

Sustainability report

2021

KAPP HEAT TRANSFER ENGINEERS

Becoming good at something is largely a matter of commo<u>n sense.</u> Thorough technical knowledge of our own products, understanding of the market and specific requirements are all necessary prerequisites. Having the brains and knowing the right things is one thing. What you also need to become a specialist is experience - and the mental ability to use that experience over and over again. Because the very companies that work in a differentiated market are able to use the experience they gain along the way to future challenges. We call this process adaptive thinking. By reusing our knowledge and experience every day, we have built up a huge advantage over our competitors. And we are honoured when you, and the environment, benefit from this.





INTRODUCTORY WORDS FROM OUR DIRECTOR



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The future of industry needs to be sustainable in every sense of the word.

TJARK DE LANGE - DIRECTOR

It is with great pleasure that we present to you our first sustainability report. Just working on this report has had its impact as it has made us reflect on our performance so far and what more we can do, which already resulted in measures taken and improvements for the future have emerged.

We believe our biggest impact is to convince our customers to reduce their energy consumption through innovative heat transfer technology. As a service organisation, our own carbon footprint may not be that large, but that does not prevent us from reducing it on our pathway to net 0 in 2030. In this report we proudly present the steps we have taken, and will continue to take, in order to contribute to a more just and sustainable society. Together with our partners we are looking forward to making increasingly ambitious social and sustainable impact in the years to come.

We see it as our mission to accelerate the energy transition by fundamentally improving clients' projects and processes. Not a single day goes by without us realising; the future of industry needs to be sustainable in every sense of the word.

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KAPP AT A GLANCE (2021)

We use 100% green energy





5.641 kWh for our electric vehicles

> **14** employees with a mean tenure of 12 years

50 hours of professional development on avarage per employee



Carbon footprint (Scope 1 & 2)

Estimated CO₂ savings for clients



736.819 tonnes CO,

Solar power



16.566 kWh solar power generated

Net promotor score

in 2021

Waste generated



1.100 kg company waste generated



OUR PROMISE

We are Kapp, Heat Transfer Engineers. We are ambitious and innovative engineers dedicated to providing sustainable heat transfer solutions for our customers from design to delivery.

OUR VALUE CREATION MODEL



VISION/PURPOSE

A CO_2 neutral industry, where all aspects of energy are utilised in an efficient and sustainable manner.

BESPOKE

We at Kapp do not stop at a challenge. Our solutions are innovative and perfectly attuned to our customers' needs. Our expertise in the process of heat transfer engineering combined with our eye for our customers make that we are perfectly equipped to identify customer needs and, in collaboration with our partners, come up with bespoke solutions that they might not have even thought about.

We make sure everything is well taken care of throughout the whole production process, so our customers can fully rely on our services and be completely free of any hassle surrounding their heat transfer process. That is our promise.

SUSTAINABLE IMPACT

Today, we see the energy transition as the biggest challenge for society and we at Kapp do everything we can to make an impact. Heat

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transfer is an inherently sustainable practice since its core feature is energy retention and saving. However, our ambition urges us to move beyond and commit to a more sustainable way of doing business for all our stakeholders.

Therefore, we identified the material topics that we are most passionate about and that are material to our business, to our stakeholders and to the external environment. The concept of double materiality means we look at topics that impact our business ('outside-in impact', such as risks and opportunities), as well as topics upon which our business has an impact ('insideout impact', such as our impact on the environment).





MATERIAL TOPICS

- Energy & emissions: Our primary activity revolves around energy transfer, which helps our customers reduce their energy consumption and associated CO₂ emissions. Our own energy consumption and emissions are relatively low as a service organisation, but we consider it our responsibility to reduce these to a minimum in light of the current energy and climate crises.
- **Stakeholder relations:** Kapp could not function as well as it does without its strong and long-lasting partnerships on the supply side, and good customer relations on the other hand. It is essential to us that our customers are pleased with our services.
- **Material use:** Although our organisation does not produce the heat transfer systems ourselves, we do advise our customers proactively on ways to reduce the use of materials involved in the heat transfer systems. This is an impactful way for us to contribute to solutions to the growing scarcity of resources.
- **Innovation management:** In every project, we are required to innovate. Each customer's context and wishes differ, and so it is important for us to invest time and resources into developing innovative approaches.
- **Good employership:** Our employees are our most important asset. It is vital for the health of our company that our employees feel good, are committed and enabled to develop themselves. We invest strongly in a good atmosphere and good working conditions.

