January 2017

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Wood wins in the long run

IT IS IMPORTANT TO DARE TO DREAM. Our vision is a sustainable world and we are entering the new year with the aim of further highlighting sustainability issues. But what does sustainability mean to Setra? And how can it benefit you, the customer? These are the questions we want to answer in this issue of SetraNews.

Among other things we drop in on Scandbio. They make pellets out of sawdust from Setra and can see an increased demand for products from certified forests. We are pleased that more people want and are prepared to pay for the high demands made on certified raw materials. We are proud to be a part of this production chain.

Since chips and sawdust become bioproducts, the entire log is used and nothing is wasted. This is something few manufacturers can boast. Using our new climate calculator on the website, you can easily see what emissions look like for your specific order. So you can see in black and white how climate efficient wood is.

SOME PEOPLE WHO HAVE REALLY embraced the advantages of wood are the student architects at the Royal Institute of Technology in Stockholm, KTH, who you will also meet in this issue. They want to see a change in the construction industry and there are many indications that the use of wood in larger structures such as apartment blocks is really taking off. One technology that is driving wooden construction onwards and upwards to greater heights is CLT, cross-laminated timber. And we learn more about this in Setra's Wood School. Now we are looking forward to making 2017 a really strong year for wood. If you want to keep up with the industry, don't miss our market outlook which shows that we have an exciting year ahead of us.

Enjoy the newsletter!

Hannele Arvonen
CEO

SetraNews is Setra's customer newsletter. It is published in Swedish and English for customers, employees and other stakeholders in Sweden and abroad. The purpose of the newsletter is to spread information about the company and tell readers about the latest news.

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Special commitment to Vietnam

COOPERATION In October, Setra's Market Director Olle Berg took part in a delegation whose aim was to increase trade between Sweden and Vietnam. Together with Trade Minister, Ann Linde, and representatives from other Swedish companies, he visited several Vietnamese ministries.

Vietnam is one of the fastest-growing economies in Asia and an increasingly important market for Setra. At the same time, the country is still struggling with poverty and children are particularly vulnerable. This is why Setra has been supporting the Thai Binh SOS Children's Village in north Vietnam for three years now. The village was completed at the beginning of 2015 and is now home to almost 100 children and young people. A further 200 children are enrolled in support programmes and 180 children attend pre-school in the village.

"We became a corporate sponsor for SOS Children's Villages on Setra's tenth anniversary. It feels good to be able to help and at the same time involve our employees in a good cause," says Setra's Sustainability Director, Charlotte Thedéen.

NEW WEB-BASED TRAINING ABOUT WOOD

KNOWLEDGE The industry organisation Swedish Wood has developed, in partnership with the Association of Swedish Building Materials Merchants, a new, web-based training programme about wood.

"The training programme is intended to spread a high level of expertise in the building materials and wood products trade. It is also suitable for students who are studying building programmes at upper secondary school or anyone with a general interest in learning more about wood and wood construction," says Johan Fröbel, Director of Technology and Distribution at Swedish Wood.

More information: www.svenskttra.diplomautbildning.se

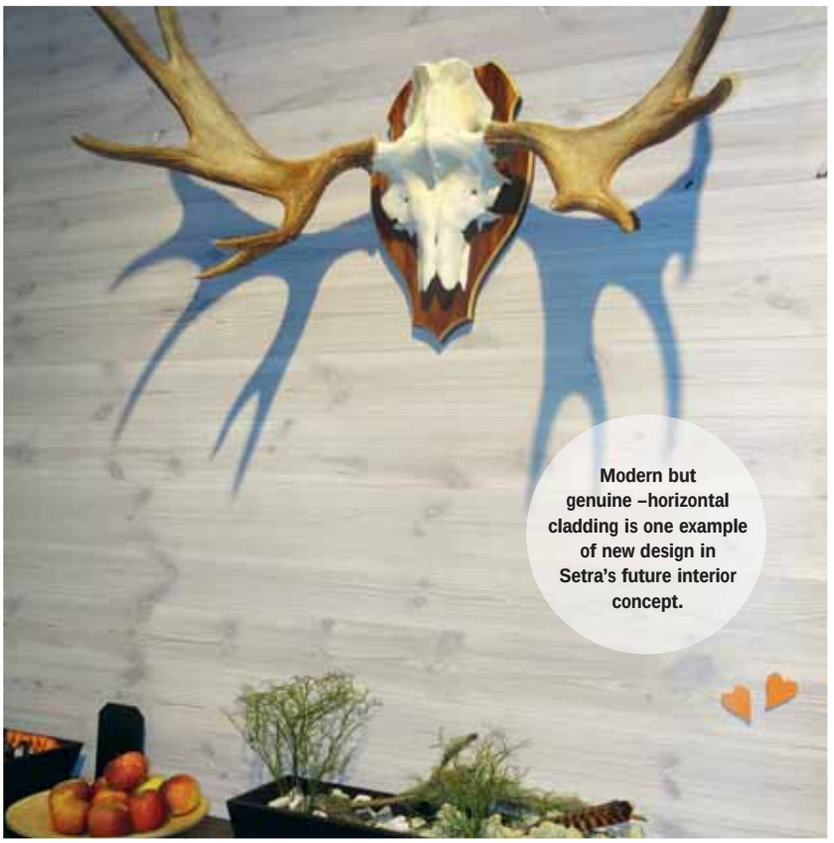
Decking from the Arctic Circle gaining ground

MARKET Setra's new addition Polar Decking has made an entrance in Sweden's decks and patios. The fine-knotted, slow-growing pine from the area around the Arctic Circle is not only beautiful, it is also more durable than regular decking.

