



Environmental Sustainability Report

2020

Dear All



Our annual Sustainability report will look back at the 21st century's so far the most "uncommon" year 2020.

Covid-19 pandemic has demonstrated that the foundations of our safe and comfortable lives can be shuttered in a matter of weeks. Under the impact of Covid, we had to change our mindset and habits radically. It has taught us lessons, but it has not taught us to think wider than our personal needs and well-being to avoid the next devastating crisis which is threatening the welfare of our Planet.

Will we be able to balance the economic growth and environmental sustainability? We quite regularly express our worries about climate changes, natural disasters, loss of biodiversity, collapse of ecosystems etc, but when will we start changing our habits and fly as little as possible, avoid waste, rely on wind and solar energy and practice organic farming?

We have problems all around us and as Albert Einstein said "problems can never be solved with the same mindset that created them".

For us, book manufacturers, the most important task is to reach out to our suppliers and customers to work jointly on the issues of sustainability and environmental responsibility.

We do not set up technical specifications for the books we produce, we do not manufacture raw materials for our processes. We have to work together!



Quite often our customers ask us the question: "what is the most sustainable book?" and we have to try to find the answer. Businesses have always invested money in development and new technologies to produce more and cheaper. Now the time has come to invest in technologies which can help us to become more efficient and sustainable.

Do we want to produce cheap books to be thrown away without thinking twice? That is our most common attitude towards low price products – they are not meant to last long! Or should we choose high quality materials which will last for decades to give our books extra added value and lower carbon footprint?

I have books from the early 19th century which are still in good shape. I do not know who produced them but I would say they are "sustainable products" – they have lasted for more than two hundred years,

been read and re-read and no one has dared to throw them away!

Let us put our efforts together and reduce CO₂ emissions during raw material production processes, choose materials which will be easy to recycle or will last for ever, try to make the right decision in favour of the environment – which is better: an expensive long-lasting cover material or some glossy finishing touch on a simple cover? Is it worth choosing "bio" paper which has to be delivered from the other side of the world by air freight?

So many questions to be answered, but let us start with doing small things every day hoping they will accumulate to save our Planet!

Yours sincerely
Janina Bluma
Deputy Managing Director
Livonia Print

Have you felt any climate change? If so, does it affect you and what can you do to reduce it?



(anonymous thoughts of our employees)

"I think that we have been experiencing climate changes for many years and that each of us MUST do our part to protect the environment. Even if it is something small – if many people do it – it will give us positive changes. I myself try to avoid or reduce waste and live conscientiously – shopping in zero waste stores, buying organic/ local/seasonal products, rarely eating meat and if, then not from mass production farming. For example, thinking carefully about whether I really need a product or thing – I can get by without it or borrow it. Buying clothes infrequently and not just wearing them for one season, but instead buying quality products that will last. Cycling or walking to work, using public transport, flying as little as possible, separating waste – these are just a few ways in which each individual can make the difference."

"Recently I wondered whether it was just a coincidence or a logical regularity that after a year with no planes in the air and nature thus less polluted, we finally had a normal winter with snow. If this is a logical regularity, then it shows quite clearly what we should all do".

"It seems that in Latvia the differences between winter and summer weather conditions are decreasing, both becoming rainier and windier. However, it is difficult for me to assess how objective my feelings are and to what extent this is related to global climate change. Strong winds and precipitation, of course, affect both my mood and my physical well-being or comfort. Although I am not convinced that my actions can have any impact on the global climate, I try to act responsibly using natural resources (water, gas, electricity) efficiently – both at work and at home, using waste paper as much as possible at work (often writing on both sides). If there is no need, instead of driving a car, I choose to move on foot".

"Winters have become warmer, with less snow. More fruit trees / shrubs and perennials need to be covered, not only to keep them from freezing during snowless frost days, but also to keep wild animals away from eating them. Pests and insects also survive and multiply better in warmer climate which affects all of us in summer.

I can create less waste and use all resources more sparingly. Think about choosing things and products that are delivered from nearby. Or land cultivation without destroying large forest areas. Not only could I do that, but I already do. This often means only a small change in habits, which ends up being even more cost-effective.

Also travel less. At the moment, I go abroad only to study, train or participate in competitions, that's how I usually spend my vacation. Most often in Estonia or Lithuania".



Targets set forth for year 2020:

- To reduce the total amount of waste by 5%;
- To switch to green electricity;
- To look for new environmentally friendly and recyclable materials – biodegradable laminate and plastic packaging;
- To continue to assess our material suppliers and sub-contractors.





ClimateCalc is a calculation tool based on the European graphic industry standard for carbon calculation defined by the European graphic trade association Intergraf.

ClimateCalc calculation tool is in compliance with ISO 14064-1, ISO 16759 and the international Green House Gas Protocol. It includes 13 main parameters in any calculation of CO₂ emissions of a printing site or a printed product.

According to the GHG Protocol the emissions of greenhouse gas must be divided into three scopes:

Scope 1: Direct emissions of greenhouse gases from the company (e.g. burning of oil or gas in own boilers or vehicles).

