establish a best practice. It must ensure that everyone works in an equal way. In addition, it will be recorded how many prints have been made and how many metres have been used to get up to speed. That is the goal for the last leg of the project. This will start in 2023 and is expected to be completed before the summer.

Winding errors

After cutting our products, all the product is wound on a single core. There is sometimes some variation in this, and winding errors can occur. Every day, full pallets are wasted with rolls that are not properly wrapped. Winding errors have several causes, but the main cause is the lack of a standard 'best practice' for setting up, starting up and speeding up (or slowing down) the machine. Just before the end of 2022, we standardised the working methods for the slitting machines. In January 2023, the waste was reduced by 1%. It's worth noting that in the same month, we achieved the highest output ever for this machine.

Consumption of Ink

On one of our main machines, where we use coloured lacquers, we use two large containers (IBCs) to add the colour. The first 50+ litres of ink must rise above the outflow opening. That makes the consumption very high. However, when using a small container, the consumption is less than half. By adjusting the required amount of ink in the bill of materials, the total ink consumption has been reduced significantly.

Folds

Waste in the food segment is mainly due to the fact that a lot of material is rejected because of folds. In recent months, an analysis has been made that indicated the folds are particularly evident in aluminium-plastic film laminates and especially aluminium-plastic film laminates made of wide aluminium coils on one of the main machines in particular. The project team is now focusing on identifying the root cause, so that it can be resolved.

Length and thickness deviations

Because aluminium foil is purchased in kilograms but used in metres, the supplier's label oftentimes mentions a different coil length than what we have calculated internally. If the aluminium foil is thicker than specified, we can get fewer metres out of one coil. In a way, this can be considered waste. Not because the material is rejected, but because we use proportionally more material than is necessary to make a certain amount of product.

That saves a numerical amount of €50,000 per month. A specific example of such a case that came to our attention recently is that of one of our suppliers consistently supplies us with aluminium foil that consistently is 1% thicker than specified. As a result, the potential savings in this specific case amounts to several tons per year.

Royal Vaassen Recycling Service

Sustainability is increasingly top of mind for our customers—and their customers. So, more and more, we're challenged to share that responsibility as a supplier. Often, our clients ask the question: "How can you help us?". That got us thinking about what we could do to move the needle - and led to the birth of our very own take-back and recycling service for aluminium-rich processing scraps.

Tackling the bulk waste problem

We know that our customers aim to do what's best for our environment and climate. They process materials with great care, and most of their waste is sorted carefully. When waste is collected by recycling companies, they assume everything is taken care of. Despite all efforts, however, it is likely that residual bits of recyclable aluminium end up in the pile of mixed waste, and are burned in a waste incineration plant. The result: most aluminium that can be recovered is polluted with other materials. This is a shame, because at that point, it is only suitable for 'downcycling'. What we want - and know is possible - is for as much aluminium to remain suitable for high-quality recycling. So when our customers asked the question: "How can you help us do better?" this got us thinking. Eventually, this question led to the development of our own take-back and recycling service.

Doing the planet a service

Here at Vaassen, we take care of that problem with help from a specialised company with sophisticated processes. We inform them about the exact composition of the waste, so they know exactly which residual aluminium to melt for reuse. And, they control the composition and process for a high-quality result. This recycled aluminium is of high enough quality to be used in factories that roll the recycled aluminium ingots all the way down to aluminium foil. This foil looks and behaves exactly the same as 'virgin' aluminium foil - but with only five percent of the energy use. In other words: what we used to call 'waste' are actually valuable raw materials for the recycling company.

This is great news, because while we're lowering our waste-related expenses, we're also doing the planet a service.

Bringing an idea to life

We all have to play our part to make sure aluminium ends up in the right place. Since we already found our way about this at Royal Vaassen, we figured we might as well help our customers do the same. And so we came up with a plan to share our process with our customers.