Looking ahead to the spring and summer season, Setra has further improved the quality of its Polar Decking. Bengt-Arne Lindgren is Customer Manager at Setra Rolfs in Kalix, where the decking is manufactured, and he is looking forward to getting it out into the market.

"Now we are really launching this seriously and we know there is great interest in products from up here. Outdoor areas will be increasingly in focus and we see large wooden decks and decking as important for creating the right atmosphere, almost like an item of furniture. More and more customers are discovering the difference between decking and Setra Polar Decking," he says.

For those who really want to go all the way, Polar Decking is available in finger-jointed boards up to six metres long. The decking is also sold as unjointed traditional decking in varying lengths. Smooth-planed in green and brown as well as grooved in brown.



Modern but genuine –horizontal cladding is one example of new design in Setra's future interior concept.

Setra launches new interior concept

MARKET Setra will launch a number of new interior products at the beginning of 2017. We took the opportunity to put some questions to Kaj Tönsberg, Setra's Sales Manager for Building Products.

What's the situation with all these exciting innovations?
"Our entire team working with this concept is very excited and Setra Malå will gradually take over the role of interiors centre within Setra. We are on schedule and the first deliveries from the new concept are planned for the beginning of 2017. We are really looking forward to this!"

Can you give some examples of products?
"Solid wooden floors and interior wooden claddings in various dimensions and exciting designs for both Scandinavia and important export markets such as Japan. The excellent raw material from Norrland ensures a beautiful structure and a genuine, authentic feel to the products."

When can we see more of all these new items?
"The first products in the range will start to be delivered shortly and gradually expanded during the spring. In the next issue of SetraNews we are planning a concept and product range description which hopefully will satisfy everyone's curiosity, so watch this space!"

DEMAND FOR GLULAM INCREASING AFTER EARTHQUAKE

Photo: European Centre for Training and Research in Earthquake Engineering

MATERIAL Last autumn's tragic earthquakes in central Italy have led to Setra's German customer Nordlam seeing increased demand for glulam to be used in the reconstruction of the affected towns and villages.

It has long been known that buildings with wooden frames are the safest structures to be in when an earthquake occurs. Wood is flexible and moves with the forces of the earthquake and if the building collapses the weight involved is far less than structures made from other building materials.

New faces

Bo Hallberg has been the new Production Manager at Setra Hasselfors since the beginning of November. Bo's previous positions included Maintenance Manager at Outokumpu in Degerfors.

Joanna Tasior started in November as an administrator at Setra's office in Poland. Joanna assists our salesman in Poland, Mariusz Kowalski, with sales administration. She previously worked as a market assistant and an English teacher.

Klara Klippmark is a new employee at Customer Service for Poland, the Baltic countries, Japan and South Korea. She is deputising for Marit Törnkvist who starts parental leave in January. Klara has worked at Setra for seven years and has a background in wood material studies. She previously worked as an operator in Nyby sawmill and most recently at Kastet sawmill.

Setra sells sawmill in Vimmerby

SETRA Setra's sale of Vimmerby sawmill to Bergs Timber was finalised in December.

"This is a logical transaction since Setra Vimmerby's integration with Setra's other production units for market concept and raw material supply is not particularly high," says Hannele Arvonen, President and CEO of Setra.

Bergs Timber has a facility in Mörlunda, just 40 km from Vimmerby and sees several potential synergies. The parties drew up a business plan during the autumn for how the sawmill can be integrated with Berg's operations. The transfer to Bergs Timber is expected to take place in early January.

OUTLOOK
WITH OLLE BERG

Exciting year for wood products trade

The US is joining the game. The Swedish construction industry is booming and the upward trend in Asia continues. At the same time, there is uncertainty in North Africa, the oil price is dragging down Middle East economies and Brexit raises questions. Taken overall the market situation for wood products still looks brighter today than it did one year ago.

WHEN WE LOOK ahead at the coming year there are some areas that it will be essential to keep an eye on. To start with, I believe that interest in the American market will return.

The world's largest consumer market has been out of the game as regards wood products since the 2007 financial crisis but is now showing a steady rise in newbuilding. 1.2 million new homes were built last year which means that the US is starting to reach a critical level when they will need to start importing wood products again. Furthermore, prices have improved which makes the situation really attractive. However, we must have some reservations due to the current uncertainty after the American election.

We are also keeping an eye on the markets in the Middle East and North Africa where the turbulence does not appear to have settled. The low oil price has halted investment which is particularly clear in Saudi Arabia and Algeria. Other countries are suffering from a shortage of dollars as well as ongoing conflicts. We are monitoring developments and will not be surprised if things go very well at times but we are also aware that there can suddenly be a spanner in the works. This is how things are in these regions and we have to accept it.

Photo: Aedas

Photo: PATH Architecture

Above.
LAND Experience Center, Xi'an city, China.

Left.
The Radiator, an office building in Portland, Oregon, USA.

