

A photograph of an industrial facility with a high, arched metal roof and numerous pipes. Three workers in orange safety suits and hard hats are standing on a walkway in the foreground, looking towards the right.

**UNITED &  
COMMITTED**

A photograph showing a dense field of green leafy plants growing in rows, with several large, light-colored root vegetables (possibly rutabagas) lying on the dark soil in the foreground.

**TO  
SUSTAINABLE  
GROWTH**

**2021 CSR REPORT**

**CRISTAL UNION**

C'est ensemble  
que nous avançons.

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**Alain Commissaire,**  
General Manager  
**Xavier Astolfi,**  
Deputy General Manager

## EDITORIAL

The Covid-19 crisis has fully demonstrated that French agriculture and industry hold an essential place in our lives, and the agri-food sector is strategic for our country.

**Within Cristal Union, our cooperators cultivate sugar beet, a plant with many virtues and multiple outlets, which is used to produce sugar as well as biofuel for our transport, or alcohol for our food, industrial or pharmaceutical needs.**

We are also particularly proud to participate in the fight against the pandemic thanks to our capacity to supply the alcohol necessary for the production of hydroalcoholic gels on a large scale.

### **THE HEALTH CRISIS HAS ALSO REMINDED US THAT WE MUST WORK TOGETHER TO MOVE FORWARD!**

**At Cristal Union, collective logic has always been our driving force to anticipate changes, defend our values and meet challenges.** Proud to be a cooperative, we know that our union gives rise to our success: that of ever more responsible agricultural, industrial and commercial expertise. **We are also united, as illustrated by our decision to provide free seeds to our cooperative members affected by the frost in April 2021.**

### **At the heart of the challenges of today and tomorrow, we have a strong responsibility: that of preserving the land we cultivate.**

In direct contact with the environment, on a daily basis, our cooperative members are the first to be aware of the challenges we face. They are constantly adapting their agricultural practices to make them ever more sustainable. With them, we are investing in R&D, in order to determine the best means of exploiting the full potential of our raw material, sugar beet.

### **Committed, we combine our industrial performance with clear environmental decisions.**

After completing the energy transition of our sites, we are going even further. Cristal Union is gearing up to be the industry leader in decarbonization by reducing its greenhouse gas emissions by 35% by 2030. To do this, we are investing in innovative technologies, promoting the circular economy logic and biomass production.

**Anchored in the heart of the territories and resolutely turned towards the future, we know that much remains to be imagined.** To do this, we will remain faithful to the roots that we hold so dear, and count on the help and support of our partners in this ambitious endeavour.

## SUSTAINABILITY AT THE HEART OF OUR MODEL AND OF OUR ACTIONS



Pioneer to take up the challenges of agriculture and industry, Cristal Union has for many years placed innovation and sustainability at the heart of its priorities.

A commitment rewarded by the EcoVadis platinum medal which places us in the top 1% most successful companies in CSR, among the more than 60,000 companies evaluated worldwide!



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# A UNIQUE COOPERATIVE GROUP

**At Cristal Union, we bring together more than 9,000 cooperators, sugar beet growers, and we employ more than 2,000 people to produce and market sugar, alcohol and bioethanol.**

## **ANCHORED IN THE NORTHERN HALF OF FRANCE, WE CONTRIBUTE TO THE DYNAMISM OF THE TERRITORIES AND PROMOTE SHORT SUPPLY CHAINS.**

Our model is that of local supply: the sugar beet plots of our cooperators are in fact located 30 km away on average from our sugar factories. Strengthened by this territorial anchoring and our responsible commitment, we contribute to the dynamism and the development of the territories with the creation of many direct jobs as well as indirect jobs, supporting a rich local economic activity. In interaction with our environment, we welcome more than 5,000 visitors a year to our sites and participate in many important local events, such as the Châlons Agricultural Fair.

We have been able to demonstrate our ability to cooperate very closely with the territories and their elected officials from the start of the Covid health crisis by providing masks, hair masks, shoe coverings and disposable gowns to nursing staff in hospitals and nursing homes, when they were most needed. We have also made hydroalcoholic solutions available to pharmacies and hospitals.