Scope 2: Indirect emissions of greenhouse gases from production of purchased energy such as electricity and district heating.

Scope 3: Other indirect emissions of greenhouse gases (e.g. from production of raw materials, purchased (outsourced) transportation services, and the employees' commuting to and from work).

ClimateCalc at Livonia Print

According to ClimateCalc calculation for the whole company, with the accounting period 01.01.2020 – 31.12.2020, our total CO₂ emissions from economic activities are **45275 t CO₂ eq**.

In 2020 we had more than 130 CO₂ calculation requests for specific book projects and part of them have been compensated thus becoming climate neutral products.

Company:	LIVONIA PRINT	Accounting period:	01-01-2020 - 31-12-2020
Address:	Ventspils iela 50	Basic year:	2018
City:	LV-1002 RIGA	Responsible for the account:	Zane OZOLA
Country:	LATVIA	Certificate number:	CC-000090/LV

The account includes: Sheetfed/ Web heatset/ Digital Printing

Total quantity of delivered printed matters:	24471 t	Waste paper:	23%
Total emissions of greenhouse gases (Scope 1+2+3):	45275 t CO₂ eq	Key figures:	1850 kg CO₂ eq/t
Total energy consumption (Scope 1+2):	54835 GJ	Key figures:	2241 MJ/t

Emissions from activities	Company related	Product related	Total emissions	
Burning of fuel in stationary burning units at the company	886 t CO ₂ eq		886 t CO ₂ eq	2%
Burning of fuel in own or leased vehicles	28 t CO ₂ eq	5	34 t CO ₂ eq	0%
Direct emissions (Scope 1)	914 t CO₂ eq	5 t CO₂ eq	920 t CO₂ eq	2%
Purchase of electricity	6656 t CO ₂ eq		6656 t CO ₂ eq	15%
Purchase of district heating	53 t CO ₂ eq		53 t CO ₂ eq	0%
Energy indirect emissions (Scope 2)	6709 t CO₂ eq		6709 t CO₂ eq	15%
Production of paper and other substrate		21274 t CO ₂ eq	21274 t CO ₂ eq	47%
Transportation of paper and other substrate (incl. upstream)		3870 t CO ₂ eq	3870 t CO ₂ eq	9%
Production of printing ink and varnish		970 t CO ₂ eq	970 t CO ₂ eq	2%
Production of PE- and cardboard packing		144 t CO ₂ eq	144 t CO ₂ eq	0%
Transportation of products to and from subsupplier		0 t CO ₂ eq	0 t CO ₂ eq	0%
Transportation of products to the customer		6832 t CO ₂ eq	6832 t CO ₂ eq	15%
Production of fountain solution and cleaning agents	163 t CO ₂ eq		163 t CO ₂ eq	0%
Production of plates and cylinders	3801 t CO ₂ eq		3801 t CO ₂ eq	8%
Employee's commuting to and from work (incl. upstream)	373 t CO ₂ eq		373 t CO ₂ eq	1%
Emissions from production of purchased fuel	218 t CO ₂ eq	1 t CO ₂ eq	219 t CO ₂ eq	0%
Other indirect emissions (Scope 3)	4556 t CO₂ eq	33091 t CO₂ eq	37647 t CO₂ eq	83%
Total (Scope 1+ 2+3)	12179 t CO₂ eq	33096 t CO₂ eq	45275 t CO₂ eq	100%



CO₂ neutral printing equipment

In 2019 we installed our first CO₂ neutral printing press manufactured by Heidelberg Druckmaschinen AG. In 2020 the installation of CO₂ neutral printing equipment was continued.

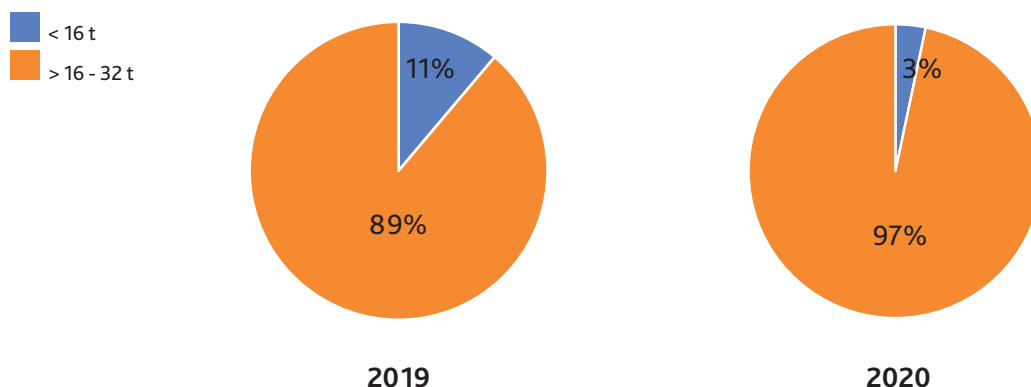




Transportation of products to customers

During 2020 Livonia Print achieved good results in consolidating deliveries in high load trucks. Only 3% of our products were delivered in vehicles with load capacity less than 16 t. See 2019/2020 comparison below.