Redwood can be used more

For Setra this uncertainty means that we face a challenge when it comes to our redwood, much of which is exported to Africa and the Middle East. We need to find both new markets and new applications, China for example which is really a redwood market but where we Europeans have found a niche for whitewood.

Asia, led mainly by China, continues to show strong development. Even though China has lowered its GDP figures, imports of wood products grew by 2.8 million cubic metres last year and look as if they will continue to rise in 2017. Here the wood products industry in Sweden and Finland can participate and take market shares. We can also benefit from a reduction in American exports to China when the US builds more at home.

Photo: Aspen Art Museum

Aspen Art Museum, Aspen, Colorado, USA.

Japan is expected to increase its housing starts somewhat during the year and therefore import more wood. It can also be worth mentioning South Korea, Vietnam, Taiwan and Australia. These are all markets that might be regarded as playing a small role today but which have shown really strong growth in recent years. Vietnam has an export-focused furniture industry at the same stage as China was ten years ago. They mainly use redwood, are making rapid progress and will play a bigger role in the future.

Construction boom driving force

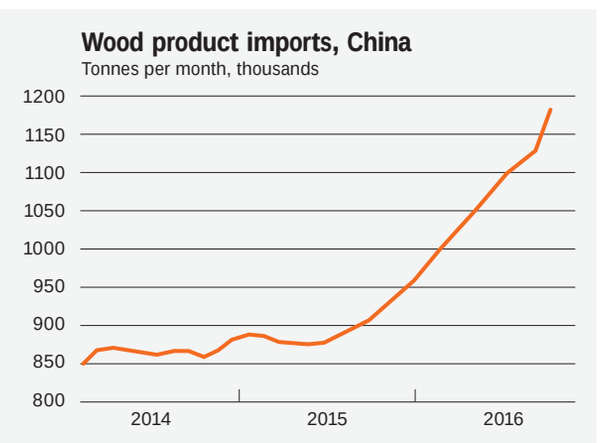
If we turn our sights on Europe, things look bright in several of the main markets although growth is more modest. Germany has a strong consumer market and the Netherlands also stand out with levels that match the period before the financial crisis. The strong development in the UK is expected to continue next year as well, despite uncertainty about Brexit. It is still too early to say whether leaving the EU will have effects on wood consumption.

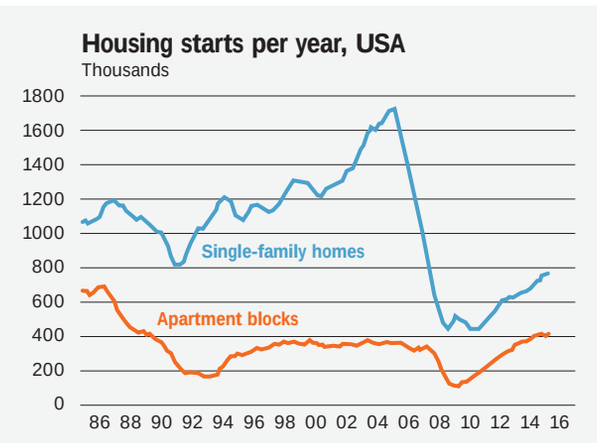
In northern Europe it is mainly Sweden with its ongoing construction boom that is driving sales. 61,000 homes were built in 2016 which is a level not seen since the early 1980s.

So how does the coming year look for wood products? Not too bad is my answer. Global consumption looks set to rise compared with 2016 and exceed the forecast for wood production worldwide. At the same time, our stocks are lower than they were one year ago. We welcome 2017 with greater optimism than we felt last year. ■

Olle Berg, Market Director, Setra.

Have you missed Olle Berg's outlooks in previous issues? Visit www.setragroup.com/setranews and find out more.





Certified raw material gives extra added value

The trend is towards certified bioproducts and for some time now Setra has been delivering FSC® labelled sawdust to Scandbio's pellet factory in Främlingshem just south of Gävle in central Sweden.

"Our customers are now increasingly demanding certified pellets. This means that we will now increase the proportion of certified raw material," says Scandbio's Purchasing Manager Magnus Kyhlberg. TEXT: KATARINA BRANDT PHOTO: MAGNUS LAUPA

IT IS SLIPPERY outside the pellet factory in Främlingshem. The year's first snow has fallen and with the temperature hovering around zero a treacherous layer of ice has formed on the unloading area. Even though the enormous mountain of sawdust brings to mind a hot desert landscape, it is important to take care not to slip on the ice.

"Gritting is out of the question since the sand could follow the sawdust into the manufacturing process and damage the machinery," says Andreas Björkman who has been Factory Manager at Främlingshem for a year now.

The factory is owned and operated by Scandbio AB, Scandinavia's largest company for solid processed wood fuels with seven factories in Sweden and one in Latvia. Scandbio's total annual pellet production is 750,000 tonnes per year of which the factory in Främlingshem produces about 65,000 tonnes. Scandbio's operations cover Sweden, Latvia and Denmark. Customers range from private households to small and large industries as well as municipal and state-owned facilities.

About 30% of the sawdust from Setra's sawmills goes to various manufacturers in the pellet industry. The advantages of sawdust as raw material for pellets are cleanliness and the fact that it hardly needs any processing before drying and pelleting.

