





01	THE <i>Green energy</i> : overview	3
02	PROJECT PARTNERS	8
	1. SWISS KRONO FRANCE	ę
	2. DALKIA	ę
	3. MERIDIAM	10
	4. FINANCING	10
03	A PROJECT IN 3 PHASES	11
	1. INSTALLATION OF TWO LOW TEMPERATURE DRYERS	12
	2. THE INSTALLATION OF A MULTI-FUEL BIOMASS BOILER AND STEAM CONDENSER	12
	3. AN INCREASE IN PRODUCTION CAPACITY	13
04	GLOSSARY	14









### 1.1. BACKGROUND

In Sully-sur-Loire (Loiret), Swiss Krono France, manufacturer of wood-based products, has identified three challenges:

Reduce dust emissions, in line with European regulations (BREF)

Limit its energy consumption

Play an active role in industrial de-carbonisation

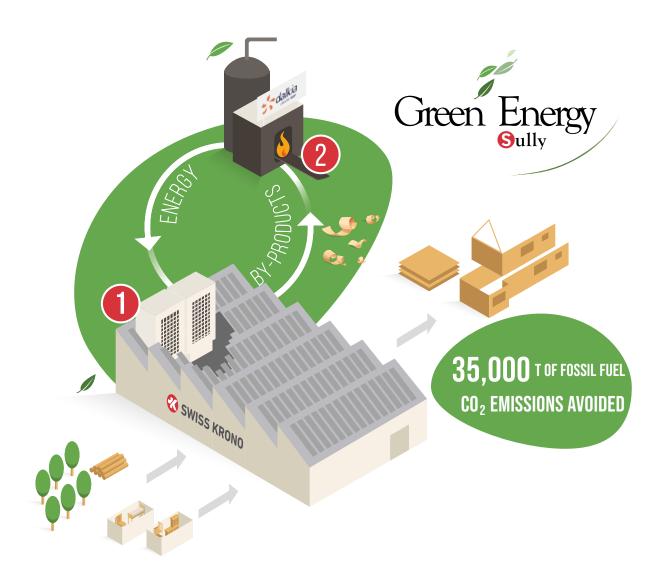
The company aims to strengthen its production capacity for Oriented Strand Board (OSB), a key material in the development of wood construction. In this context, Swiss Krono France joined forces with Dalkia, a specialist in energy efficiency supporting low-carbon industry, and Meridiam a leader in biomethane production and biomass energy recovery, to de-carbonise its factory.



### 1.2. THE *Green energy*: Overview

The *Green Energy* project is a programme of de-carbonisation through industrial and energy transformation carried out in Sully-sur-Loire by Swiss Krono France, Dalkia in the Centre-Ouest region and Meridiam.

In a sustainable and circular approach, the aim of the project is to install **two new dryers on the Swiss Krono France factory site, powered by a biomass unit and a steam condenser**, in order to improve productivity.



### **DRYERS**

Swiss Krono France will replace two high temperature dryers by two low temperature dryers.

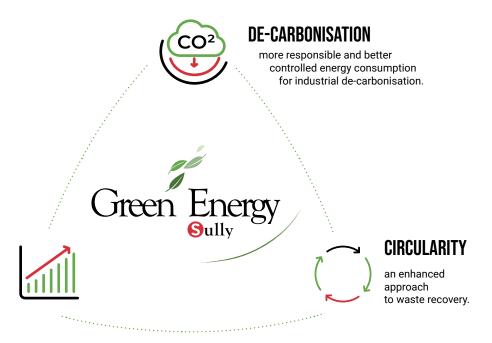
### The benefits are:

- Reduction of particle emissions
- · Reduction of the site's energy needs
- · Increased productivity

### BIOMASS UNIT

With a capacity of 63 MW, the Dalkia biomass unit will be able to process several forms of fuel (bark, dust, etc.) in various combustion units for various liquids and outlet temperatures. The energy produced by the boiler will be used to provide energy to the dryers and to the production line.

# THE ADVANTAGES OF THESE NEW DRYING AND ENERGY PRODUCTION INSTALLATIONS ARE THREEFOLD



### **PRODUCTIVITY**

an increase in production capacity to meet the growing demand for a low impact material.



In the perspective of de-carbonisation and continued improvement in our industrial processes, the *Green Energy* project will help us sustain the site and jobs through better cost control and by strengthening our production capacity, while the RE2020 thermal regulation will give prominence to biosourced materials by 2030.

Vincent Adam, President, Swiss Krono France



Through the *Green Energy* project, our teams are involved in the complete transformation of the Sully-sur-Loire factory energy model. The challenge: to provide, in a circular approach, 80% to 95% of the factory's energy needs through renewables thanks to the installation of a highly technical biomass unit that we will design, build and maintain.