Total volume of transported products, %



From the total Livonia Print CO₂ emissions, transportation of products to customers is 15%. In order to decrease the emissions in this category, we have identified the steps that should be taken.

Steps for emission reduction

- To choose environmentally friendly transport companies using the latest generation vehicles.
- To organize full truck deliveries as much as possible.
- To combine different customers' orders with deliveries to the same warehouse.
- To cooperate with transport companies that have developed a plan to reduce CO₂ emissions. Main parameters – saved CO₂ emissions in tons from equipment, route planning efficiency and renewable diesel used.
- To avoid air cargo deliveries.



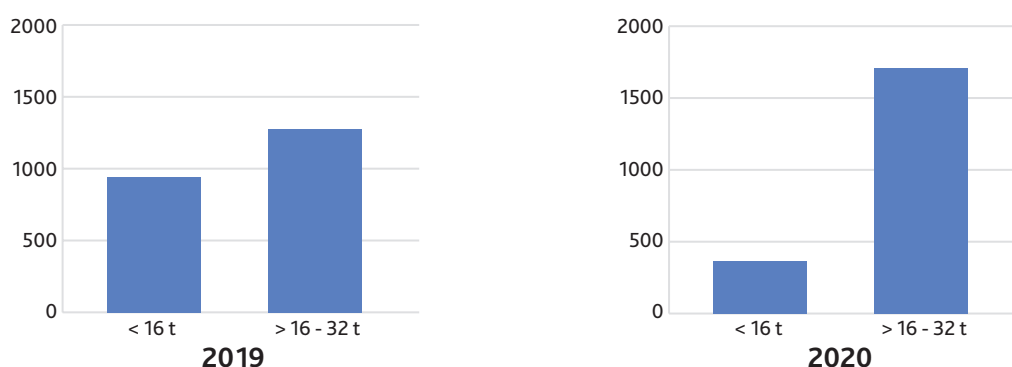


Average distance. In order to calculate our CO₂ emissions, average transportation distance is required. According to our calculations, in 2020 the average distance covered by trucks with load weight capacity of 16 – 32 tons was 1700 km for one delivery. For comparison with 2019 – the average distance for one delivery was around 1200 km. The explanation to this are changes in our markets.

Changes can be also seen in truck load weight category <16 tons. In 2019 the average distance was 946 km but in 2020 – around 400 km.

We are glad many of our customers are using the same warehousing / distribution centres, so we have more and more one stop deliveries in many countries.

Average distance, km



Case study: "A greener concept of logistics"

Our logistics cooperation partner company IMG Logistics has developed a greener concept of logistics. It includes qualitative and certified fuel purchases and the golden principles of optimal route planning, taking advantage of opportunities and benefits of technical progress.

IMG was the initiator of the unified fuel procurement alliance, which includes all IMG subcontractors. An alliance agreement has been signed with the Finnish fuel producer Neste as they position their product to be greener according to Scandinavian standards. Currently their fuel contains admixture of renewable resources.

For customers who have accepted higher transportation costs, IMG has provided trucks with Neste MY Renewable Diesel.

IMG Logistics CO₂ report – Livonia Print data, 2020. According to IMG Logistics data, in 2020 7632258 kg of books were transported to different destinations and by using 19500 l of Neste MY Renewable Diesel, an emission reduction of 53t CO₂ eq was achieved. At the same time, effective equipment and route planning efficiency has led to 202t CO₂ eq emission saving.

Description		
Total number of pallets	16407	
Total brutto weight	7632258 kg	
Neste MY Renewable Diesel	19500 l	53 t CO ₂ eq emission reduction
Equipment and planning efficiency	67000 l	202 t CO ₂ eq emission saving

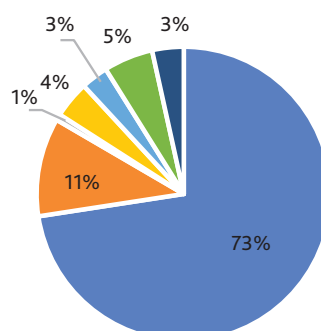
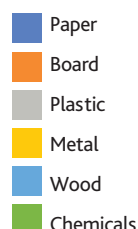
IMG Logistics main destinations in 2020 were to our Swedish and Norwegian customers. The average distance covered by trucks with load weight capacity of 16 – 32 tons was 1400 km for one delivery to Norway and 800 km to Sweden.

Description	Norway	Sweden
Yearly amount of transported products in trucks with load weight capacity of 16-32 tons	3823873 kg	3502980 kg
Average distance	1400 km	800 km



According to our accounts, 93,11% of all waste generated by Livonia Print in 2020 was recycled, including chemical waste. 3,46% – waste sent to landfill, 0,44% waste reused (regenerated washing solvents) and 2,98% waste disposed of in other way – wooden pallets re-sold.