The raw material for pellet manufacture in Främlingshem originates in the nearby sawmills including Setra's units in Heby and Kastet. Hundreds of thousands of cubic metres of sawdust are brought by truck to the unloading bay adjacent to the factory. All in all Scandbio buys about 130,000 MWh of sawdust per year from Setra for the pellet factories in Norberg and Främlingshem. This corresponds to about 1,500 lorries filled with sawdust. The sawdust must be clean and sorted with spruce and pine separated. The locally produced raw material means shorter transports which further strengthens Scandbio's already clear environmental profile.

"We appreciate that Scandbio has all-year production. This makes our deliveries more even and means we do not have to store volumes during the summer to be able to meet demand during the cold months of the year," says Hanna Lindberg who is Bioproducts Coordinator at Setra. →

Huge mountains of sawdust rise up on the unloading area in Främlingshem.

Setra's Bioproducts Coordinator Hanna Lindberg seen here with Andreas Björkman and Fredric Holmsten from Scandbio.

There are many parameters that must be met if the quality is to be right. Well-balanced proportions of spruce and pine sawdust are fundamental.

Certification of wood products

Two different systems are used for certification of forest management in Sweden, FSC and PEFC. This also provides an opportunity for companies to certify forest products through Chain of Custody. FSC or PEFC labelling on a wood-based product means that the raw material in the product can be traced back to its origins in a responsibly managed and certified forest. Labelling of a product requires all suppliers and manufacturers from the forest to the finished product to be certified according to FSC's or PEFC's traceability standards.

FSC – Forest Stewardship Council® is an international, non-profit, multi-stakeholder organisation to promote environmentally appropriate, socially beneficial and economically viable management of the world's forests. Swedish FSC is a non-profit organisation and national initiative responsible for ensuring that the rules for FSC-certified forest management are adapted to Swedish conditions. More than 12 million hectares of forests in Sweden are certified according to FSC – about half of the area of productive forest land.
Setra's FSC licence number is FSC-C004269.

PEFC – Programme for the Endorsement of Forest Certification schemes was formed shortly after FSC by small and medium-sized private forest owners in Europe. Swedish PEFC is an international system for certification primarily of family-owned forests. The aim is to develop a sustainable, private forest management with a good balance between forest production, environment and social interests. In Sweden, approximately 11.5 million hectares of forests are certified according to PEFC.

“We don’t see the sawdust as a residual product. It is our raw material over which we want to have full control”

It is easy for the drivers to load their lorries with pellets.

→ **The right mix determines quality**

Manufacturing pellets is something of a craft that requires considerable flair. At Främlingshem they have developed a good mix of sawdust which, without revealing too much of the recipe, is all about carefully weighed proportions of spruce and pine. There are many parameters that must be met if the quality is to be right. The right mix of sawdust is fundamental but it is also important that the moisture content is right at different stages of the process.

From the huge mountain of sawdust, the operators fetch large bucketfuls which they then tip into the intake silo where production starts. The silo is topped up four times an hour round the clock, all the year round. A total of

Origins increasingly important

Demand for Setra’s certified bioproducts increased sharply in 2016. This trend is a reaction to concern about illegally felled forests, believes Klas Flygare, Director Raw Material and Bioproducts. TEXT: LINN TREIJS

“CHOOSING CERTIFIED is like buying organic-labelled coffee. You can feel secure that it has fair origins and that you have done your best as a consumer, or company in this case,” says Klas Flygare.

The volume of certified bioproducts Setra has on offer depends entirely on the volume of sold wood products from certified timber. Last year was the first time all the chips, sawdust and bark from certified forests could be sold as certified, which also carries a higher price.

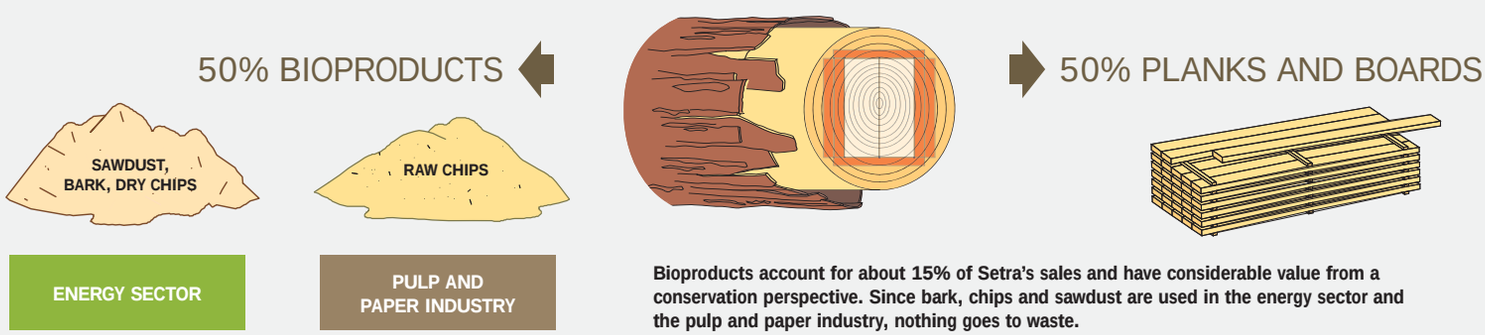
“The fact that demand is increasing is a signal to us as producers and to forest owners that we are doing the right thing by focusing on this,” says Klas.