We have spent the last year taking stock of our efforts and achievements so far on each topic, which will be presented in this report. In addition, this exercise has allowed us to see where opportunities lie for intensifying our efforts and will enable us to set up a roadmap for the coming years. We will monitor and report on our progression in the years to come, as this provides us and our stakeholders with the necessary steering information.

ENERGY & EMISSIONS

IMPACT AMBITION

To accelerate the energy transition and drive our solution for the climate, Kapp is working intensively to promote cleaner energy chains. Through our heat transfer innovations, we help our customers in their efforts in reducing their footprint: by transferring residual heat back into energy, our customers use less fossil fuels. In addition, we are unlocking the possibilities to reduce our own carbon footprint.

COMMITMENTS

We have dedicated ourselves to becoming fully carbon neutral by 2030 and ensure we're ahead of the goals of the Paris Climate Agreement. To do this, we will come up with a roadmap for reducing our ecological footprint, while at the same time urging our partners to do the same. We have started tracking our yearly progress in scope 1 and 2, but especially our impact in scope 3 is significant. Therefore we've started to gather data on our scope 3 emissions and reductions we create for our customers. Frankly, we were amazed at the amount of energy we help our customers save on an annual basis. Our heat recovery solutions really do make a difference.

ACTIONS TO MANAGE IMPACT

- A baseline assessment of scope 1, 2 and 3 emissions.
- Road map to carbon neutral in 2030.
- Scope 3 emission reduction tracking with customers.

TRACKING EFFECTIVENESS

In 2021, our own carbon footprint comprised the following aspects:

TOPIC	VALUE 2021	KG CO ₂
Electricity (non-renewable)	0 kWh	0
Electricity (renewable)	34.572 kWh	0
Renewable energy fed back to the grid	13.000 kWh	0
Natural gas	2.323 m ³	2.758
Fuel (E10)	8.072 Liters	22.472
Fuel (Diesel)	2.177 Liters	7.101
Charging points	11.296 kWh	0

Additionally, we were able to reduce energy use and associated CO_2 emissions for our customers. In 2021, these are our performance metrics:

ТОРІС	2021
Number of heat recovery projects	83
Total additional heat recovery realised	396 MW
Total additional annual heat recovery from projects realised	3.12 TWh
Total CO ₂ emissions diverted in 2021*	736.819.2 tonnes

 $^{*}\mathrm{CO}_{_{2}}$ emissions estimated based on natural gas equivalent in The Netherlands.



CASE STORY 1 CO, REDUCTION THROUGH HEAT TRANSFER SERVICES

At one of our customers in the oil, gas and power industry, we were involved early in the design phase of a hydrocracker plant and were therefore able to make a major contribution to the efficiency of the process. To preheat its process water from an exegetically favourable residual stream, our customer had pencilled in two Shell & Tube Heat Exchangers (STHE), but we immediately saw that there were snags in this solution. Firstly, the technology was huge compared to the solution we had in mind. In theory, the process would also have been feasible with a STHE, but in practice the flow velocity would be so low that the heat exchanger would barely function. And it would significantly degrade the reliability of the heat exchanger because low flow rates often result in fouling and hence corrosion. In this case, a Vahterus PSHE ensured that this application was possible at all, saving the end customer 1.300 kW of energy, some 10.250 MWh annually. In 2021 they were able to save an estimated 242 tonnes of CO₂, and with an expected lifespan of 20 years a total of 4.840 tonnes of CO₂, which is equivalent to the carbon stored by 11.000 trees in the same 20 years.



CASE STORY 2 ELECTRIFYING OUR CAR FLEET

We started to electrify our fleet in 2021 and have since replaced 65% of our company cars with EVs. In the process, we have equipped our car park at our Dordrecht office with 6 charging points and did preparations for 2 additional charging points which we expect to put in use soon. As we use 100% green energy, this allows us to save roughly 14.990 litres of fuel (E10) and thereby 41,73 metric tonnes of CO_2 per year. Our remaining petrol-fueled company cars will be replaced with electric ones after the current term aiming for a 100% electrified fleet from 2025. This sustainability measure has a potential CO_2 saving of 64,21 metric tonnes through fuel in total per year compared to having 100% fossil fuel-powered cars. Taking into consideration the higher environmental impact of production of electric vehicles, this saves 22,47 metric tonnes of CO_2 per year.

RELATIONSHIP WITH STAKEHOLDERS

IMPACT AMBITION

The relationship we have with our partners is, next to our employees, our most valued asset. These long-standing partnerships have been built throughout the years and as a result we are able to provide our customers with quality service, improve our own business continuity, and collaborate with our partners and customers on their road towards sustainability.