## **COMMITTED TO THE BIOECONOMY, WE PROMOTE SYNERGIES WITHIN OUR ECOSYSTEM**

At Bazancourt-Pomacle, our biorefinery interacts with many other industrial players, such as Air-Liquide, for the recovery of carbon dioxide from fermentation, in a circular economy approach. We have also encouraged, on this site, the establishment of the European Center for Biotechnology and Bioeconomics (CEBB) which brings together the scientific and technical skills and expertise of four academic chairs from AgroParisTech, CentraleSupélec, NEOMA Business School and from the University of Reims Champagne-Ardenne. We also support the initiative led by the Nord Est Start Up association, the Village by CA Reims, focused on open innovation.



**SUPPLIER OF SUGAR TO THE FRENCH FOOD INDUSTRY**



**EUROPEAN RECTIFIED ALCOHOL OPERATOR**



**FRENCH BIOETHANOL PRODUCER**

**2,500**

**CUSTOMERS IN 100 COUNTRIES**

**3**

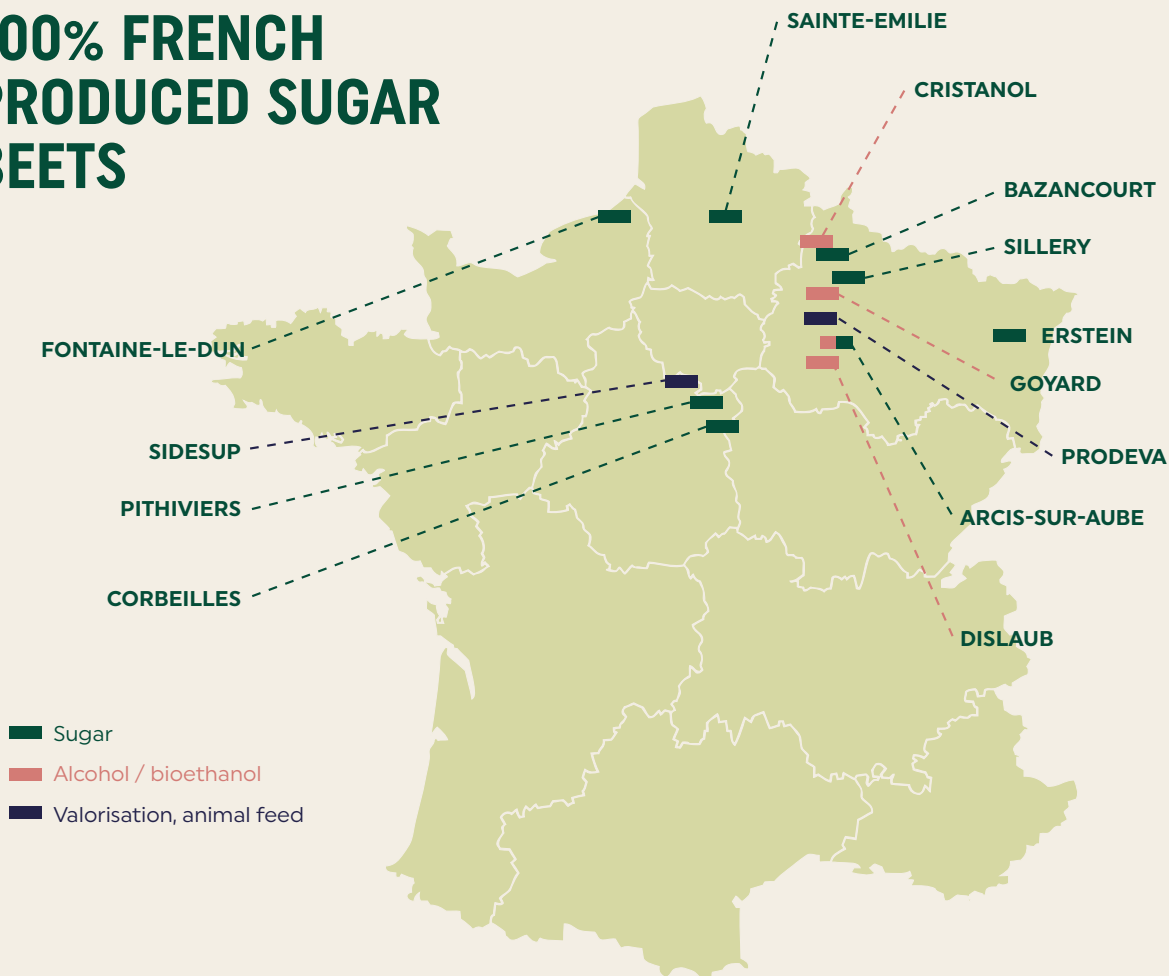
**MAJOR CONSUMER SUGAR BRANDS**

**Daddy**

**erstein**



# 100% FRENCH PRODUCED SUGAR BEETS



## €120 MILLION



OF INVESTMENTS IN OUR INDUSTRY OVER THE LAST 2 YEARS

## OUR VALUES

<b>UNITED</b>	<b>EXPERTS</b>
<b>AGILE</b>	<b>COMMITTED</b>

## OUR MISSION

"Bringing together long-term interests: those of our customers, our cooperative members, our employees, our partners for an agriculture and an industry of excellence, efficiency, responsibility and geared towards the challenges of tomorrow"



**Olivier de Bohan,**  
President

## "AT CRISTAL UNION, IT IS THE DEMOCRATIC FRAMEWORK THAT GUIDES OUR ACTIONS"

### **How is Cristal Union's cooperative model relevant?**

**Olivier de Bohan:** Above all, the cooperative is born from the choice of farmers who, collectively, decide to meet and act together to sustain, secure, transform and enhance their productions. The agricultural cooperative is the extension of the farm, in its organization, in its mode of operation.

### **How is this model democratic?**

**Olivier de Bohan:** Sovereign power within the cooperative is held by the cooperators, the power of direction, decision and supervision rests with the Board of Directors, and the executive power with the management team, which brings together the salaried managers of the business. Farmer members of the cooperative meet in General Assembly once a year. For the rest of the year, they rely on their direct representatives: the cooperative members they elected. It is a powerful model that allows us to make the decisions necessary for the smooth running of the Group, for the benefit of the majority of its members.

