



C.F. Nielsen A/S
a member of

RUE.
BRIQUETTING SYSTEMS



FROM WASTE TO VALUE

FULL-LINE BRIQUETTING SOLUTIONS
- WORLDWIDE



C.F. Nielsen BP6510HD Automatic
A member of the **RUE.** Group
BRIQUETTING SYSTEMS





World Leader in Briquetting Solutions

C.F. Nielsen is the leading manufacturer of mechanical briquetting presses. For raw materials like - wood, agricultural waste and other biomass residues, we offer full-line briquetting solutions all over the world. Briquettes are utilized in big boilers and power plants and log-type briquettes for use in fireplaces and wood-burning stoves by private consumers.

We take pride in maintaining almost the entire value chain in-house. Our technology is constantly being developed while working closely with our customers, to ensure that our solutions meet their demands and expectations - now and in the future. This philosophy, combined with the supply of briquetting machines for many different applications, permits us to constantly innovate and adapt our machines to the latest market requirements. This also enables us to continue delivering the strongest and most efficient briquetting machines in the world.



“Tell us about your market, your challenges, your story – and our expert staff will determine the best briquetting solution for you and your company.”



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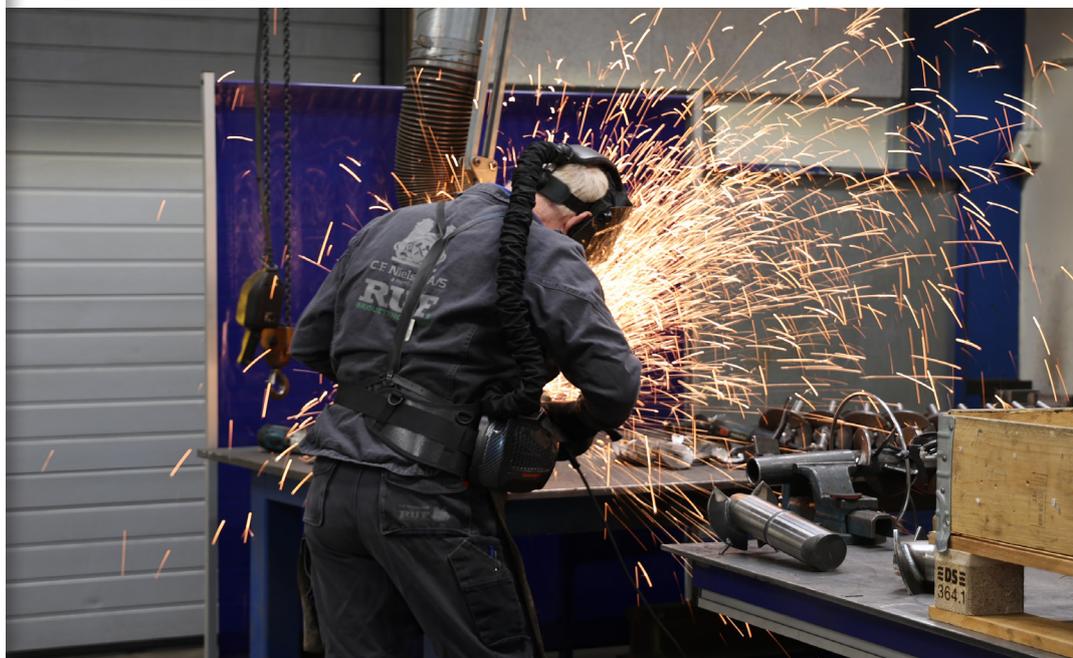
RUF
BRIQUETTING SYSTEMS



Founded in 1889

The C.F. Nielsen history spans over more than 130 years and the company has expanded considerably throughout the years.

On July 1, 2018 the German family-owned company RUF Maschinenbau GmbH & Co. KG acquired C.F. Nielsen A/S making the two companies world leaders in hydraulic, mechanical and extrusion briquetting technology. As of December 1st 2019, Jesper Stecher Madsen took over the position as Managing Director and is running the company independently in Denmark.



What makes us so special?