Kapp operates as an intermediary between market and factory. We see it as our duty to be on top of our customers' technological needs and market developments and share these with our partners. On the other hand, we are in close contact with our partners on a working day-to-day basis and are continuously informed about our suppliers' technical developments and possibilities. It's our task to translate customers' needs to a technical concept and the other way around. We consider this approach as one of our strengths; working together with customer and partner to determine the best solution and adhere our mission to accelerate the energy transition by fundamentally improving sustainable processes and projects.

COMMITMENTS & GOALS

We are committed to maintaining and further maturing the relationships with our stakeholders we have so carefully fostered over these years.

ACTIONS TO MANAGE IMPACT

- Supported report about ISPT Gigafactory H2.
- Joined various networks to acquire and disseminate knowledge.
- Customer survey which we use for strategy and action plan.

To make sure we stay on top of their needs, we have started to conduct a customer survey to gauge their experience with Kapp, evaluate any (potential) shortcomings and engage on topics we can strengthen each other with. We have also set up numerous projects to keep abreast of market and development-related issues:

 In 2021 Kapp conducted nine webinars for various end-users and engineering



contractors to create awareness about the opportunities of compact heat exchangers in the industry.

- Two planned trade shows, which have been postponed to 2022 due to COVID-19: Pumps and Valves (Antwerp) & Heat Exchanger World Expo (Rotterdam).
- Registered as a member of FME project
 6-25 to actively contribute to CO₂
 reduction with available technologies
 in brownfield projects. 60% of enquiries
 through this project have a heat
 background.
- Since 2021 active member of the FME electrolysers makers platform. Main reason for participation is knowledge sharing. Our slogan and philosophy within this platform is therefore: "Here to teach, here to learn".

VALUE YOUR NEIGHBOURS

As a small business, we know the importance of good neighborship. We think buying local supports local entrepreneurs and the community we live in. It helps to create a sense of community and supports the people who live and work close by. In addition, this way we help keep our neighbours working, which means they can stay in and participate

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I was very satisfied with the assistance from Gerard van de Graaf with initial solution finding and further the project manager Ray Nahar who was very professional and very knowledgeable.

CUSTOMER

in our community. Finally, it's also good for the environment. Buying local means less transport, which means less pollution and less waste. Therefore, we imposed ourselves to shop locally first and shift to another supplier only if we cannot find the supplies nearby.

TRACKING EFFECTIVENESS

At Kapp, we are dedicated to providing our customers with high-quality services and

solutions. In a recent survey of our customers (n=23), we found that the majority are highly satisfied with our offerings. Our Net Promoter Score (NPS) of 48, based on 48% promoters and 0% detractors, indicates that our customers are generally pleased with our services. In particular, our customers value the quality of our solutions, our response time, and our customer service. While sustainability may not be a top priority for our customers, we are committed to operating in a responsible and sustainable manner. Additionally, the survey identified small areas of improvement that are high on our priority list. Overall, we are grateful for the feedback from our customers and will continue to strive for excellence in all that we do.

RANKING OF IMPORTANCE PER ASPECT OF KAPP'S SERVICES





Rank 4



CASE STORY 3 PARTNERSHIPS

Our long-standing partnerships are characterised as warm relations. Mauri Kontu, CEO of Vahterus, congratulated our director Tjark de Lange with Kapp's 25 year anniversary as follows:

"It started 25 years ago, when you established Kapp Nederland after working for a short time at a local APV office. Vahterus was very small at that time, and you were a hungry young sales engineer full of Dutch energy!

One very special memory from those early days was when we got a unique customer order with material requirements and fittings that we couldn't find. You found these missing flanges etc. and brought them in your Golf Wagon, if I remember correctly, to Vahterus through Sweden. And then you waited in Kalanti while we tried to fix it. Then, at the end of the week you loaded the unit in your small car and drove it to your customer. For you, the customer truly comes first – that's been your main driving force and value since the beginning. A real salesman!

During these 25 years, you've built a very strong team at Kapp, a high-quality heat-exchanger supplier in the Benelux countries with great customer respect.

During our partnership, nearly 2.000 Vahterus Plate & Shell Heat Exchangers have been delivered to you, which have had to meet the high standards and requirements of demanding global customers.

Together we succeed!"

Mauri Kontu Founder and CEO Vahterus

MATERIAL USE

IMPACT AMBITION

The pandemic, global warming, political crises; they all have a grave impact on the supply and demand of raw materials. In return, the usage of materials has an adverse impact on these crises. Therefore, it is important for Kapp to use materials more sustainably and establish enduring relations throughout the supply chain that enable Kapp to deliver on its brand promise.

However, we realise the threats that climate change poses to global supply chains and we recognise the need for more sustainable and circular material use.