### **Should the cooperative model change?**

**Olivier de Bohan:** What motivates me the most is meeting the expectations of young people. We therefore have a duty to be in perpetual reflection. This is why we have set up a group called "Atout jeunes" with representatives from each section, who benefit from a year of training on what is a cooperative, what is democracy, what is a collective. We expect to learn a lot about the expectations of future members, it is essential for tomorrow, to ensure the renewal of generations.

### **Are you confident for the future?**

**Olivier de Bohan:** I am confident. Covid could have scared us, with - 80% of outlets for ethanol when we had invested hundreds of millions of euros in the distilleries, but our agility and our flexibility allowed us to compensate for this sudden drop, by **producing alcohol for hydroalcoholic gels, demand for which exploded in March 2020.**

We have also suffered the crisis of **sugar beet yellowing**, which generated a loss of 30% of our production. Despite all of this, we will be significantly back in the black this year. Being able to get through these two major crises and present significantly positive accounts is an achievement that reinforces the relevance of our strategy!





**A sectional cooperative, for close collaboration with the cooperators of our sugar beet basins**

Cristal Union has 9,000 members divided into eight sections which correspond to the eight geographic zones of our sugar factories. The section advisers elected to the General Sectional Assemblies manage close relations with the cooperators of each of the sugar beet basins and take decisions to ensure the proper functioning of the local area. Each section is represented by three elected officials who sit on the Board of Directors of Cristal Union. Each section president sits at the cooperative's office, where they defend not only their territory but a global vision for all cooperative members. The section councils validate local decisions, issue opinions and propose them to the Board of Directors: this system is a big advantage, because it facilitates the reporting of all the information and specificities related to a geographical area.