He believes that this interest in certified wood products and raw material is a consequence of concern about illegally felled forests which has attracted a lot of attention.

“It will be a way for companies to show that they behave decently. The end customer has also started to make more demands. In the UK, for example, the authorities made demands for certified wood at an early stage.”

In the UN’s new development goals, sustainable use of the forest is singled out as an important area for the future.

“I believe that demand for certified products will continue to rise. And the development goals highlight this issue all the time,” says Klas Flygare.



Bioproducts account for about 15% of Setra’s sales and have considerable value from a conservation perspective. Since bark, chips and sawdust are used in the energy sector and the pulp and paper industry, nothing goes to waste.

13 people work in three shifts in pellet manufacture at Främlingshem.

The sawdust enters a drying drum and then up into centrifuges where a whirlwind separates particles from the flow. Water vapour disappears up the chimney and the dry sawdust drops down to pass through a hammer mill where it is ground down to the right fraction. After this, the sawdust is heated and made into pellets in one of the two pellet presses. Newly pressed pellets have a temperature of over 80 degrees and are therefore chilled before being placed in storage where they remain for up to one month. During this period a hardening process takes place which makes the pellets hard and less odorous.

In order to maintain consistent high quality, the manufacturing process is checked three times a day when bulk weight, strength, particulate content, length and moisture content are measured. Every day 150 grams of pellets are taken out of production and saved for one year.

"We don't see the sawdust as a residual product. It is our raw material over which we want to have full control. This is why we only do business with suppliers who promote responsible and sustainable forest management. If the raw material is also certified this gives extra added value and becomes a key link in the chain for energy companies, for example, who want to sell certified heating," concludes Andreas Björkman. ■

Peter Lindberg is an operator at Scandbio and monitors pellet manufacture at Främlingshem.

Pellets are manufactured by sawdust being pressed through about 3,000 holes in the press matrix.

New director puts focus on sustainable business

Anyone who buys wood products from Setra must be able to feel confident. Confident about where the raw material comes from, that it is delivered on time and produced under fair conditions by employees who are experts within their field. These are the views of Setra's new Sustainability Director, Charlotte Thedéen, who wants to broaden the way we look at this issue. TEXT: LINN TREIJS PHOTO: OLA HÖGBERG

THE TIME WHEN SUSTAINABILITY was synonymous with environment has passed. Now this concept contains so much more. At Setra this is reflected in a new Sustainability Organisation. Here the Environmental, HR and Communications departments work together to ensure that these issues permeate the entire company.

"This work is about our products being renewable and having as little environmental impact as possible, but it is also about seeing the employee perspective and initiatives for a safe working environment," says Charlotte Thedéen, who was previously Setra's Environmental Manager.

"Our customers must be able to rely on what they are buying when choosing wood from Setra," she points out. "Not just planks and boards but also that we accept responsibility for the community in which we operate and never stop working to reduce our emissions."

"I want our customers to understand the value in our products. That wood is renewable and comes from responsibly managed forests. It has a low carbon footprint that they can compare with concrete or steel and reach their own conclusions.

"Setra must also be a transparent company that doesn't cover up emissions or show an embellished facade. "If you read our Sustainability Report you get an honest view of our work. The fact that we publish this is a matter of credibility."

What are Setra's biggest sustainability challenges?

"Our own energy consumption. We are rather electricity-intensive. And our transports, we produce a fairly unprocessed bulk product and often transport it over long distances. Even if transports go by sea, which is more environmentally friendly than road transport, distribution accounts for the biggest emissions."

How does the company work with these issues?

"Right now detailed energy surveys are underway in two of our units. Next year an additional four units will be surveyed. In conjunction with this we will develop proposals for energy efficiency measures such as whether we can operate the compressors in a smarter way, control the drying fans and switch to energy efficient lighting. When it comes to distribution continual cooperation is taking place with our transport providers to find the smartest possible approach. We are also a member of Q3, a forum for sustainable transports which has developed a procurement tool where we place high demands on working environment, road safety and environment for road transports."

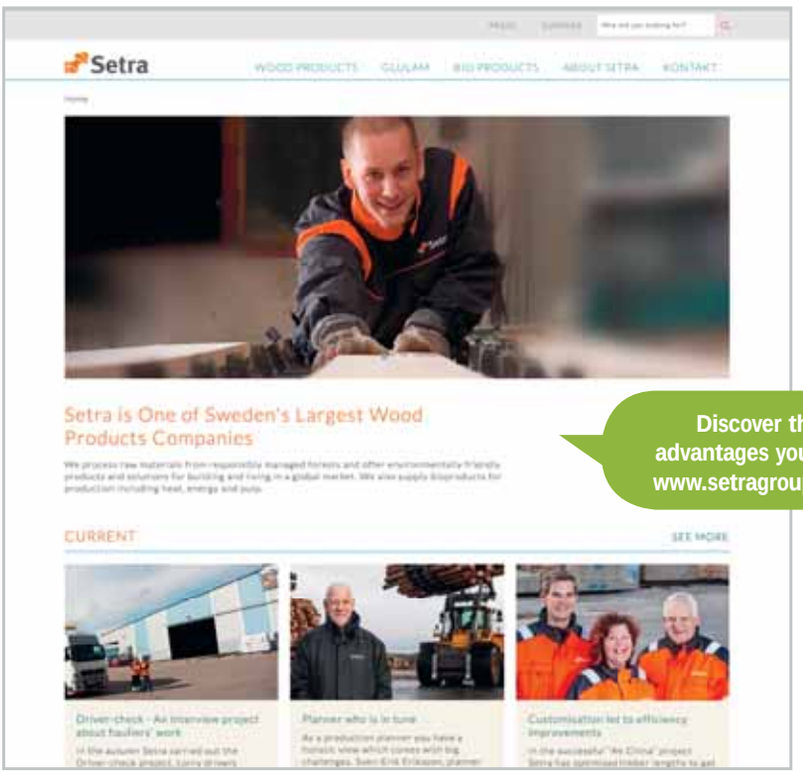
CURIOUS TO KNOW WHAT YOUR CARBON FOOTPRINT LOOKS LIKE?
On Setra's new website you can see which emissions your wood products generate from when the forest is planted until the packet reaches your door. Read more about this service on the next page.