Our dedication, years of experience, industry expertise and adamant commitment to the needs of our customers, as well as:

- We see every project through from idea to completion
- We are briquetting experts able to deliver different technologies including mechanical- and hydraulic presses
- In-house specialists offer a wide range of services on everything from testing raw materials to after-sales services
- Our sales managers all have international experience and are able to advise you on a wide range of aspects related to briquetting
- We offer you our expertise for complete briquetting plants and we work with the best suppliers worldwide to ensure quality in all aspects for our customers
- Fast delivery of spare parts – we can respond to a breakdown in a matter of hours
- Long life span on machines
- Emphasis on customer ROI
- We strive to secure the future through ingenuity and innovation – and to create value through service



Is it profitable to produce Briquettes?

Profitability depends on many different factors which will vary according to location, raw materials and the actual amount of raw material. However, the main factors you need to consider are the following:

- Raw material – the cost, type, particle size and moisture level
- Production – power consumption, wages, spare parts, service, potential drying- and downsizing costs
- Logistics – transportation, shipping and storing costs
- Sales price – local sales or exports

There are many factors to analyze which is why extensive research is necessary, when deciding about your investment. Contact us with any questions. We are happy to take on projects large and small.



Briquettes with diameters 50, 60, 75, 90 and 120 mm

Global Supplier

At C.F. Nielsen, we are dedicated to serving our customers. Many of our employees have been with the company for more than 10 years, and some for even more than 40 years – acquiring the expertise needed to serve the many diverse markets in which we operate. From Africa to Asia and from the Middle East to North America – our skilled staff is at your service.

High-quality Presses

C.F. Nielsen has the world's largest range of Mechanical Briquetting Presses, ranging from 150 kg to more than 3,500 kg/h. The presses are sold all over the world for making briquettes from bi-products from different wood types, agricultural biproducts and other residues.



Why make Briquettes?

- Briquetting often leads to a sizeable volume reduction - simplifying storage and transportation issues.
- Briquettes are a strong alternative to pellets, with simpler technology offering many advantages for industrial applications.
- Briquettes are perfect for logs for fireplaces and wood-burning stoves, for animal bedding and feed, district heating plants and industrial furnaces, biogas production and flammable dust.



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MODEL	MAIN MOTOR	BRIQUETTE SIZE	CAPACITY INDUSTRY*	CAPACITY CONSUMER*
BP2510	22 kW	Ø 40 - 50 mm	150-350 kg/h	-
BP3210	22 kW	Ø 60 mm	400-600 kg/h	-
BP4010	30 kW	Ø 60 mm	500-750 kg/h	500-650 kg/h
BP5000	37 kW	Ø 75 mm	800-1200 kg/h	700-1000 kg/h
BP5510/5510HD	45/55 kW	Ø 75/65x65 mm	900-1400 kg/h	850-1200 kg/h
BP6510/6510HD	55/75 kW	Ø 90-100/75x75 mm	1200-2300 kg/h	900-1500 kg/h
BP7010/7010HD	75/90 kW	Ø 90-100/75x75/85x85 mm	1500-2500 kg/h	1300-1700 kg/h
BP7510/7510HD	110/132 kW	Ø 90-120/85x85/90x90 mm	2000-3500 kg/h	1400-2600 kg/h

* Capacities are estimates, depending on many factors such as the raw materials bulk density, particle size and moisture content as well as the density requirements for the briquettes.



Mechanical Presses – The Cornerstone of CFN

Mechanical presses are typically used for both small and large-scale installations and two or more presses can be combined for high tonnage per hour. C.F. Nielsen offers a large range of mechanical presses.

The presses are equipped with advanced control systems with remote access, making it possible to monitor, operate or even to reprogram the PLC-function online.

Features & Benefits:

- Modern design with streamlined covers
- Touch screen operation
- Latest PLC software
- Service-friendly
- Low maintenance costs
- High efficiency motors
- Die system with exchangeable wear parts
- Die system adapted to customers' raw material and density requirement
- Double infeed system on large machines for higher capacity and uniform density