And, when a client approached us asking how we could help them, we put our idea into action. Our pilot program, a collaboration between Royal Vaassen, the recyling facility, and the customer, was a success! Now, aluminium at that client is collected separately from the rest of their waste, and recycled with high quality.

Change takes time

The question now is, who's next? We are already talking with other customers about how we could partner together in a similar way. Of course, change does not happen overnight. We need the right people at the table to move forward, and that takes time. And besides, leaving the status quo behind often requires a little persuasion. Unlike other changes though, this one can have financial benefits, too. For that client, that meant turning costs into revenue. We give customers a closer look at the figures so they can see how collecting their waste differently can generate income.

A priority for the future

Ultimately, we hope all our customers participate. The service is a top priority for our Sales department, and we want it to play an increasingly important role in future contracts. We are focusing on Western Europe first, although the program does depend somewhat on the customer's aluminium waste volume. It is best suited to companies that can collect a full load of aluminium within a reasonable timeframe. If the program is a fit, there is a real opportunity for us to make a difference together-and to help our customers to climb the sustainability ladder.

APPENDIX

1: GRI Content Index

Royal Vaassen Flexible Packaging has reported in accordance with the GRI Standards for the period 1 january 2021 - 31 december 2022.

In this GRI Content Index, our disclosures for each material topic are listed with reference to the GRI Standards. The locations in our Sustainability Report where each of these issues are addressed are listed, and complemented with additional information, such as explanations on reasons for omissions where applicable.

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 2: General Disclosures 2021			
The organization and its reporting practices			
2-1	Organizational details	Page 6	
2-2	Entities included in the organization's sustainability reporting	Page 6	Royal Vaassen Flexible packaging has one single entity, being the Vaassen site.
2-3	Reporting period, frequency and contact point	a+b: Page 5 c+d: Back cover	
2-4	Restatements of information	n/a	This is the first sustainability report published by Royal Vaassen.
2-5	External assurance	n/a	This sustainability report or parts thereof have not been assured externally.
The organization and its reporting practices			
2-6	Activities, value chain and other business relationships	Pages 6-8	
2-7	Employees	Page 16-17	We do not work with non-guaranteed hours contracts, which is why these are not mentioned in the report. All employees work at our Vaassen site
2-8	Workers who are not employees	Page 16	The total number of workers who are not employees is not tracked

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 2: General Disclosures 2021			
Governance			
2-9	Governance structure and composition	Page 6, 11-12	
2-10	Nomination and selection of the highest governance body	n/a	There is no formal nomination and selection process in place for selecting members of the Sustainability Board. It formed more or less organically when it was founded in 2022, based on the types of knowledge required to deal with the matters that were relevant at the time.
2-11	Chair of the highest governance body	Page 11-12	b: We do not consider there to be a risk of conflicting interests.
2-12	Role of the highest governance body in overseeing the management of impacts	Page 11-12	c: there is no formal process in place for reviewing the effectiveness of the processes mentioned under 2-12b.
2-13	Delegation of responsibility for managing impacts	Page 12	Responsibility for managing impacts lies with the members of the Sustainability Board only. Other employees are involved and given responsibility over specific tasks or targets, but not over impact management.
2-14	Role of the highest governance body in sustainability reporting	Page 12	
2-15	Conflicts of interest	n/a	There is no process in place for preventing and mitigating conflicts of interest. We deem our organization to be too small to install such a process.
2-16	Communication of critical concerns	n/a	There is no formal process in place for communicating critical concerns. We deem our organization to be small enough not to require such a process.
2-17	Collective knowledge of the highest governance body	Page 12	
2-18	Evaluation of the performance of the highest governance body	n/a	There is no process in place for evaluating the performance of the sustainability board. All individual employees however do receive annual performance evaluations. See also disclosure 404-3.
2-19	Remuneration policies	Page 21-22	
2-20	Process to determine remuneration	Page 21-22	
2-21	Annual total compensation ratio	Page 22	The ratio of percentage increase in annual total compensation cannot be disclosed, because the annual total compensation of the organization's highest-paid individual did not increase, while it did increase for other employees.