# SHARING OUR GOOD AGRICULTURAL PRACTICES

Proud to be a cooperative, we know that our success comes from our union: that of responsible agriculture, industrial and commercial expertise, focused on the challenges of tomorrow. **Our 9,000 cooperative members are in direct contact with the land on a daily basis. For many years, they have regularly adapted their practices to better control their environmental footprint.**

**TO SUPPORT THEM, IN 2015, WE IMPLEMENTED AN AGRICULTURAL APPROACH FOR CONTINUOUS IMPROVEMENT CALLED CRISTAL VISION, SMART SUGAR BEET.**

Thanks to all those involved, this demanding system enables agricultural practices to evolve, from the fields to the supply at our industrial sites! **CRISTAL VISION also meets the standards of the SAI sustainable agriculture platform, of which it exceeds the requirements on many points.**



## A TRIPLE SUSTAINABLE COMMITMENT

# 1

### EXPERIMENT AND SHARE NEW AGRONOMIC PRACTICES

#### 12 EXPERT AGRONOMISTS

Spread over all our growing areas, they support our cooperators and advise them during agronomic meetings, for example.

#### 60 "CROP RELATION" MANAGERS

In direct contact with our farmers, they relay information and innovations on a daily basis.

#### 15,000 MICRO-TEST PLOTS

We test the different stages of the cultivation route and especially the new varieties.

#### LOCAL TECHNICAL COMMUNICATION THROUGHOUT THE YEAR

We publish an annual reference brochure listing the best techniques of the moment, a veritable *Bible* for our cooperators and "agri newsletters" according to current events and personalized by geographical sectors.

# 2

### EVALUATE AND ADAPT OUR AGRICULTURAL PRACTICES, ACCORDING TO THE HIGHEST STANDARDS

#### SUPPORT FROM OUR 9,000 COOPERATIVE MEMBERS

thanks to an annual self-diagnostic tool for their agricultural practices, making it possible to monitor the progress measures put in place on the farms. 20 meetings to prepare sugar beet campaigns are also organized.

#### IN ONE YEAR, 1,600 PLANTERS HAVE CARRIED OUT A PERSONALIZED DIAGNOSIS USING OUR CRISTAL CERC'OAD® DECISION-MAKING TOOL

they were thus able to prepare their systems for the fight against cercosporiosis.

# 78%



**OF OUR SUGAR BEET CROPS CERTIFIED SAI GOLD OR SILVER IN 2020**

(i.e. an increase of 14% in 5 years).

# 3

### SUPPLY OUR SITES IN COMPLETE SAFETY, BY LIMITING OUR IMPACT ON THE ENVIRONMENT

#### 100 SAFETY MEETINGS PER YEAR

with sugar beet transport companies.

#### GEOLOCATION OF SUGAR BEET HEAPS AND TRUCKS IN THE COUNTRYSIDE

to optimize trips and travel as little distance as possible.

#### OVER 1,000 TONNES OF GREENHOUSE GAS EMISSIONS AVOIDED

thanks to the washing of our sugar beets before transport to the sugar factories, which reduces the number of trips required between our fields and our sites.



**Sylvain Verger,**  
Engineer, agronomic service

## " WITH CRISTAL VISION, WE GO BEYOND THE STANDARDS EXPECTED BY THE SAI SUSTAINABLE AGRICULTURE PLATFORM! "

### **What is CRISTAL VISION, *smart sugar beet*?**

For the past ten years or so, our customers and consumers have been paying more and more attention to the environmental quality of their products and the sustainability of agricultural practices. At Cristal Union, we have always taken these matters very seriously. Initially, we met these expectations on a case-by-case basis. In 2015, we decided to combine all our actions to respond to all the requests, in a single sustainable and ambitious approach. This is how we created our CRISTAL VISION standard, *smart sugar beet*.

**While we were launching CRISTAL VISION, the sustainable agriculture platform SAI started to be talked about.** It seemed natural to us to combine the two approaches. But what makes us proud is that with CRISTAL VISION, we often go well beyond the standards expected by the SAI sustainable agriculture platform, for example on farm safety issues!

### **Concretely, how does it work and what are the results?**

**CRISTAL VISION IS A REAL SUPPORT SYSTEM. THE OBJECTIVE IS TO ASSESS THE PRACTICES OF ALL OUR COOPERATIVE MEMBERS, I.E. MORE THAN 9,000 PEOPLE, AND TO DEVELOP THEM WHEN NECESSARY.**

It is a continuous, comprehensive and demanding improvement process! Concretely, our cooperative members complete a self-assessment grid for their practices every 3 years, comprising 40 questions on subjects as diverse as safety on their farm, fuel storage, or maintaining soil fertility. In addition, we audit 100 farms per year in more depth.