Hydraulic Briquetting Systems

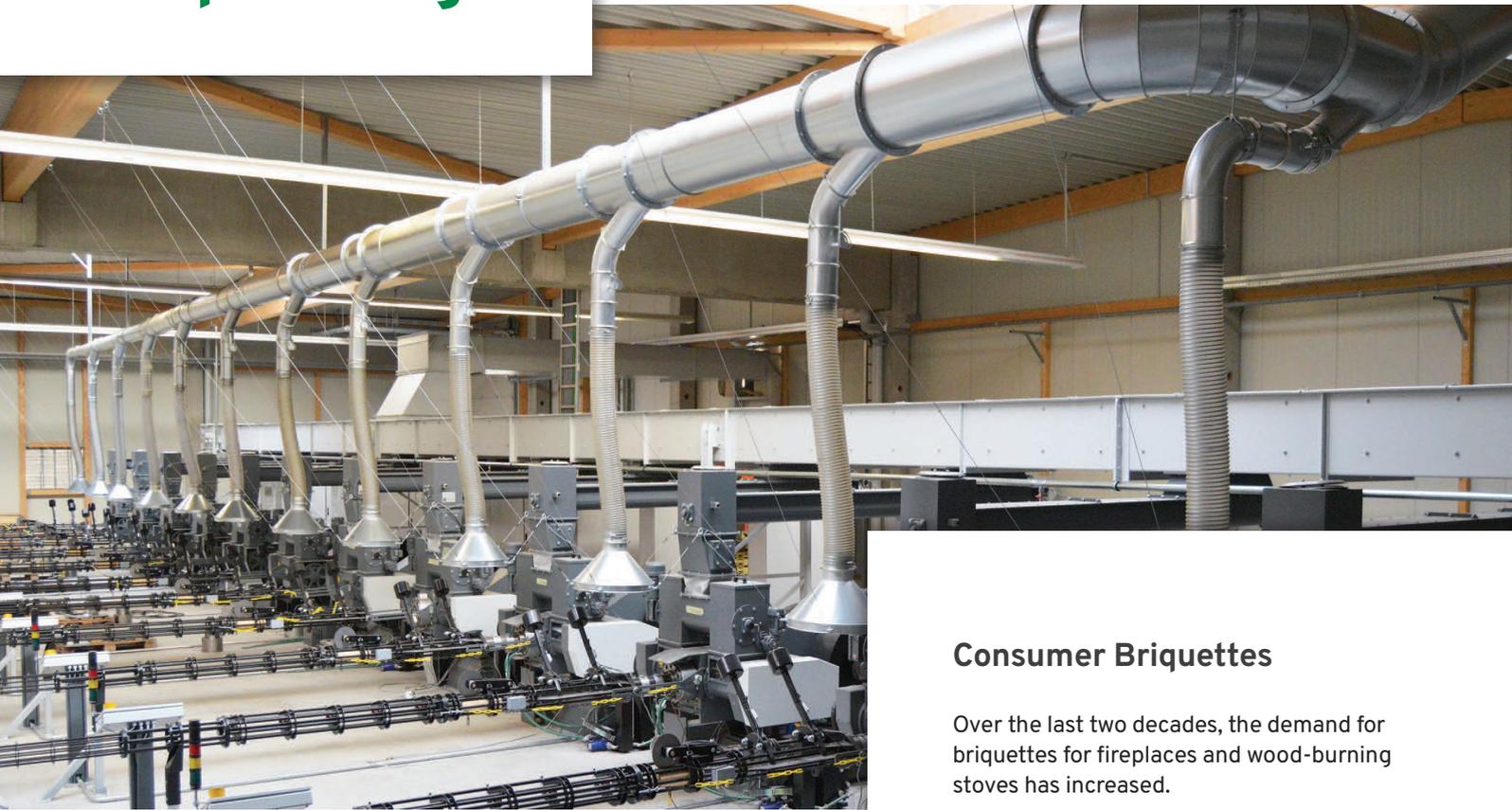
Our hydraulic briquetting systems are manufactured by our parent company, RUF Maschinenbau GmbH & Co. KG in Germany.

RUF Briquetting Systems are suitable for making briquettes from wood, biomass, metal and numerous other residues. The wood and biomass machines have a throughput between 30 and 1,500 kg per hour. The rectangular RUF Briquettes are uniform sized and easy to store. Alternative briquette formats are available. The wood briquettes as high quality source of energy are typically used for fireplaces and wood-burning stoves.

Additional equipment

C.F. Nielsen offers a wide range of accessories as well as additional equipment to supplement the briquetting machines. The equipment includes saws, briquette breakers, dosing silos, and packaging machines.