Waste materials generated

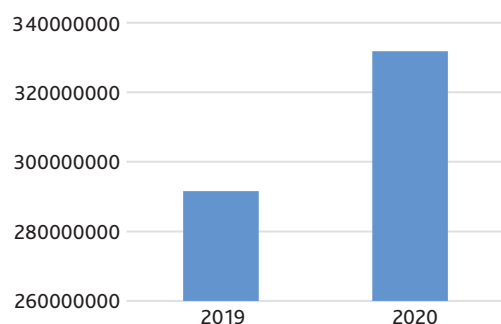


The largest amount of waste paper was generated in press-stations: cut-offs at 3-knife trimmers – 63,2% from the total amount of waste. Compared with 2019, the amount of waste generated in this category, increased by 14,1%. As in the previous years, there are 2 main general reasons for waste paper amount increase:

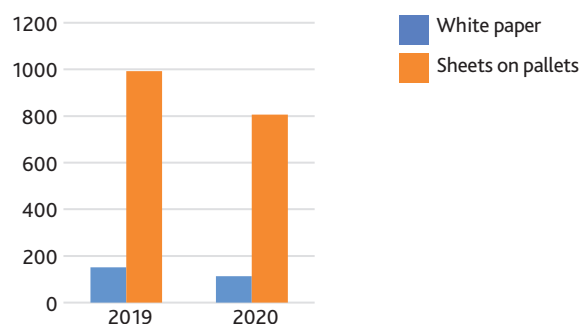
- Production increase by 12,2% or 13,8% printed sheets more than in 2019 (in 2019 more than 291 million sheets were printed in Livonia Print; in 2020 the number of printed sheets reached almost 331 million).
- Although standardization process of paper sheet sizes is in progress, there are still situations when special size sheets are used. Leftovers of these sheets in most cases cannot be used for the next standard size job. Therefore papers have to be scrapped, thus increasing the total waste paper volumes.

At the same time there is a positive trend in waste streams such as – white paper and sheets on pallets. In 2020 we managed to reduce the number of make-ready sheets on our new printing presses and as a result decreased white paper and sheets-on-pallets waste by 38,15%.