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 2: General Disclosures 2021			
Strategy, policies and practices			
2-22	Statement on sustainable development strategy	Page 5	
2-23	Policy commitments	Page 16	Our vision, values and mission statement are published on our website. Our CoC is available on request. All have been approved by our Managing Director.
2-24	Embedding policy commitments	Page 16	
2-25	Processes to remediate negative impacts	Pages 5, 10, 12, 16, 31, 37	
2-26	Mechanisms for seeking advice and raising concerns	Page 16	
2-27	Compliance with laws and regulations	n/a	There have not been any cases of non-compliance during the reporting period.
2-28	Membership associations	Page 11	
Stakeholder engagement			
2-29	Approach to stakeholder engagement	Page 13	
2-30	Collective bargaining agreements	n/a	All employees are covered by collective bargaining agreements.

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 3: Material Topics 2021			
3-1	Process to determine material topics	Page 13 Appendix 2 - page 57-58	
3-2	List of material topics	Page 13 Appendix 2 - page 58	
3-3	Management of material topics	Pages 5, 20, 23, 25, 29, 31, 34, 35, 37, 39, 42, 43,	
GRI 301: Materials 2016			
301-1	Materials used by weight or volume	Page 32	
301-2	Recycled input materials used	Page 32	
301-3	Reclaimed products and their packaging materials		Our products or their packaging materials are not reclaimed, as they are single-use items. They are collected and recycled through the local waste collection & recycling infrastructures available in the area of final use.
GRI 302: Energy 2016			
302-1	Energy consumption within the organization	Page 37	Natural gas used is measured in m3 and converted to MJ using a conversion factor of 35,17 MJ per m3. Electricity use is measured in kWh and converted to MJ, using a conversion factor of 3,6 MJ per kWh.
302-2	Energy consumption outside of the organization		While we are aware that the energy use in especially our supply chain is vast (and significantly larger than our own share), there are too many suppliers and customers (and their customers) to collect detailed data. While some industry-average data can be obtained, this data is often old and/or does not cover the full scope of activities. Hence, it was decided not to report on energy use outside our organization.
302-3	Energy intensity	Page 37	
302-4	Reduction of energy consumption	Page 38	
302-5	Reduction in energy requirements of products and services		Not applicable. Our products do not consume energy.

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 303: Water and Effluents 2018			
303-1	Interactions with water as a shared resource	Page 38	
303-2	Management of water discharge-related impacts	Page 38	
303-3	Water withdrawal	Page 37	No water is withdrawn from areas with water-stress. All withdrawn water is freshwater.
303-4	Water discharge	Page 39	No water is discharged to areas of water stress. Quality of discharged water is unknown.
303-5	Water consumption	n/a	Water consumption is very slim and therefore not measured or calculated specifically
GRI 305: Emissions 2016			
305-1	Direct (Scope 1) GHG emissions	Page 40, 41	Disclosed emissions include all GHG types and all emissions of activities within our operational control. GWP sources: www.co$_2$emissiefactoren.nl & www.linde-gas.com
305-2	Energy indirect (Scope 2) GHG emissions	Page 40, 41	Disclosed emissions include all emissions of activities within our operational control. GWP source: www.co$_2$emissiefactoren.nl
305-3	Other indirect (Scope 3) GHG emissions	Page 40, 41	Includes emissions from Scope 3 categories 1-8 & 12-15 for all activities within our operational control. GWP Sources: both supplier-specific & industry-average data found online (available on request). GHG Protocol Scope 3 evaluator used to calculate cat. 2 & 6 emissions.
305-4	GHG emissions intensity	Page 40	Disclosed emissions include all GHG types.
305-5	Reduction of GHG emissions	Page 42	
305-6	Emissions of ozone-depleting substances (ODS)	n/a	These emissions are not measured.
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	n/a	These emissions are not measured.
GRI 306: Waste 2020			
306-1	Waste generation and significant waste-related impacts	Page 43	
306-2	Management of significant waste-related impacts	Page 43, 46-48	
306-3	Waste generated	Page 43	
306-4	Waste diverted from disposal	Page 44	All waste is treated offsite.
306-5	Waste directed to disposal	Page 44	All waste is treated offsite.