Consumer Briquetting



The picture shows what is probably the largest consumer briquetting line in the world with a capacity of more than 100,000 tons consumer briquettes per year. 12 x BP6500HD Briquetting Presses, with saws and automatic weighing system.

Consumer Briquettes

Over the last two decades, the demand for briquettes for fireplaces and wood-burning stoves has increased.

C.F. Nielsen is the leading supplier, developing a wide range of equipment for consumer briquetting, including lines with the highest capacity and the latest designs and control system. Silos, saws, packaging equipment and other accessories complete the lines.



Complete Consumer Line: Including BP6510, silo, saw & automatic packaging solution

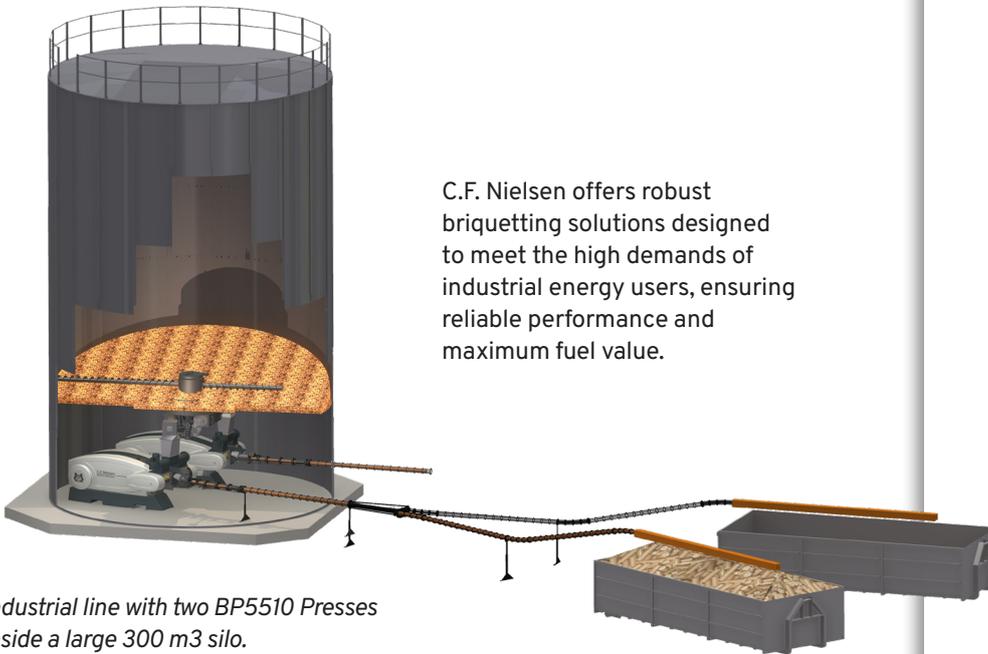


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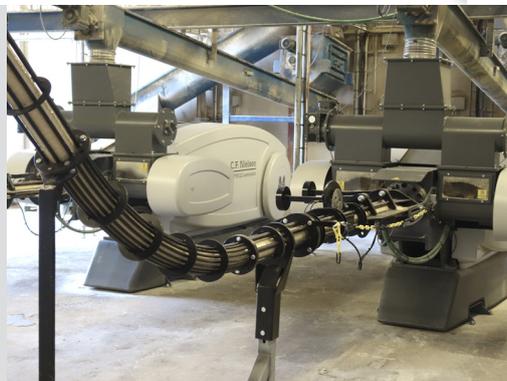
Industrial Briquetting

Industrial briquetting focuses on producing high-capacity briquetting lines tailored for industrial applications such as boilers, district heating plants, and other industrial purposes. The process allows companies to turn wood and biomass residues into a valuable fuel that supports large-scale, sustainable energy production.

C.F. Nielsen offers robust briquetting solutions designed to meet the high demands of industrial energy users, ensuring reliable performance and maximum fuel value.



Industrial line with two BP5510 Presses inside a large 300 m3 silo.



Two BP5510 Briquetting Presses producing industrial briquettes from sawdust.



MDF board is becoming a popular alternative to particle board and solid wood alternatives. C.F. Nielsen has developed a solution to handle the challenge of MDF dust .