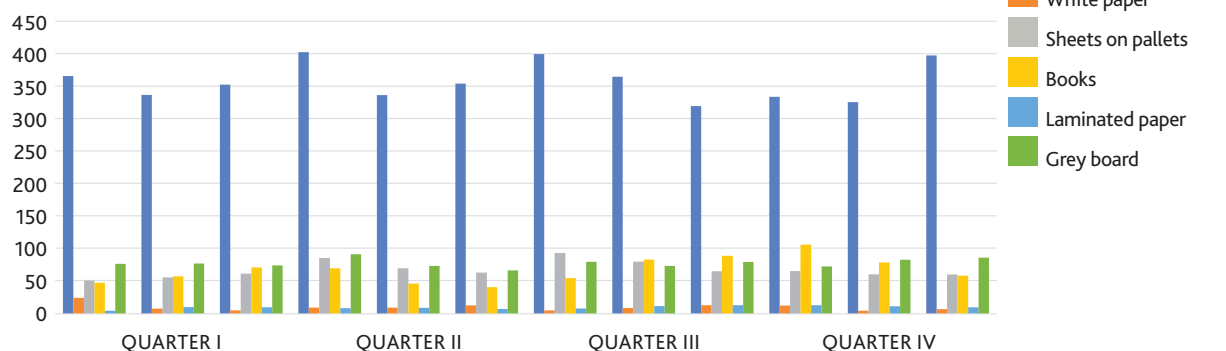
Number of printed sheets



White paper and sheets on pallets waste, tons

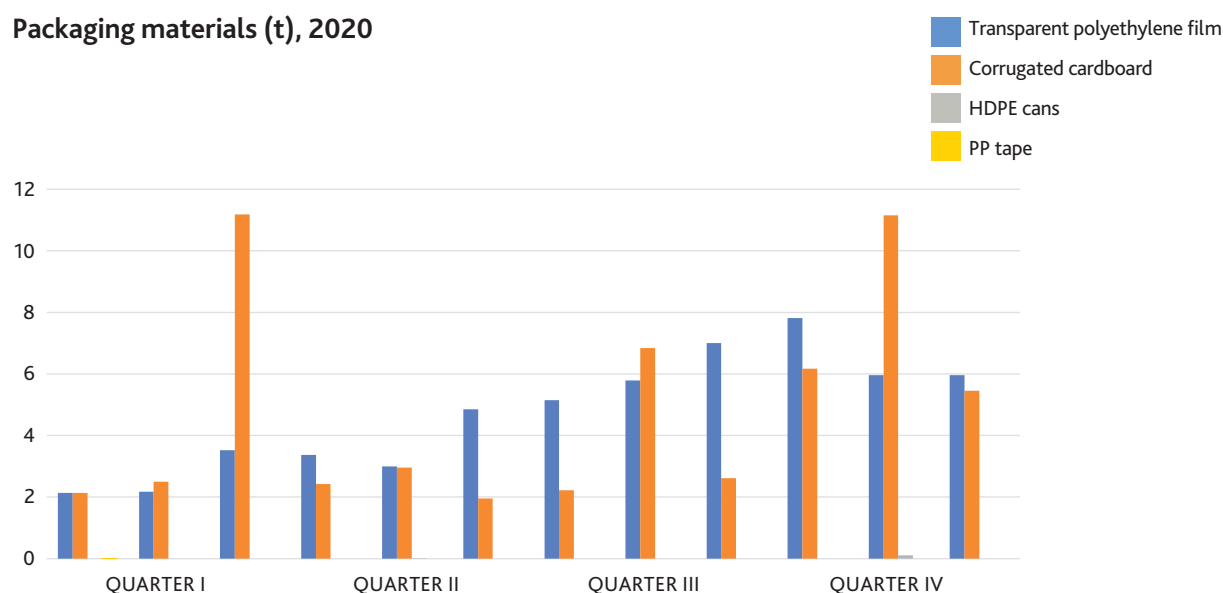


Waste paper (t), 2020





Packaging materials (t), 2020



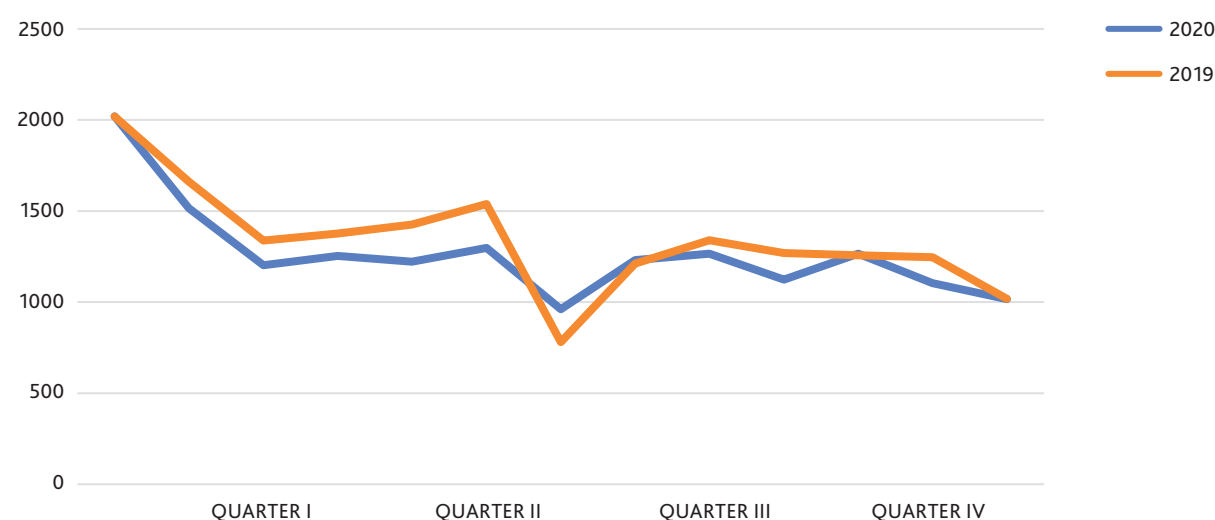
Use of water resources

Water is an essential resource for the development of society and each individual. It plays a vital role also in each company's business operations, and we at Livonia Print are aware of the need to use this resource as responsibly and efficiently as possible.

Water at Livonia Print is used mainly for domestic purposes. In production it is used in closed cycles as well as in the humidification system of the facility.

Although the production in 2020 increased by 12,2%, we even exceeded the target of 5% and reduced water consumption by 6,7%.

Used water amount in 2019 and 2020, m³



Use of electricity



Nowadays we cannot imagine our everyday life or any economic activity without electricity. At Livonia Print electricity is mainly used for technological processes – equipment, compressors, ventilation and lighting in production and offices.

Production growth. In 2020 Livonia Print increased its turnover by 12,2%. We processed more than 331 million sheets of paper which is 13,8% more than in 2019. At the same time our electricity consumption increased by 12,9%.