In comparison, the sustainable agriculture platform SAI carries out a self-assessment of only 100 farmers drawn at random over 3 years, and only audits 10 farms.

In 2015, 64% of our growers were already Gold or Silver SAI certified (i.e. meeting the highest levels of certification). In 2020, 78% of our growers are Gold or Silver SAI certified. That is to say an increase of 14% in 5 years.

### **What explains this progression, and what are the objectives for tomorrow?**

Our goal has always been to help our "bronze" category farmers, as a priority, to climb the SAI certification ladder and the CRISTAL VISION ladder.

Moreover, since the implementation of Cristal VISION, our growers have noticed that even with good level practices, they had room for improvement on certain topics, in particular that of safety on the farm.

Many have looked into the issue of storing their fuel, phytosanitary products and fertilizers. Raised awareness, they decided to invest in means of prevention and control of accidental spills. Others have decided to train in first aid... Those who have gone even further to be Gold certified have also implemented measures such as monitoring their stocks of products in real time or irrigating their sugar beets according to the exact water needs and the useful soil reserve, thanks to a very advanced modeling system and connected tools. This is also one of the great challenges of tomorrow: move from SAI 2.0 criteria to the even more demanding SAI 3.0 criteria established in 2021. A very full agenda!



# SUPPORTING OUR TALENTS

Faithful to our cooperative values, we consider that the good functioning of a company rests on the first of its assets: the diversity of the talents which compose it!

## GENDER EQUALITY

87/100 

THIS IS THE SCORE OF THE GENDER EQUALITY INDEX IN 2020 AT CRISTAL UNION

A good score in a sector that has long remained very masculine! At Cristal Union, we act on a daily basis to promote our female talents, identify and reduce the gender pay gap.

## YOUTH EMPLOYMENT



90 work-study students are now part of the teams by Cristal Union. A new recruitment campaign is underway, with more than 50 jobs offered on our various sites and businesses.

Each year, a significant proportion of work-study contracts lead to hiring. In 2020, 31 work-study students were offered a contract and 244 young people aged 25 and under joined our teams (all types of contracts combined, company internships).

## DISABILITY SITUATIONS



Following the diagnosis carried out in 2019 by the Association for the Management of the Fund for the Professional Integration of People with Disabilities (AGEFIPH), we have defined and implemented an inclusion strategy with numerous awareness-raising campaigns (poster campaigns, communication to employees, awareness workshops, etc.). A disability advisor has also been appointed in each of our establishments. Its role: to meet and support employees with disabilities, to inform and help those who so wish in their efforts to obtain recognition as a disabled worker, to think about solutions to keep the employee in employment, or to develop the recourse to the protected and adapted sector. Cristal Union has also created a diversity & equal opportunities committee, meeting twice a year to define and monitor the actions of the disability policy.

Thanks to all these measures, our direct employment rate of employees with disabilities increased by 60% with 6.59% of people with disabilities in our teams in 2020.

## WELL BEING AT WORK

77% 

THIS IS THE PERCENTAGE OF EMPLOYEES SATISFIED WITH WORKING AT CRISTAL UNION, ACCORDING TO OUR SOCIAL BAROMETER CARRIED OUT EVERY TWO YEARS

As part of our Quality of Life at Work agreement (QVT), we are continuing our actions on the link between personal and professional life, the improvement of working conditions, the fight against discrimination and the right to switch off. Concerned about preserving the physical and mental health of our employees, we have also set up a free, individualized, anonymous and strictly confidential listening and psychological support system.

## EDUCATION

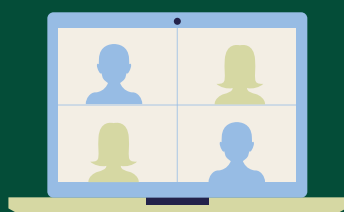
71% 

THIS IS THE PERCENTAGE OF EMPLOYEES OF CRISTAL UNION WHO COMPLETED TRAINING IN 2020

Cristal Union employees benefit from a very wide range of training courses (edutainment tools, e-learning, virtual classes, action-based training, etc.). The Group also has its own training school, Cristal Académie, which allows learners to be trained in real conditions, in the field. To go even further, we have also strengthened our IT tool dedicated to learning devices. It allows the capitalization of our know-how by field staff and contributes significantly to the transmission of knowledge, in particular facilitating the integration of new staff. In 2020, training courses were even created using this tool. Employees at the Bazancourt, Erstein, Sainte-Emilie and Sillery sites were able to benefit from this.