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 401: Employment 2016			
401-1	New employee hires and employee turnover	Page 18	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Page 21	
401-3	Parental leave	Page 19	The amount of employees entitled to parental leave is not tracked by Royal Vaassen.
GRI 403: Occupational Health and Safety 2018			
403-1	Occupational health and safety management system	Page 25	
403-2	Hazard identification, risk assessment, and incident investigation	Page 26	
403-3	Occupational health services	Page 26	
403-4	Worker participation, consultation, and communication on occupational health and safety	Page 27	
403-5	Worker training on occupational health and safety	Page 25	
403-6	Promotion of worker health	Page 26	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Page 25	
403-8	Workers covered by an occupational health and safety management system	Page 25	The occupational health and safety management system applies to every person present at our premises: employees, hired workers and visitors.
403-9	Work-related injuries	Page 27-28	Injuries and cases of ill-health are not tracked separately, but included in the report as combined figures for injuries and ill-health.The numbers reported include all incidents involving employees, hired workers and visitors. For legal reasons with regards to the protecion of personal data, Royal Vaassen (as an employer) is not formally aware of reasons for absence due to ill-health and injuries, unless it involves workplace incidents.
403-10	Work-related ill health	Page 27-28	

GRI Standard	Disclosure Title	Location	Additional explanation & comments
GRI 404: Training and Education 2016			
404-1	Average hours of training per year per employee	Page 23	
404-2	Programs for upgrading employee skills and transition assistance programs	Page 24	
404-3	Percentage of employees receiving regular performance and career development reviews	Page 23	
GRI 405: Diversity and Equal Opportunity 2016			
405-1	Diversity of governance bodies and employees	Page 20-21	
405-2	Ratio of basic salary and remuneration of women to men	Page 22	
GRI 413: Local Communities 2016			
413-1	Operations with local community engagement, impact assessments, and development programs	Page 29	
413-2	Operations with significant actual and potential negative impacts on local communities	Page 29	
GRI 416: Customer Health and Safety 2016			
416-1	Assessment of the health and safety impacts of product and service categories	Page 35	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Page 35	

2: Materiality Assessment

Royal Vaassen values our stakeholders and regularly engages with them to determine the environmental, social and governance topics that are most relevant and urgent. Our stakeholders are those that have a direct impact on our business or who are directly affected by our activities. They include our employees, suppliers, customers, shareholders, consumers, industry associations, governments, regulators and the local community of Vaassen.

As part of Royal Vaassen's sustainability reporting process, a materiality assessment is completed at least every other year to update our understanding of the topics that are most important to our stakeholders. Engaging with our stakeholders helps us to understand their priorities, visions and challenges that are most likely to present risks or opportunities of a financial, operational or reputational nature for Royal Vaassen – now and in the future. This guides us in aligning our sustainability strategy to those topics, with the aim of guaranteeing business continuity for Royal Vaassen.

Our approach to materiality assessment follows an internal consultation for assessing and updating material topics. Because different persons within our organization connect with our stakeholders on a regular basis, they are well aware of their priorities, visions and challenges and thus are able to inform our materiality assessment. These findings are combined with desktop research on more general topics, such as emerging regulation and societal challenges and our own priorities and interests, to develop a final list of material and highly material topics.

The outcomes of the materiality assessment inform the content we include in our biannual sustainability report and help shape our sustainability strategy and priorities. The relevant sections of this report describe how we respond to the material topics identified through our materiality assessment.