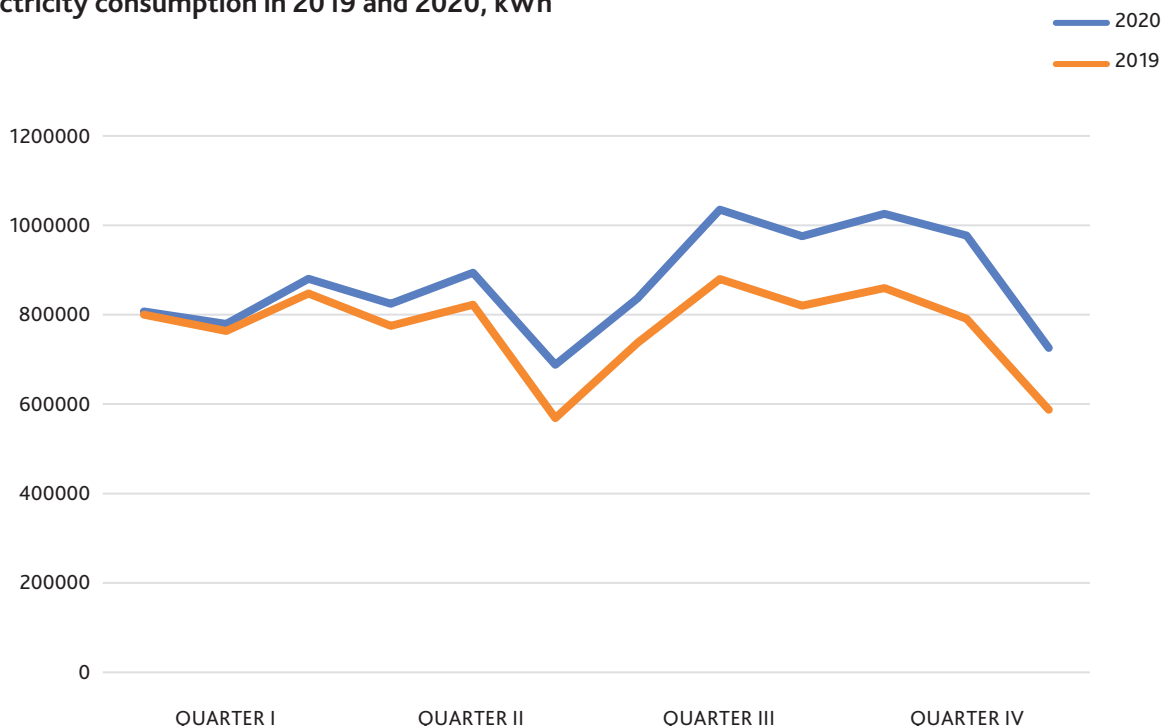
Relocation / reconstruction. In 2020 one of our major goals was to join the two production facilities as two sites result in higher electricity and heat consumption. The relocation project included large scale reconstruction and repair works which increased the total used electricity figures.

Number of equipment. Livonia Print has always been pioneer in new technologies. Also in 2020 new machines were installed to answer the growing needs of the market. The new printing presses (3 x Speedmaster XL 106 -8-P and 4-colour Speedmaster XL 106- 4) are more energy efficient and have higher capacity. Two new Suprasetters deliver plates to each printing press ready for use.

We also installed additional equipment in our digital production department to ensure streamlined digital production flow – digital case-maker and perfect binder.

All this resulted in higher number of printed sheets and even less total electricity consumption per 1 t of processed paper.

Electricity consumption in 2019 and 2020, kWh



Green book projects at Livonia Print



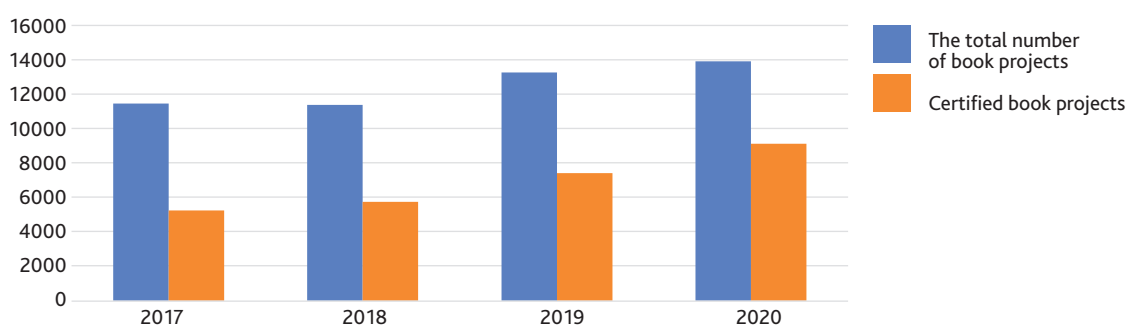
In 2020 the total number of book projects at Livonia Print reached almost 14000 which is 4,9% more than in 2019. 65% of these projects were with environmental labels – FSC, PEFC, EU Ecolabel or Nordic Swan.

In the chart below you can see that during the recent years, the number of certified projects is rising.

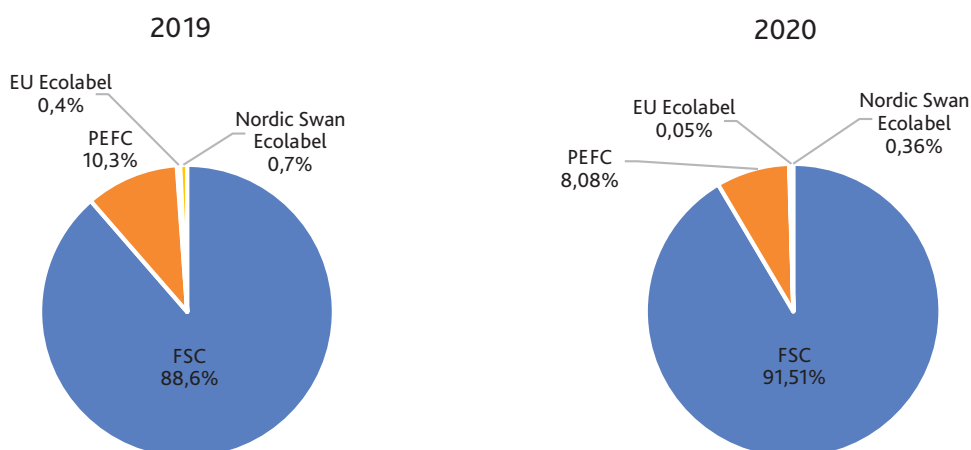
The greatest demand is for FSC labelled books. If in 2019 we had 6621 FSC certified book projects than in 2020 the number grew by 25,9%.