Wood Briquetting

Wood briquetting is an efficient and sustainable solution for transforming wood waste into valuable biofuel. By compressing chips, sawdust, and shavings into high-density briquettes, companies reduce waste volume, lower storage and transport costs, and generate a cleaner, renewable energy source.

The process supports a circular economy and enhances overall profitability. C.F. Nielsen offers customized briquetting solutions tailored to each customer's wood processing needs.



Softwood vs. Hardwood

When using wood as a raw material for briquetting, it's important to distinguish between hardwood and softwood. Wood is generally categorized based on the type of tree it comes from. Softwood comes from coniferous trees, such as pine or spruce, while hardwood comes from broadleaf trees like oak or beech.

Hardwood residues are particularly well-suited for briquette production due to their high density and elevated calorific value, which result in briquettes that burn longer and produce more heat. Therefore often hardwood briquettes are used for high-end purposes in the pizzeria or barbeques industry. Softwood, normally also makes great briquettes and are easier to compress. They briquettes often ignite more readily due to its higher resin content. C.F. Nielsen will customize the press to match the specific wood type required for optimal performance.



Waste wood

The shown line is a combination of a new and an older mechanical briquetting press, for a complete double line with saws and packaging line. The raw material is a mix of cleaned waste wood and wood residues producing excellent briquettes.





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Agricultural Briquetting

Agri briquetting is an efficient way to transform agricultural residues such as straw, stalks, husks, and seed shells into valuable fuel in the form of briquettes. With a strong focus on sustainability and waste reduction, the technology enables farmers and agri industries to utilize biomass that would otherwise be discarded. The briquettes can be used locally for energy, sold as biofuel, or processed further for industrial applications. C.F. Nielsen provides flexible and robust briquetting solutions tailored to various types of agri-biomass and local conditions ranging from small scale operations to large industrial setups.

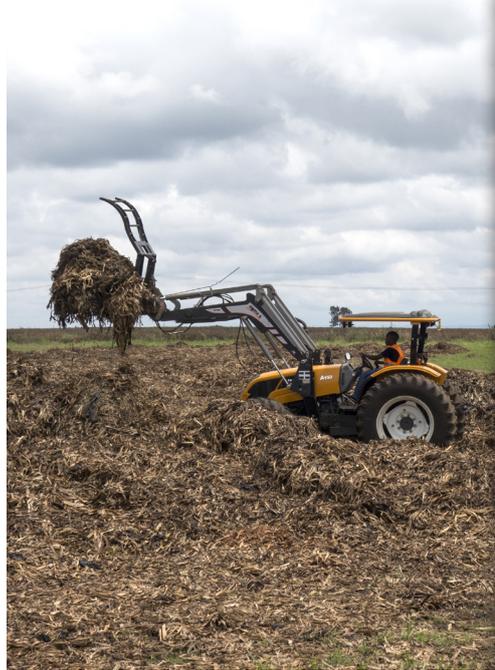


1 x BP7510 producing briquettes from wheat straw for biogas with a capacity of 2500kg/h.



Three mobile briquetting presses BP3200, BP5000 and BP6510 for installation in Ethiopia. The raw materials will be a wide range of agricultural and wood based residues.