Bruno Moras, Director, Dalkia in the Centre-Ouest region, France



The *Green Energy* project is the result of several years of collaboration between Swiss Krono France, Dalkia and Meridiam teams. We are pleased to deploy our experience in project development and financing to operate a circular and decarbonized energy production facility for a leading industrial company for 21 years in an environmentally friendly and socially responsible manner. This investment reinforces Meridiam's concrete commitment to the energy and ecological transition..

Jean-Pierre Maurand, Investment Director at Meridiam

years of building work

5 TO 10%

energy reduction thanks to low temperature <u>dryers</u>

35,000 t

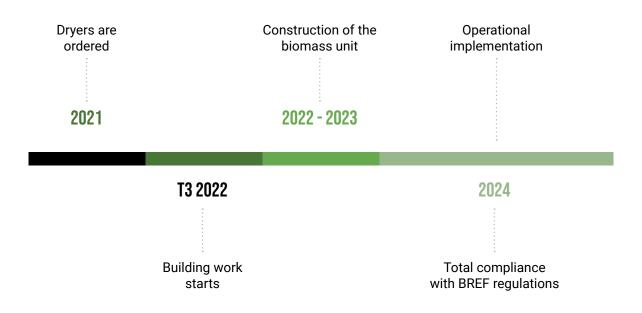
of fossil fuel CO2 emissions avoided per year thanks to the biomass unit

80 AND 95<sup>%</sup>

of gas used at the factory replaced by biomass >£100 M

times winner of the French "Plan de Relance" Recovery Plan programme

# **KEY DATES**









### 2.1. SWISS KRONO FRANCE

Swiss Krono France is the French subsidiary of the Swiss Krono group in Switzerland. Established in Sullysur-Loire in 1988, Swiss Krono France manufactures panels and boards for wood-frame construction and decorative solutions for furniture and interior design professionals. The Swiss Krono Group has 5,000 employees and 10 locations worldwide. The company had a turnover of €1.8 billion in 2019 (CH 2 billion). In Sully-sur-Loire, the Swiss Krono France factory employs 400 people and by 30th September 2021 had a turnover of €200 million.



# r dalkis

### 2.2. DALKIA

**Dalkia**, a subsidiary of the EDF Group, supports its customers (communities, industry, the service sector, health, housing) in their energy and digital conversion thanks to its two business sectors: local renewable energy development and energy savings. Dalkia proposes a global approach to energy projects: from design, implementation and operation.

Dalkia has 18,200 employees (2020) in France and abroad. Dalkia had a turnover of €4.2 billion in 2020. In the Centre-Ouest region (Brittany, Centre-Val de Loire and Pays de la Loire), 1,000 employees manage 5,000 energy installations. The regional entity has a turnover of €290 million.



### 2.3. MERIDIAM

Meridiam is an independent investment Benefit Corporation under French law, specialized in the development, financing, and longterm management of sustainable public infrastructure that improve people's lives. The firm has invested more than €75 billion since its creation in 2005, and currently manages more than 100 projects globally in three core sectors: critical public services, sustainable mobility, and innovative low carbon solutions. In France, with this new project, Meridiam currently owns and operates 14 biomethane production and biomass energy recovery plants.



All of Meridiam's projects contribute to helping the United Nations Sustainable Development Goals (SDGs) happen and in particular: fighting climate change, building resilient infrastructure, and ensuring access to clean and affordable energy for all.



# LE PROJET *Green energy* **D'INVESTISSEMENT**

### 2.4. FINANCING

Overall, the Green Energy project requires an investment of over €100 million (including €70 million for the first two phases) and two years of work. The project benefits from the investment and resources of the three partners: Swiss Krono France, Dalkia and Meridiam.

Two times winner of the French "Plan de Relance" Recovery Plan programme, the project has also received public funding, deployed throughout the country: €3.8 million as part of the "Energy efficiency and process de-carbonisation" scheme and €11 million as part of the "Biomass Heat for Industry" scheme (ADEME).

















### 3.1. INSTALLATION OF TWO LOW TEMPERATURE DRYERS



Swiss Krono France will replace two high temperature dryers with two low temperature dryers. The changeover to low temperature dryers is in line with sustainability,

**66** Reduce the site's

energy requirements

by 5 to 10%.

compliance and the longterm future of the site. The lowtemperature dryers will

make it possible to **reduce the site's dust emissions** and
to meet the new standards
required by European
regulations (BREF) regarding
dust emissions. 70% of

the energy consumed by the Swiss Krono France factory in Sully-sur-Loire is used for drying materials. This makes drying the site's largest source of energy consumption. Using the

new low temperature dryers will reduce the site's energy requirements by 5 to 10%.