The lowest demand last year was for EU Ecolabel and Nordic Swan certified books. One of the reasons for this is the limited range of EU Ecolabel and Nordic Swan certified materials.

Book projects at Livonia Print



Certified projects, %



How to produce an environmentally friendly product?



Nowadays, one of the most pressing issues in the book industry is how to produce an environmentally friendly book. However, there is no clear answer to this question. In our opinion, it depends on the client's wishes and understanding of what is environmentally friendly and what is not.

If we had to answer the question, we would start with environmentally friendly or eco-labelled materials.

What is eco-labelling? This is a specific type of product labelling that certifies the environmental performance of a specific product or service. Ecolabels can help consumers easily identify those products which meet specific environmental quality standards.

Livonia Print is a proud license holder of FSC, PEFC, EU Ecolabel, Nordic Swan and ClimateCalc.

Each certificate represents different environmental aspects, certification requirements and diverse benefits for the environment.

	Benefits for the environment
 <p>NORDIC SWAN ECOLABEL</p> <p>Printing Company 2041 0893</p>	<ul style="list-style-type: none"> • Material list approved by Nordic Ecolabelling. • Reduced amount of VOC - encouraging printing companies to use chemicals with low VOC content. • Strict waste sorting – less waste in general and increased waste recycling rate.
 <p>EU Ecolabel www.ecolabel.eu</p> <p>EU Ecolabel : NOR/028/001</p>	<ul style="list-style-type: none"> • Guarantees that the printed paper product is recyclable. • Strictly limited emissions to air and water during paper production and printing process. • Material list without hazardous substances or mixtures.
 <p>FSC www.fsc.org FSC® C002795</p> <p>The mark of responsible forestry</p>	<ul style="list-style-type: none"> • <i>Choosing FSC certified paper means to choose to protect the environment.</i> • Products coming from FSC certified forests are grown and harvested in a way that is good for the habitat and the future growth of the forest. • Deforestation and forest degradation is eliminated.
 <p>PEFC™ PEFC/12-31-006</p> <p>Promoting Sustainable Forest Management www.pefc.org</p>	<ul style="list-style-type: none"> • <i>Choosing PEFC certified paper means to choose to protect the environment.</i> • Sustainably managed forests, including prohibition to use highly hazardous chemicals and GMOs. • Promotion of biodiversity and limitation of deforestation.
 <p>ClimateCalc</p>	<ul style="list-style-type: none"> • Possibility to perform CO₂ calculations for the company and individual products. • By offsetting CO₂ emissions, we help to protect the planet from the effects of climate change and also to improve the lives of people in vulnerable communities by supporting sustainable development.

How to ensure that papers come from responsibly managed forests:

PREPS list. According to the Book Chain Project PREPS list, each forest source is awarded a grade where 1 is the worst and 5 is the best.

- 5*: forest source is recycled or certified (FSC / PEFC).
- 3*: forest source is known and responsible, for example, the forest is made up of 100% pre-consumer waste or the forest is covered by a valid FSC Controlled Wood or PEFC Controlled Source licence.
- 1*: forest source is unknown or unwanted (the forest source is from a high risk or high trans-shipment risk country).

Paper CO₂ emissions. Each paper has its own CO₂ emissions and in order to make environmentally friendly books it is important to choose papers with low CO₂ emissions. For example, the same paper brand is manufactured in 2 different countries and CO₂ emissions differ almost two times. The main reason for this difference is the type of electricity the paper manufacturer is using.

Paper sheet sizes. When choosing the paper, ask for standard sheet sizes. By doing that it is possible to return the saved or unused paper sheets to production for other print jobs. Special sheet sizes not always can be used for the next standard size job therefore sometimes such papers go to waste.





Finishing options – less is more

What would you choose?

All production processes that a book goes through require additional electricity and resource consumption.

In terms of additional finishing options – evaluate very carefully the end users of the book, its purpose and the expected lifespan.

Over the years, we have prepared various Livonia Print planners with different materials and finishing options. Each of the copies below have been used daily all through the year. Some of them still look much better than others – why? What cover materials used for those note books have proved to be most sustainable?

Which option would you choose for your planner? Or for your next most sustainable cook book?



2012. Hard cover – quarter bound with leather and cover paper, debossing



2013. Hard cover – paper cover with foil stamping



2014. Hard cover – quarter bound with two colors of cloth, debossing



2015. Hard cover – leather with debossing



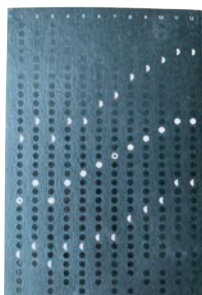
2016. Hard cover, open spine – cloth, transparent foil



2017. Hard cover – paper, foil stamping



2018. Hard cover – quarter bound with cloth and paper, foil stamping



2019. Special soft cover board, open spine, UV spot varnish, foil stamping



2020. Special soft cover board, debossing, open spine

How Covid-19 has made us to become more environmentally friendly

Year 2020 was full of challenges for everyone. It has not only taken away, but also given us something good.