Better service on the website

It is now easier for Setra's customers to find information about products and services online. Setragroup.com has been given a new look with detailed descriptions of the entire product range.

"IT MUST BE SIMPLE for our customers to find the information they need when they need it. Not just during office hours," says Fredrik Englund, Setra Group's Webmaster.

It will now be easier to find the answers to questions which previously required contact with customer service. For example, detailed photographs of Setra's sawn wood products in various grades are now available online. Customers who are interested in our bio-products will be able to find out everything about our range and quickly get in touch with our sales force.



Calculate the environmental gain from wood

USING SETRA'S NEW emissions calculator on the website you can see how your wood products affect the climate over their entire lifecycle, from planting the forest to the packet reaching your door. Enter the product, volume and destination and you will get a complete picture of the order's carbon footprint.

The results can then be used as part of your company's sustainability work. With the calculator's help, we want to show how climate-smart wood is and where there is still more to be done to reduce emissions.

Since wood binds carbon, the benefits of using Setra's products always exceed emissions from production and transport. Calculations show that one cubic metre of sawn wood product binds the equivalent of 900 kilogrammes of carbon dioxide.

When emissions from production and transport are deducted, the binding effect is on average 841 kilogrammes per cubic metre of wood delivered to Setra's Swedish customers. Wood that is shipped to the UK binds 816 kilogrammes of carbon dioxide per cubic metre and the environmental gain for wood products exported to Japan is on average 646 kilogrammes per cubic metre,

Choosing wood is an easy way to contribute to a sustainable future.

TOMORROW'S ARCHITECTS CHOOSE WOOD

Wood is increasingly promoted as the building material of the future. Setra's cooperation with the next generation of architects at the Royal Institute of Technology (KTH) in Stockholm shows that the future is soon here. When the students get to choose, sustainability is in focus – and the obvious choice is wood.

TEXT: LINN TREIJS PHOTO: BJÖRN LOFTERUD

Klara Jonsson and Hanna Skog experiment with bark from Setra. Maybe it can be a new building material?

The workshop is where the action is. Here the students experiment with new building materials.

"WHAT'S IN THE GLUE? How can we make use of that pile of chips?"

There are lots of questions and ideas when student architects from KTH's Master's programme walk along Setra's glulam production line in Långshyttan. They have just made the same walk at a steel works and the contrasts are striking.

"The wood process feels cleaner and gentler. When you can see the production, it confirms how much better it is from an environmental viewpoint. I am keen to start using wood," says student Klara Jonsson.

Impressive wooden structures have received a lot of attention recently, but despite its obvious environmental advantages wood still only accounts for a small part of apartment blocks. Students who visit Setra are part of Full Scale Studio, a Master's studio focused on the building process. By learning more about the production chain behind the material they hope to influence construction projects at an early stage. Anders Berensson, architect and lecturer at the school, thinks that the profession has a bigger role to play on the way to more sustainable building.

"The construction sector is quite dirty. 40% of global energy consumption and 30% of carbon dioxide emissions come from building and wood is one of the cleaner materials. We want our students to understand different building systems and have the confidence to build in order to get involved and drive innovation."

Important to know how young people think

The programme has visited Setra's sawmill in Heby a couple of years in a row. Now the cooperation has been extended to Långshyttan and there are also discussions on a framework for deeper project cooperation.

"We want to take more responsibility for the new generation that will be working with wood. These architecture students are the people who will determine what happens in 10, 15, 20 years," says Thomas Kling, Setra's product specialist for glulam.

For a wood products company like Setra it is valuable to already get a hint of how upcoming architects and designers think.

"It helps us to think about how we can channel our production. The students are attracted by wood being a renewable product and think that you should build with wood rather than steel and concrete. I am impressed by how much they know about wood," says Thomas.

THE NEXT FEW YEARS WILL BE DECISIVE

THE BIG LEAP FOR WOOD as a building material is just around the corner. That is the opinion of Setra's product specialist for glulam, Thomas Kling.

Twenty years have passed since the construction of wooden buildings with more than two floors was permitted in Sweden. Order intake for apartment buildings with wooden frames has slowly risen and really took off in the first half of 2016. This is reflected in Setra's sales of glulam, which are growing strongly. But Thomas Kling thinks the really big leap is yet to come.

"There will be a big changeover within the next five years. Wooden buildings can account for 15% of the market. Then the question will be how much we manage to deliver and how we can add more value."