Based on these initial successes and the positive feedback from learners, it was decided to roll it out across all of our sugar factories in 2021!

## COVID 19: GENERALIZATION OF REMOTE WORKING, WHEN POSSIBLE, TO CONTINUE WORKING IN THE BEST SAFETY CONDITIONS



Since the start of the health crisis, Cristal Union has adapted to continue its activity in safe conditions for its employees.

Among the solutions proposed, teleworking was imposed on employees who could perform their missions remotely.

A collective agreement already allowed, before the pandemic, remote working at Cristal Union. This habit has made it possible to rapidly deploy the system to as many people as possible, when the health situation required it. The reliability of the Group's IT tools and the collaborative tools available have made it possible to maintain business continuity. Based on this enriching experience, 88% of Cristal Union employees now consider that remote working is suitable for their professional activity. Cristal Union plans to start new negotiations with the social partners on this topic in 2021.

For employees whose missions can only be carried out face-to-face, on site, Cristal Union has adapted its organization and protocols from the start of the health crisis, scrupulously following the government's instructions to guarantee them total safety, all in ensuring the continuity of its essential activities.

Annie Munier,

Management system and CSR manager



## CONVERGENCE: A MANAGERIAL PROJECT THAT COMBINES AGRICULTURAL, INDUSTRIAL AND COMMERCIAL PERFORMANCE!

"In 2017, Cristal Union developed a global management system, the objective of which was to combine agricultural and industrial performance and strive for operational excellence in a consistent manner across all of the Group's sites. Three years later, in 2020, a new step was taken with the project **Convergence**, whose ambition is to strengthen customer culture in all projects of Cristal Union and its commercial subsidiary Cristalco.

The method: adapt the operating methods of the various services and promote information sharing. All the teams are fully mobilized!

Our goal: to achieve excellence in order to best satisfy our customers and all of our stakeholders! "

# SAFETY, AN ONGOING CONCERN



**Sébastien Guillemin,**  
Security manager

**"WHEN WE SET OURSELVES THE GOAL OF 0 SERIOUS ACCIDENTS, WE ALSO REDUCE OTHER ACCIDENTS! "**

## **What is the global SECU approach?**

The global SECU approach is a demanding prevention approach, which concerns all internal and external stakeholders and all of the group's activities. With global SECU, our goal is zero serious accidents!

## **Concretely, what has been done to achieve zero serious accidents?**

At the heart of our system, there is constant mobilization!

**EVERY DAY, AT ALL OUR SITES, OUR EMPLOYEES ARE INVOLVED IN AND RESPONSIBLE FOR SAFETY, AND ALL OPERATIONAL MANAGERS CARRY OUT SAFETY BRIEFINGS WITH THEIR TEAMS.**

Not a day goes by without a discussion to act on our behavior or on risky situations. In addition, there are our ten rules for life. These 10 rules which set our expected behaviors are there to protect us against the most serious risks (fall from height, vehicle collision, etc.).

## **And because safety is everyone's business, we mobilize our employees and partners.**

Every year, we organize a Safety Day, a major event intended to raise awareness and mobilize our employees.

We have also created two safety trophies to promote prevention actions, one of which is intended for our partners.

In addition, there is an ambitious mechanism for sharing and training our safety rules, comprising hundreds of meetings per year with our 1,500 carriers, our 350 subcontracting companies, and even our 700 seasonal workers. We leave nothing to chance!

## **What are the results?**

### **Accidents are not inevitable, and our results are constantly improving!**

In 2020 our goal of zero serious accidents has been reached. Our accident frequency rate, including work stoppage, is also at its lowest since 2014.

Our position: the right culture to recognize and encourage safe behavior and actions and react systematically in the event of a deviation! We manage security on a daily basis. Each year, objectives and orientations are set.

We then check, through audits, that our global SECU tools are in place.