Step 1: Identification of topics

Our materiality assessment begins with identifying a long list of potentially material topics. We consider the following sources in our identification process:

- Sustainability reports and the included materiality assessments released by peers, customers, suppliers and competitors
- Questions and concerns raised by stakeholders during the past years, including direct investor and customer inquiries
- Internal and external communication activities over the past years
- Sustainability reporting standards (e.g. GRI)
- External sustainability rating systems (e.g. CDP, Ecovadis)
- New and emerging legislation
- Material assessments from previous years (since this is the first time we completed a materiality assessment, this will be included from the next assessment)

Step 2: Prioritisation

After the potentially material topics are identified, we analyse the sources mentioned above to decide which topics are most material internally and/or externally, based on how often they are mentioned, weighting in assessments and how many stakeholders are covered by each topic.

Those topics that are prioritised by stakeholders that are most involved with our operations, have a larger financial impact on Royal Vaassen or are most affected by our activities receive a higher priority rating than those stakeholders with a more distant relationship to Royal Vaassen. Topics that are mentioned only by a few stakeholders or only by stakeholders that we do not have close relationships with are dropped. We also combine topics that are closely related, to obtain a list of topics that is more concise.

Following this process, we determine a prioritised shortlist of material topics that reflects all stakeholder groups and ensures we are responsive to those topics with the greatest potential to impact our performance or to be impacted by our actions moving forward.

Step 3: Validation

The final list of prioritised material topics is reviewed by Royal Vaassen's Management Team for feedback and approval. After it has been approved, the highly material topics are mapped to the appropriate Global Reporting Initiative (GRI) Standard in accordance with GRI reporting guidance. We identify and report on the indicators within each relevant GRI Standard to ensure the completeness of the report. A copy of the final report is reviewed by Royal Vaassen's Management Team prior to public release.

2021-2022 List of Material Topics

Material Topic	Description	GRI Disclosure
Product Quality & Safety	Ensuring the delivery of high quality and safe products to our customers and end users	GRI 416: Customer Health and Safety 2016
Product Innovation	Continious development of new sustainable products by eco-design. Providing solutions with a lower environmental footprint.	
Employee Health, Safety & Wellbeing	Protecting the workers' health and promoting safe and healthy behavior to achieve zero lost time incidents related to injuries or ill-health	GRI 403: Occupational Health and Safety 2018
Resource Management	Ensuring the social, environmental and economic sustainability of our raw materials by responsible sourcing and selection. Promoting the use of renewable and recycled content	GRI 301: Materials 2016
Employment	Maintaining positive relations with employees and promoting positive working conditions.	GRI 401: Employment 2016
Waste & Recycling	Reducing our generated waste during production of our products and diverting waste from disposal by recycling	GRI 306: Waste 2020
Emissions	Reducing GHG emissions and contributing to the mitigation of the effects of climate change	GRI 305: Emissions 2016
Talent & Development	Talent attraction, development and retention. Through regular performance and career development reviews a continious development and employability is facilitated.	GRI 404: Training and Education 2016
Energy Use	Using energy more efficiently and opting for renewable energy sources where possible	GRI 302: Energy 2016
Circular Economy	In 2025 all products are reusable or recyclable. The development of recyclabe products with recycled content when possible	GRI 306: Waste 2020
Local Communities	Ensuring a positive impact on the local community living and/or working in the area impacted by our operations.	GRI 413: Local Communities 2016
Diversity & Inclusion	Promoting equality and a diverse workforce reflecting society.	GRI 405: Diversity and Equal Opportunity 2016
Water	Controlling our water abstraction, our use and reuse, and way of disposal	GRI 303: Water and Effluents 2018

ROYAL VAASSEN

Visiting Address
Industrieplein 1
NL-8171 BT Vaassen
The Netherlands

Mailing Address
Royal Vaassen Flexible Packaging
P.O. Box 2, NL-8170 AA Vaassen
The Netherlands

Location USA
Royal Vaassen US, Inc.
17875 Von Karman Avenue
Suite 150
Irvine, CA 92614

Phone
+31 88 335 5050

E-mail
sustainability@royalvaassen.com

royalvaassen.com

May 2023