COMMITMENTS & GOALS

We are always exploring options for more sustainable material use for our heat transfer systems and ways of providing these benefits to both our customers as well as our supply chain partners.

- 20% of materials in production process can be recycled by 2025.
- Monitor material savings per customer project.

ACTIONS TO MANAGE IMPACT

- Sustainable materials roadmap.
- Engage partnerships on the topic of sustainable material use.
- Technology conversion program: we guide customers from conventional to compact heat transfer systems.

TRACKING EFFECTIVENESS

ТОРІС	2021
Number of projects with significant material use reduction (technology conversion) realised in 2021	54
Total mass material (steel) reduced versus conventional technology	658 metric tonnes
Total CO_2 emissions diverted in 2021	1.605 metric tonnes

CASE STORY 4 SAVED 52.000 KG STEEL, EQUIVALENT 126,88 CO₂

Kapp was asked to help think of an alternative solution for a customer in the chemical industry in Zeeland (NL). They wanted to increase their process efficiency by installing solvent steam heaters. The customer initially thought of traditional Shell & Tube Heat Exchanger (STHE); technically an appropriate solution, but an unnecessarily large and heavy piece of equipment weighing some 60.000 kg. For Kapp, a STHE was out of the question, simply because a Plate & Shell Heat Exchanger (PSHE) is more compact, 7,5x lighter and at least as suitable for the application. The total weight of this solution was only 8.000 kg, allowing us to save 52.000 kg of high-grade steel (87%). That is equivalent to saving 126,88 tonnes of CO₂ emissions just in producing the steel. The savings on CO₂ in transport, civil work and insulation is not included in this calculation.

A generic comparison between a STHE and a PSHE for the same duty:



INNOVATION MANAGEMENT

IMPACT AMBITION

Innovation is at the heart of Kapp's business. Since all our projects are bespoke and made to fit the needs of the individual customer, we are continuously coming up with unique and innovative designs, informed by the latest trends in the industry. This allows us to provide the best services to our customers and help them on their path towards energy efficiency as well.

COMMITMENTS & GOALS

The technology behind a heat exchanger is as mature and basic as that of a windshield wiper. That does not stop us from inventing and refining new and innovative state-of-the-

art approaches, because a heat exchanger is not in itself an innovative device. The application of that heat exchanger can be, though. A good example is production for hydrogen, which often uses new processes for industry. We see promising applications, with a number of large-scale plants planned. The hydrogen market requires scale-up of existing technology and further development and optimisation. To make a valuable contribution to this, Kapp has studied the entire hydrogen process and determined five key steps: electrolysis, cooling, compression, drying and final compression. For each step, we recognised the challenges and described the solutions. We translated this elaboration into a compact translation with illustrations,



which we share on our new website (going live Q4-2022) and whitepapers. In addition, we are committed to the following:

- Keep providing best/fitting services to customers.
- Collaborate with partners to innovate in the supply chain to support the transition to clean and efficient energy, low material use, etc.

ACTIONS TO MANAGE IMPACT

- Periodic innovation management meetings with our manufacturing partners for market development.
- Project specific innovation support to our manufacturing partners.
- Here to teach, here to learn approach with start-up and new energies companies.

TRACKING EFFECTIVENESS

We have not yet measured our impact on this but are going to start measuring:

- Google Analytics on dedicated hydrogen webpage on our website and number of downloads of sustainability report.
- Amount of case stories published.
- Leads generated from "technology conversion study" marketing campaigns.
- Time spent on innovating with customers.



GOOD EMPLOYERSHIP

IMPACT

Our employees are our most valued assets. Without their unique capacities and continuous delivery of quality products and services, Kapp would not exist. It is therefore crucial that we care for our employees and offer them an employee experience on par with the services we provide to our customers.

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We always avoid overburdening our employees and keep the work-life balance in mind at all times.

COMMITMENTS & GOALS

Kapp is proud of the mean tenure of its employees. We see this as a strength, and we are pleased with the loyalty of our employees. Nevertheless, it is our ambition to raise this mean tenure even further and aspire to offer a working-lifetime employment. Therefore, we do our utmost, and we have several informal employership guidelines which come down to the following:

- We run operations in a flat organisation with minimal management layers.
- Employees get the responsibilities they can handle.
- Employees determine their own career path and have the space to partly create their own jobs.
- Meaningfulness; we are all very much committed to the energy transition.
- No bureaucracy and a no-meeting policy.
- Transparent employment practices.

We always avoid overburdening our employees and keep the work-life balance in mind at all times. At Kapp, we have not experienced any burnout in our 25-year history and we strive to keep it that way. It is therefore essential to keep the number of employees constantly growing along with



workload. Preferably, we are slightly ahead of these numbers. With a tight labour market for engineers, this is a constant challenge.