**In addition, 30% of our annual incentive depends on good safety performance.**



# SAFETY AT A GLANCE



0

SERIOUS ACCIDENTS,  
OUR TOP PRIORITY,

1

AN AMBITIOUS AND DEMANDING PREVENTION APPROACH  
CALLED GLOBAL SECU, FOCUSED ON THE PREVENTION OF  
SERIOUS RISKS

1

SAFETY BRIEFING PER DAY AND PER TEAM  
THROUGHOUT THE YEAR

12

SAFETY MEETINGS PER YEAR WITH 350 EXTERNAL COMPANIES

100

SAFETY MEETINGS PER YEAR WITH TRANSPORT COMPANIES,  
BRINGING TOGETHER 1,500 DRIVERS

700

SEASONAL WORKERS MADE AWARE OF SAFETY AND TRAINED  
EACH YEAR AT THEIR WORKSTATION

2

SAFETY TROPHIES. ONE TO PROMOTE INTERNAL  
BENCHMARKING, AND THE SECOND TO RECOGNIZE THE  
PERFORMANCE OF OUR SUBCONTRACTORS

2,300

CONTACT VISITS PER YEAR, IN THE FIELD, TO PROMOTE SAFETY  
BEHAVIOR AND TO REACT TO DANGEROUS BEHAVIOR

A TEAM  
OF 50

PEOPLE DEDICATED TO PREVENTION TO RAISE AWARENESS,  
SUPPORT AND DEPLOY THE APPROACH

14

MILLION EUROS PER YEAR INVESTED IN PREVENTION



# 2- SUSTAINABILITY IS THE LEVER OF OUR PERFORMANCE

## COMMITTED TO DECARBONIZATION

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## COMMITTED TO ENHANCING OUR RAW MATERIAL AND OUR RE-SOURCES

## ENGAGED IN AGRICULTURAL R&D

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## WE ARE AGILE AND EFFICIENT

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# COMMITTED TO DECARBONIZATION

Between 2010 and 2020, Cristal Union reduced its greenhouse gas (GHG) emissions by 15% per tonne of sugar beet and its energy consumed by 8.2% per tonne of sugar beet on all of its sugar factories.

ISO 50 001 certified at all of its sites since 2015, the Group is not stopping there!

**WITH ITS ENERGY TRANSITION COMPLETED, CRISTAL UNION IS GIVING ITSELF THE MEANS TO BE THE LEADER IN DECARBONIZATION IN ITS SECTOR.**

**THE OBJECTIVE: 35% LESS GHG EMISSIONS BY 2030, I.E. A SAVING OF 265,000 TONNES OF CO<sub>2</sub>.**

To achieve this, we have outlined a decarbonization roadmap along 4 axes:

- continue our efforts to further improve our energy efficiency
- recover the residual energy of our processes
- reduce our dependence on fossil fuels, especially natural gas

- engage in renewable energy production, by maximizing the value of co-products and production residues

In addition, **the Group is anticipating future regulations with an action plan whose ambition is to achieve carbon neutrality by 2050.**

To support this dynamic, **in 2020 Cristal Union committed to the Science Based Target Initiative (SBTi) collective founded by the UN, CDP and WWF.**

The goal: to make a concrete commitment and on a scale to limit the rise in temperatures by 2100, with actions to reduce greenhouse gas emissions. Cristal Union will present its finalized action plan to SBTi by 2022.

## 2010-2020

|

**-8%**

OF ENERGY CONSUMED

|

**-15%**

OF CO<sub>2</sub> EMISSIONS

## HEADING FOR 2030

|

**-17%** (VS 2010)

OF ENERGY CONSUMED

|

**-35%** (VS 2015)

OF CO<sub>2</sub> EMISSIONS

## ALL CRISTAL UNION BOILER ROOMS ARE POWERED BY BIOMASS OR NATURAL GAS

For more than ten years, the energy transition has been a priority at Cristal Union. And the results are already there!

The Group has modernized or replaced all of the boilers in its sugar factories and distilleries with high performance equipment. Biomass boilers have been installed in the Cristanol, Dislaub and Goyard distilleries.

The construction of a new high-performance cogeneration unit at the Sainte-Emilie sugar refinery in 2018 brought the first phase of the Group's energy transition to a close. Since that date, all of Cristal Union's industrial establishments have supplied their boilers exclusively from biomass or natural gas.