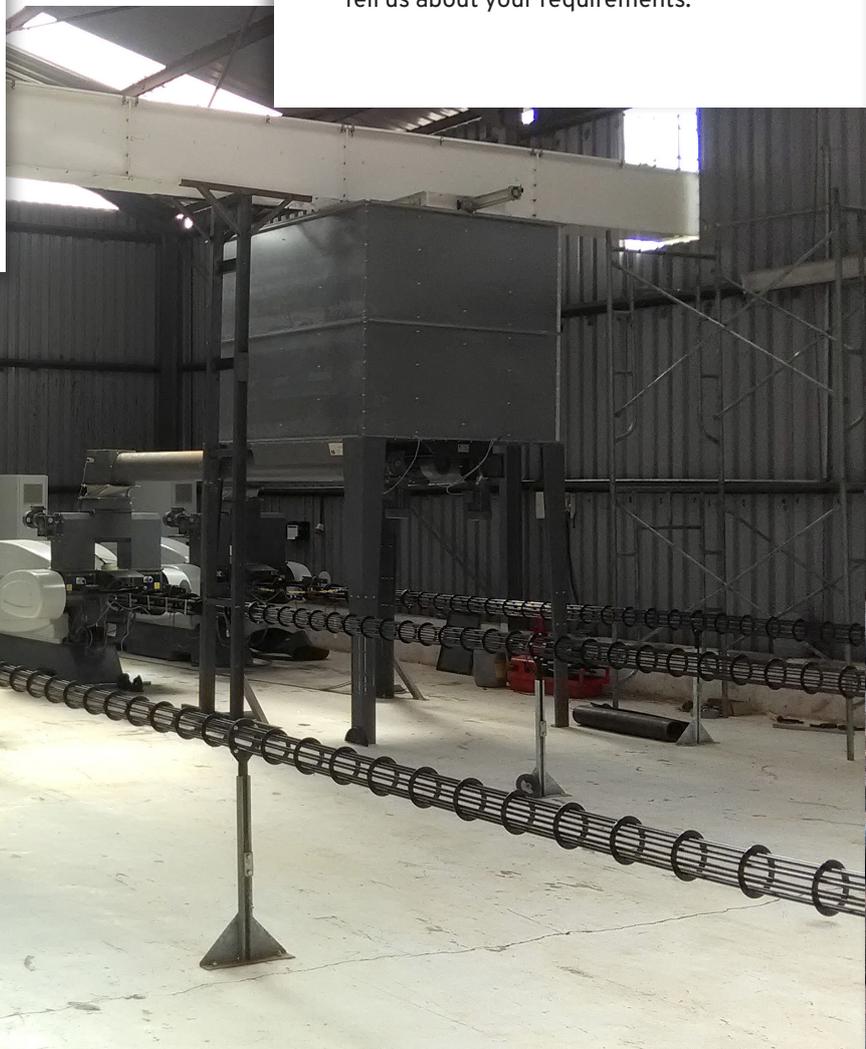


CFN Engineering

Customers often call on our expertise in designing complete production plants. Therefore, we are offering a concept with CFN Engineering which includes complete solutions for wood and agricultural-based raw materials, and everything from chipping and drying to briquetting and packaging. CFN Engineering is offered in selected markets and includes definition of raw materials, technical flow diagrams and specifications of equipment, 2- and 3D layouts, cost specifications and site management.

Tell us about your requirements.

In Kenya we have installed a complete briquetting solution with a large shredder, hammer mill and 4 BP6510 Briquetting Presses with a capacity of 6 t/h. The raw material is pineapple waste from large plantations, which is normally burned in the field. The briquettes will be used for fuel, replacing firewood.





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New Applications – New Developments

In line with our values, C.F. Nielsen will continue developing new machinery and applications. Here are a few examples of some of the projects we are working on:

Waste

Lately, new raw materials are becoming more interesting to briquette. Governments and companies are becoming more conscious about how to dispose and recycle their waste. One of the main reasons is because the disposal fees are increasing and it is becoming an economical incentive to upgrade the waste to increase profitability. We experience many enquiries on wood waste fines, RDF, insulation foam and paper.

Torrefied Wood

Torrefied wood is increasingly seen as the new, renewable alternative to coal. It offers many of the same combustion properties as fossil coal but with the key advantage of being carbon-neutral and sustainable. As a result, torrefied biomass is expected to replace a wide range of traditional fossil fuels in the coming years.

One of the major benefits of torrefied wood is that it can be used directly in existing coal-fired power plants without requiring costly modifications. This makes it an attractive solution for utilities seeking to reduce their carbon footprint while maintaining efficient energy production.

C.F. Nielsen has developed specialized briquetting solutions designed specifically to densify torrefied biomass. These technologies ensure high durability, optimal energy content, and stable combustion, making torrefied wood briquettes a reliable and efficient fuel source for industrial applications.