ACTIONS TO MANAGE IMPACT

- Campus recruitment.
- Constant recruiting. Always room for good employees, whether we have a vacancy or not.
- Decent and honest reward. Primary and secondary benefits of employment on point.
- Inclusive and flexible HR Policy and urging our partners to do the same.

TRACKING EFFECTIVENESS

TOPIC	Value
Number of employees	14
Mean tenure of employees	12 years
Employees < 26 years	1
Employees 26 - 35 years	3
Employees 36 - 45 years	2
Employees 46 - 55 years	8
New hires	1
Employees left	0
Average time spent on improving capacity (internal, per employee per year)	40 hours
Avarage time spent on improving capacity (external, per employee per year)	10 hours



CASE STORY 5 WINNIE, OUR LATEST EMPLOYEE:

"I must confess, when I started at Kapp, I didn't even know what a heat exchanger was. But I was positively surprised by the company and how interesting I found the industry. The first weeks were great fun; the induction period was well-arranged. I soon got more and more work, and really noticed that I had to learn a new way of working for myself there. I was quite challenged. At Kapp you can take on responsibilities when you are ready; I am handed the tools, but I must solve matters myself. However, there is always someone on hand to assist.

From day 1, I have been impressed by the passion among my colleagues and believe me, it is contagious. At friends I now tell passionate about heat transfer but especially about Kapp. I have never experienced such a close-knit team before. At Kapp, we combine working hard with the occasional joke and laugh. The fun part is, Tjark (director) accompanies his employees in both."



CASE STORY 6 REINIER, OUR LONGEST-SERVING EMPLOYEE:

"One of my most memorable projects was with one of our key manufacturers in Austria. For this project we had agreed a tight deadline with the customer, but, due to several flaws, fabrication seemed to falter towards completion. In the end we did everything we could, together with the manufacturer to meet the delivery date, and I promised the guys in the factory 2 crates of beer if we'd still made the delivery in time... and we made it. A deal is a deal at Kapp, so Tjark sent me to Austria with 2 crates of beer in the boot. Of course the workers loved the beers but above all appreciated the effort we've made to stick to our promise. I think it's typical for Kapp. We don't always solve our problems with a few crates of beer but, I love how at Kapp we get the freedom to tackle challenges as we see fit."

Reinier Algera (working for Kapp since Q1-2003)

Winnie Dekker (started working for Kapp in Q1-2021)

LOOKING FORWARD WITH JEROEN VAN RUITENBEEK



We are in a position to contribute not only with engineering and supply of heat exchangers but also with our expertise and willingness to invest time and effort in promising projects.

JEROEN VAN RUITENBEEK - KAPP NEW ENERGIES

The energy transition is in full speed and there are big challenges ahead for the process industry. However, we also see great opportunities to really get it right. The right technology in the right place is one thing, but the realisation that we cannot wait any longer is even more important.

While writing this report, we realised that many times more energy is being saved by our means than we previously thought. By 2021 alone, we achieved an additional 3,12 TWh of annual energy savings. With our technology conversion projects, we ensured that 658 metric tonnes of steel were saved. We realise our added value is therefore mainly in scope 3. However, that does not stop us from also phasing out the use of fossil fuels in our daily operations and further reducing our waste streams.

We are in a position to contribute not only with engineering and supply of heat exchangers but also with our expertise and willingness to invest time and effort in promising projects. Whether that is optimisation of existing sites (project 6-25) with better heat recovery/heat integration within brownfield constraints (size/weight) or supporting new technologies in new processes in biochemistry, hydrogen, electrification, new energies and so on.

Kapp is proud of 25 years of contributing to solving customer issues and increasing energy efficiency in industry. We have a long way to go but we foresee a more sustainable future for the industry, provided we work together.



COLOPHON

This sustainability report is a publication of Kapp Nederland.

PUBLISHER AND OWNER OF MEDIA

Kapp Nederland B.V. Veerplaat 102 NL – 3313 LJ Dordrecht T: +31 78 611 73 50 E: contact@kapp.nl

COORDINATION AND SUPERVISION

Grant Thornton Specialist Advisory Services B.V., trading under the name Sinzer.

GRAPHIC ART AND DESIGN

Barbara de Wijn

PHOTOS

Maartje Brockbernd / Kapp Nederland B.V. / Vahterus Oy

FOR FURTHER INFORMATION

Jeroen van Ruitenbeek T: +31 78 611 73 55 E: jvr@kapp.nl

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HEAT TRANSFER ENGINEERS