Business trips. Less travel – less CO₂ emissions

Travel is an integral part of our business. It provides an opportunity to meet customers and discuss issues in person. At the same time, it is not a secret that travel has a negative impact on the environment.

In 2020, due to flight restrictions and the epidemiological situation in the world, Livonia Print employees travelled much less than in 2019 – only 25 business trips outside Latvia (in 2019 – 170).

CO₂ emissions per one round-trip

Most often Livonia Print employees travelled to Oslo, Frankfurt, Gothenburg, Copenhagen, Stockholm, London. If we use AirBaltic calculated CO₂ emissions for each destination, we have generated on average 175,6 kg of CO₂ emissions per each trip, totalling to 4390 kg in 2020.

Compare with 29852,3 kg of CO₂ generated by our flights in 2019!

Holiday trips

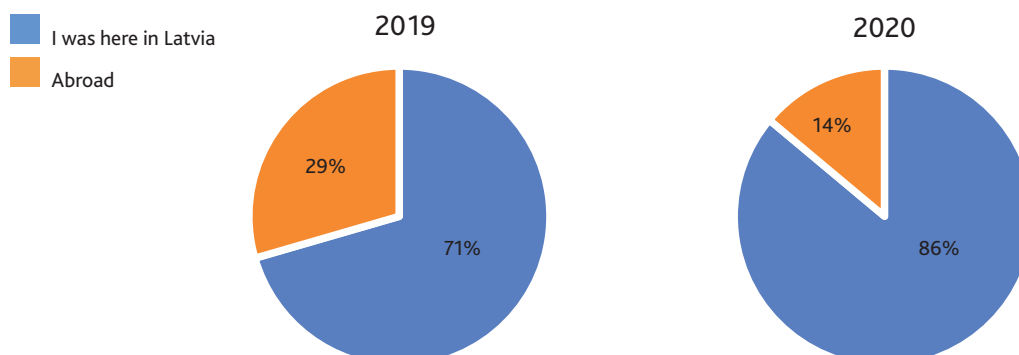
People travel to get new impressions, to see the world, to enrich themselves. There are people who like to travel outside their country and there are people who like to explore their own land.

Nowadays it seems natural at least once a year to go on vacation abroad. Also, Livonia Print employees enjoy having a rest in some Southern countries, or skiing in the Alps in winter.

In 2020 the global pandemic brought changes to our habits of vacationing.

We asked two simple questions to about 100 of randomly chosen employees: "Where did you spend your 2019 and 2020 vacations?"

Where did you spend your 2019 and 2020 vacations?



As the charts show, a large number of Livonia Print people spend their holidays here in Latvia and only about 30% go abroad. However, if we compare 2019 and 2020, travels abroad decreased by 50%.

Development of local tourism



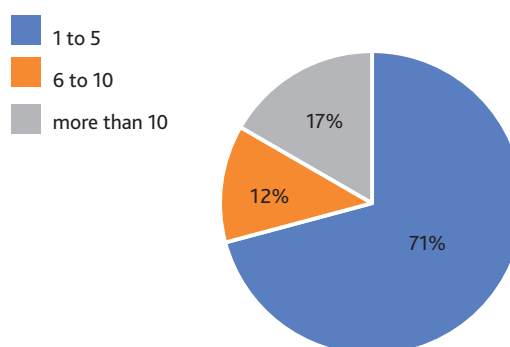
In 2020, a positive local tourism trend could be observed in Latvia. Instead of travelling abroad, people explored their own country, which reduced the negative impact of air flights to the environment accordingly. Surprising, how fast the development of nature trails in Latvia was in the first months of the pandemic. The chart below shows the results of our survey.



According to the survey 71% of Livonia Print employees visited 1 to 5 nature trails but 17% visited more than 10 trails.

There are dozens of nature trails in Latvia and the number continues to grow. It is a positive trend not only as new business developments, but also as a new type of physical activities for families with children and a new possibility to discover the beauty of Latvian nature all through the year.

How many nature trails did you visit in 2020?



Conclusions

Environmental targets set forth for year 2021:

- To switch to 100% green electricity;
- To reduce water consumption by 3%;
- To encourage our customers to use only Book Chain Project 3 or 5 star graded papers;
- To do research on low CO₂ emission paper alternatives;
- To increase the number of "green" book projects by 5%;
- To start using vehicles with 100% renewable diesel for deliveries to Finland.



APRIL 27, 2021. REPORT MADE BY: SIA "LIVONIA PRINT" ENVIRONMENTAL MANAGER ZANE OZOLA. DESIGN: AGNESE BLUMFELDE. PHOTO: MĀRIS JUSTS, JANĪNA BLŪMA



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responsible forestry



Promoting Sustainable
Forest Management
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certified products are available on request!