The Future of Briquetting



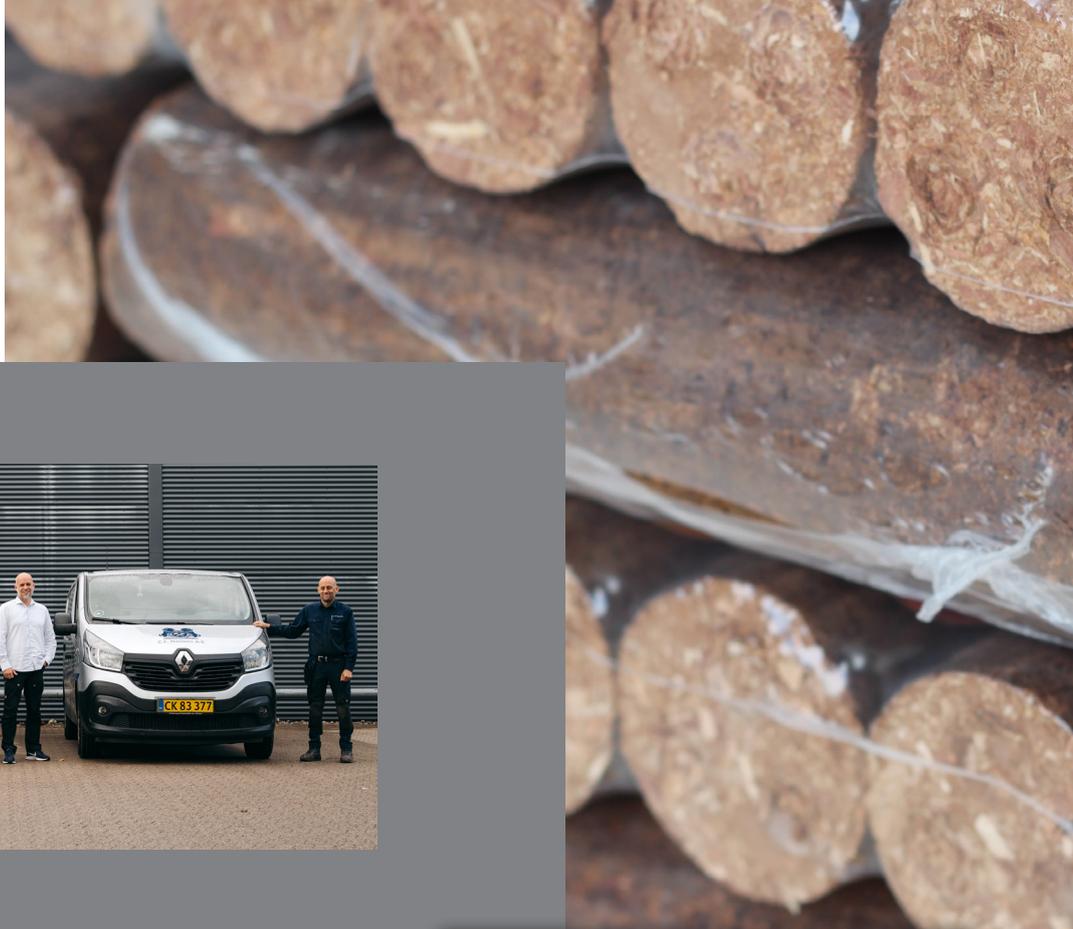
Biogas plant on Sheppey Island, UK.

Biogas production

With the use of briquetted straw, you are able to boost your biogas production considerably compared to using loose straw. In close collaboration with our partner Kinetic Biofuel, we have developed a briquetting process which enables you to use briquetted straw in biogas plants. The patented technology enables biogas plants to produce at least 250 Nm³ methane per ton of briquetted straw.

Gasification

Over the years C.F. Nielsen has worked with several companies producing gasifiers, and we have tested many different types of raw material and sold several briquetting presses for gasification applications. Gasifiers can be delicate systems and difficult to operate and generally operation efficiencies are increased when the raw material is homogenous in size, density and moisture. A briquette offers these qualities.



After-Sales Service

Our After-Sales Service has high priority and ensures that our customers obtain maximum up-time and long life-time on their equipment as well as minimum maintenance and repair costs. Our services include: spare parts, trouble shooting, internet access to machines, service contracts and overhauls.

Testing facilities

Testing of your raw material is essential, as raw material, even if it is the same species, varies from country to country and from customer to customer.

By testing your actual raw material many potential difficulties will be avoided during start-up and production at your new briquetting plant.

We have our own stationary test facilities at our plant in Denmark and USA. After testing, a test report and test video will be made from your raw material and we forward a few samples for your evaluation.

Solbjergvej 19
9574 Baelum, Denmark
Tel.: +45 98337400
sales@cfnielsen.com
www.cfnielsen.com

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