The trade organisation TMF (Swedish Federation of Wood and Furniture Industry) is of the same opinion. Gustaf Edgren, who monitors developments for wooden buildings, notes that capacity is being doubled.

"Concrete has perhaps been allowed to be the default alternative for too many years. It is only in recent years that we have become aware of the large carbon footprint of the building process and the enormous gains, ecological and economic, to be made from industrial-scale housing construction. Based on what we now know, wood must always be considered as a large component in new projects.

"Other parts of Europe are heading in the same direction led by Austria, Switzerland and Germany. Over time it is possible that wood will account for 20% of newbuilding," says Gustaf Edgren.

Photo: Orlando G Boström

Gustaf Edgren, project leader at the Swedish Federation of Wood and Furniture Industry.

Wood's unique property of continuing to be mouldable, in contrast with cement which is cast to a fixed shape, is another strong argument for the students. As is the fact that wood binds carbon dioxide and contributes over time to reducing the carbon footprint.

"Wood feels very rewarding from a long-term sustainability perspective. Just look at all the wooden houses that are several hundred years old and still standing. I'm convinced that things will change," says Josefine Prescott who will graduate in the summer.

Making building material from bark

Back at the school, the next step is to create alternative materials from raw materials that grow in Sweden. Intensive experiments are in progress here with bark, needles, straw, reeds and mussel shells. In the workshop Niklas Lindersköld is grinding bark from Setra in a domestic mixer. The powder is mixed with wood glue and pressed to form a dark brown chipboard.

"This material could be used as a building component, but first I will test its strength and how resistant it is to fire."

Klara Jonsson and Hanna Skog toss around some other ideas for uses for Setra's bark. They wonder if it could work as insulation or, with the right binder, be an interior wall.

"We know that the bark is useful and provides energy that is used in Setra's drying process, but it would be cool if you didn't need to burn it but could use it for something more permanent."

The study visits have clearly shown how energy consumption differs between materials. Here, too, wood stands out with its low-energy production process.

"A facade in steel, for example, is not high on my list having seen how much energy is needed in production. I will always keep that in mind," says Klara.

Want to see change

In a couple of years, they will be out at work. Hanna thinks that facts, statistics and discussions at school all lead to the same conclusion. That something must change in the sector.

"I cannot be involved in contributing to these emissions. As an architect, I will be responsible for trying to make a change," she says.

Niklas Lindersköld thinks that the change must come from the construction companies.

"It's quite difficult to have an influence on your own, but I obviously hope that wood will win more ground. For me it is an unbeatable material and I really don't understand why there is not already more building in wood. For example, it has been proved that glulam is more fire-resistant than steel."

Ebba Hallin, architect and lecturer at Full Scale, thinks she sees the start of a change.

"A lot is happening and there really is enormous interest in wood among the students. But obviously the change will take a long time. It's often a question of economics and it is cheaper for companies to continue with their old routine building systems than to develop new ones." ■

Thomas Kling is Setra's product specialist for glulam.

Soon to graduate architect Josefine Prescott (top left) thinks that the future will offer more wood. Lecturers Anders Berensson and Ebba Hallin (bottom left) see signs of change and want the students to get involved and push for more innovation in the construction sector.

BUILDINGS ON THE PLUS SIDE

A four-storey wooden building binds 150 tonnes of carbon dioxide when the energy used in wood production, transports and the building process is deducted. This is shown by research at Mid Sweden University. No other building material with large-scale use has the same ability for climate compensation.

MANY ADVANTAGES WITH WOOD

A glulam frame is strong, easy to shape and, at the same time, shape-stable. It does not burn but just chars on the surface with the core remaining intact for a long time. In addition, wood is energy efficient, climate smart and value for money compared with other materials. As well as glulam, new technologies such as cross-laminated timber are expected to drive the changeover from steel and concrete. Read more about this technology in the Wood School on the next page.

Curious about glulam?
Watch Setra's information video on www.setragroup.com

SETRA'S WOOD SCHOOL

Freedom and flexibility with CLT

The solid cross-laminated timber panel, CLT or crosslam, has gained an ever more prominent role in Swedish building in recent years. Not so surprising when there is a lot to recommend the environmentally smart material which is both shape-stable and has a high load-bearing capacity in proportion to its own weight.

TEXT: KATARINA BRANDT PHOTO: SETRA

THE DEVELOPMENT OF CLT got going properly at the beginning of the 1990s when countries such as Austria and Switzerland led the way in both manufacture and use. The first systems consisted of parallel low-grade sawn boards nailed together, called Brettstapel. In 1994, when construction of tall wooden buildings in Sweden was permitted again, there was increased interest in this material here as well.

The construction of CLT is as simple as it is ingenious. The prefabricated solid panels are made up from planed whitewood boards which are glued together with alternate layers at right-angles for increased shape stability. The result is a building element which is both cross-rigid and durable in relation to its low weight. These good building properties have given the material an obvious role for joists, walls and roofs. Thanks to its strength and shape stability it allows flexible architectural solutions. Using CNC (computer numerical control) processing, a lot can be done in the factory which saves time on the building site. One big advantage of CLT is that the design drawings can be used directly in production. Manufacture starts with a master panel – a large panel which is then processed to smaller elements. Modern CNC technology creates exactly machined building components which fit perfectly. Accuracy and simplicity therefore make CLT a popular material with carpenters.