### 3.2. THE INSTALLATION OF A MULTI-FUEL BIOMASS BOILER AND A STEAM CONDENSER

The multi-fuel biomass unit, designed and built by Dalkia, is a large-scale project at the forefront of a number of technologies, providing a useful capacity of 63 MW and will act as an important tool for de-carbonising the industrial site. A conventional biomass boiler burns a single fuel to produce a single liquid. The multifuel boiler installed at Swiss Krono France's site in Sully-sur-Loire will be able to process several forms of fuel (non-reclaimed bark, dust, etc.) in various combustion units for various liquids and outlet temperatures. In addition to the multi-fuel boiler, a steam condenser will recover the energy from the combustion fumes as steam. The energy produced by the boiler will be used to supply the dryers and to heat the thermal fluid



that supplies the presses. With a view to de-carbonisation, the use of the biomass unit will make it possible to **substitute much of the gas for biomass** - between **80 and 95**% for the entire site, depending on its level of activity, saving 35,000 tonnes of fossil fuel CO<sub>2</sub> emissions per year-in order to **produce renewable**, and green energy and reduce the site's ecological footprint.



For a high-tech project like this, it is important to choose specialist partners like Dalkia and Meridiam to construct a solid, high performance installation!

Vincent Adam, President, Swiss Krono France

For Swiss Krono France we have designed a unique, bespoke solution. It is not a question of just building a boiler room "next door" to the factory, but of integrating it into a complex and evolving industrial process. This represents both a technological and human challenge, with the creation of integrated project teams, between Swiss Krono France and Dalkia, to carry out the Green Energy project. It's a real source of motivation for the employees involved.



Bruno Moras, Director, Dalkia in the Centre-Ouest region, France



The innovative and complex *Green Energy* project strengthens Meridiam's presence in the biomass energy production sector. This investment makes a concrete contribution to the decarbonization of French industry, a key objective of Meridiam.

Jean-Pierre Maurand, Investment Director at Meridiam

# 3.3. AN INCREASE IN PRODUCTION CAPACITY

The drying phase represents the bottleneck in the production line, and the lack of drying capacity prevents the site from operating at 100%. Currently the site produces 420,000 m3/year and could increase to 550,000 m3/year (for an estimated demand of 600,000 m3/year in France) with the installation of additional industrial tools and machines.

By increasing the production capacity of OSB by 35%, the Green Energy project will help the growth of the wood construction market, generate new jobs, and create indirect jobs for the design, construction and maintenance of the installations.







### **BIOMASS**

Green Energy's biomass resources consist of hardwood bark from the debarking process, which is not currently used, and production by-products: dust and waste. Looking ahead: improvement of the Swiss Krono France particles sorting unit to increase the proportion of recycled products from 50 to 70%.

The biomass resources which supply the boiler are entirely supplied by Swiss Krono France. The resources will come from the industrial by-products of the factory.

Bruno Moras,

Director, Dalkia in the Centre-Ouest region, France



### GAS

Installing the biomass boiler will make it possible to virtually eliminate the use of fossil fuels. Gas will largely be substituted by biomass - between 80 and 95% depending on site activity - in order to produce renewable and green energy. This ambitious industrial project requires significant investment. The biomass solution is a virtuous investment - from an environmental point of view - and sustainable - from an industrial point of view.

### WOOD

Swiss Krono France is in harmony with a respectful development strategy for wood. This means that wood panel manufacturing processes do not use logs (whole trees) that are better suited for solid wood uses. The company uses pulpwood from thinning or insect damaged wood for its industrial processes.

This is a real boon for local forests! By transforming products made from recycled and waste wood, the factory at Sully-sur-Loire and the *Green Energy* project is in harmony with sustainable forest management.

Even better: thanks to a latest generation debarking machine installed in 2017, the Sully-sur-Loire site is also able to process hardwood species. This is a way of making the best use of the most abundant local resource, especially when certain hardwood species have no other use (such as «hornbeam»).

The site at Sully-sur-Loire can process and transform recycled wood (furniture, wood from waste disposal sites, etc.) and to transform its own wood waste (dust, bark) into raw material or energy.

With Dalkia's partnership, we want to position ourselves as a pioneer in a sustainable low-carbon industry.

Vincent Adam,

President, Swiss Krono France France

### **OSB**

Oriented Strand Board or OSB is a panel made of oriented strands of wood used in wood construction and renovation. Swiss Krono France is the only French manufacturer and leader of OSB in France. The company has recently been awarded the label "Bois de France". Sully-sur-Loire OSB uses a unique process adapted to hardwood-softwood mixes in Europe. To respond to the ever growing demand for wooden structure products for construction, Swiss Krono France wishes to develop its production capacity to cope with the French market's requirements. The *Green Energy* project, by installing low temperature dryers, should overcome this challenge, by strengthening its drying capacity, the phase which currently slows down production.



### **CONTACT**

### Ohwood

### Olivia Franciosi

o.franciosi@ohwood.fr - +33 (0)6 68 26 78 14

### **Blandine Even**

b.even@ohwood.fr - +33 (0)6 60 13 83 11



### **SCAN THE QR CODE**

for up-to-date news on the *Green Energy* project