Quick assembly contributes to cost-effectiveness

However, a lot of people think that the most important argument is not the material's properties, but the effect it has on the building project. Building with CLT means a radically new approach

A CLT panel consists of three to eleven layers, always an odd number, of laminations glued together.

DIFFERENT NAMES FOR CLT

CLT (cross-laminated timber) is the original English name.

Crosslam is the standardised English term.

X-Lam is a synonym for crosslam and the standardised English name.

KLH (kreuzlagenholz) is the German name and also the name of the company that was set up as a result of the original research in Graz, Austria.

KL-trä (korslimmat trä) is the standardised and recommended Swedish name.

Massivträ (solid wood) was an early Swedish name for the product. Since this can be confused with, for example, ordinary construction timber, it should be avoided.

The Ekorren district in central Skellefteå has been built by Setra using industrially produced wooden modules.

where there is total control of the project from idea to completion. Logistics, deliveries and installation are planned in advance which means fewer decisions and therefore fewer mistakes on site. Since it is quick to assemble, it is also cost-effective.

Another advantage of CLT is that you do not need to use the really top grades to get a good product. This can increase the value of raw material which traditionally has not been used in the manufacture of solid wood products. Also, it is possible to utilise more of the wood in products that have a longer lifespan during which they act as a carbon sink. The solid panels are also suitable for hybrid structures with other building materials. This in turn allows for optimisation of construction from several aspects such as cost, fire or acoustics.

One of the largest projects ready for occupation

Next door in Norway, people are moving into one of the world's largest CLT projects. It is the Moholt student village in Trondheim where five nine-storey blocks have been built using almost 6,000 cubic metres of CLT. The work has gone quickly, efficiently and quietly and it has only taken about five weeks to put up an entire nine-storey building.

In Sweden about 10% of apartment blocks are built with wooden frames. Glulam, CLT and hybrid structures where wood is used together with other materials are considered the solution for larger and higher buildings. Using modules, the process can be industrialised to a great extent, quality guaranteed and costs held down. Ecological considerations, the current housing shortage and lack of sites in the big cities encourage increased construction of larger and taller apartment blocks with wooden frames. ■

The Moholt student village in Trondheim, Norway is one of the world's largest CLT projects.

CLT in brief

CLT is a solid wood panel made from planed boards that are glued together with alternate layers at right-angles for shape stability and bearing capacity. A CLT panel consists of three to eleven layers, always an odd number, of laminations glued together. A CLT is shape-stable and has a high load-bearing capacity in relation to its weight. By using large, stable CLT elements assembly can be made both rational and efficient while keeping building times short. CLT is a climate-smart choice since it is made from renewable raw material and manufactured in an energy-efficient process. A building containing 60 cubic metres of CLT binds just over 45 tonnes of carbon dioxide during its lifetime. This is as much as a new petrol-engine car emits when driven 184 times from one end of Sweden to the other (over 300,000 kilometres!).

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Next generation takes over in France

TEXT: LINN TREIJS PHOTO: EMIL NORDIN

FINDING THE RIGHT PERSON to be the link between customers and production who also speaks fluent French. That was the aim when Philippe Cacheleux, who has handled Setra's business in France for 22 years, planned to retire. Newcomer Laura Loué meets these criteria by a wide margin. She grew up in Toulouse and switches easily between French, Swedish and English.

"Obviously, it's a challenge to take over after somebody who has been here so long. I am new both to the company and the industry. But I have always worked with sales and I'm quite competitive," she says.

With a Master's degree from IDRAC Business School in Montpellier, she took on the job of sales manager at sporting goods retailer Decathlon in Lyon. Then Laura moved to Sweden, learnt the language and worked as district salesperson for French wallcovering company Texdecor. And now it is full focus on wood.

"I wanted to work at Setra because I really like doing deals. It feels right to work with sustainable products and in addition my father is a carpenter. I have been close to wood all my life."

A lot has changed since 1995 when Philippe opened an AssiDomän office in Fécamp in the north of France. This was before what is now Setra was founded. Before mobiles and laptops. Philippe remembers with a laugh how he was always looking for a telephone box when on a business trip. It was the only way to keep in touch with the office, and much of the information to customers was sent by fax.

Today the technical challenges are not as great. At the same time logistics and service have become even more important. So it is a good fit that Laura, who lives in Stockholm, is based at Setra's head office. Here she is in the centre of things and near the sawmills. This does not prevent her continuing with the same close customer contact as Philippe. During the autumn, they visited Setra's customers in France so that she could get to know them and their businesses.

"They allocated a lot of time and really made an effort to help Laura understand their businesses. Customers feel comfortable with her," says Philippe.

He remembers clearly how it was being new to the company himself.

"I got the go-ahead to take full responsibility for managing the French market. It has been great fun to work with so much freedom and now we are well established, especially in some niches."

During his last months at Setra, Philippe has worked alongside Laura. Even if he will miss the job, colleagues and customers, who in many cases have become good friends, he is ready to hand over. As well as the customer list, there is an especially important document that he will leave behind.

"Obviously, you will inherit my address list of where you can eat the best snails, oysters and frogs' legs on your travels," he says to Laura with a wink. ■