**In its sector of activity, Cristal Union is thus positioned, on a European scale, as a pioneer in terms of environmental performance.**

## METHANATION IS IN THE SPOTLIGHT AT THE FONTAINE-LE-DUN SUGAR REFINERY



In 2019, the Fontaine-le-Dun site started up its new methanation unit supplied with water from the sugar refinery. Operational during the last two sugar beet campaigns, the device has generated biogas and currently supplies 7% of the sugar refinery boiler requirements.

To operate, the methanation unit uses earthy water from the sugar refinery. This water, which used to be unrecovered, is completely purified from the methanation process. Great circular economy logic! To go even further, the construction of a network allowing the irrigation of 2,400 hectares of agricultural plots located around the sugar refinery is underway.

## THREE CRISTAL UNION DECARBONIZATION PROJECTS ARE "FRANCE RELANCE" (FRENCH RECOVERY INVESTMENT PLAN) LAUREATS

**Cristal Union is investing heavily in the transformation of its industrial facilities. The Group has thus invested 34 million euros in three decarbonization projects, welcomed and selected by "France Relance"!**



**At Bazancourt**, Cristal Union has invested 4 million euros to supply its drying ovens with biomass and, by April 2022, will have created a storage platform ensuring a sufficient wood fuel supply. This initiative saving 65,000 tonnes of CO<sub>2</sub> per year was supported in the amount of 1.5 million euros, by the State, within the framework of the "France Relance" plan.



**At Sainte-Emilie**, a large investment of 25 million euros, including 6.9 million in State subsidies, has been spent on a new indirect sugar beet pulp dehydration unit which will be operational in September 2023. This will enable residual heat from the plant to be recovered and will in turn end the use of coal. A 90% reduction is expected in CO<sub>2</sub> emissions from drying. Ending the use of coal will also lead to a reduction in the quantity of particulate matter and sulfur being produced.



**Cristal Union has invested 5 million euros (including 1.5 million in State subsidies) in its subsidiary Sidesup** to create a third dehydration line with a hot gas generator powered by biomass. Work on this project, which will help support the large-scale development of organic alfalfa production in the south of Paris by Cristal Union, the leader in this industry, will be completed in April 2022.

# COMMITTED TO VALORISING OUR RAW MATERIAL AND OUR RESOURCES

At Cristal Union we valorise our raw material, sugar beet, by extracting the sugar to crystallize it or to ferment it into alcohols and bioethanol. In addition, and this is less well-known, we also participate, on our industrial sites, in the valorisation of wheat, alfalfa, residues from wine-growing activity or even certain industrial solvents, always in a circular economy logic.

## THE RAW MATERIAL, SUGAR BEET, IS USED FOR VERY DIFFERENT PRODUCTS

Sugar beets can produce edible sugar of course, but this is not all! For many years, Cristal Union has also produced food, industrial and cosmetic alcohol. More recently, the range has grown even further, in infant nutrition, in biofuel and, of course, in the pharmaceutical sector with the production of alcohols for hydroalcoholic gels, for which we became European leader in 2020.

## DIVERSIFICATION OF THE SUPPLY OF OUR INDUSTRIAL SITES

Even if our activity remains above all centered on our main raw material, sugar beet, our industrial sites have been able to expand their supply over the years.

Our distillery **Cristanol** transforms sugar substrates, whole wheat, residues from the grain wheat industry, and now produces alcohols of unparalleled purity to serve top brands of spirits around the world! Likewise, our dehydration tools no longer only process sugar beet pulp, but also alfalfa for cattle. **On our site in Dislaub**, we are able to offer a second life to used industrial solvents and alcohols by regenerating them. **Our Goyard distillery** collects co-products and residues from the wine industry in its territory, to transform them into high added value materials such as polyphenols or essential oils. These diversifications are possible because our industrial tools are adapted to operate in synergy with other sectors. Great circular economy logic!

## BIOETHANOL, A PRODUCT OF THE FUTURE WITH LOW ENVIRONMENTAL IMPACT

Bioethanol is a fuel of the future with proven environmental qualities: it makes it possible to reduce greenhouse gas emissions by 60% to more than 95%, compared to conventional fuels.

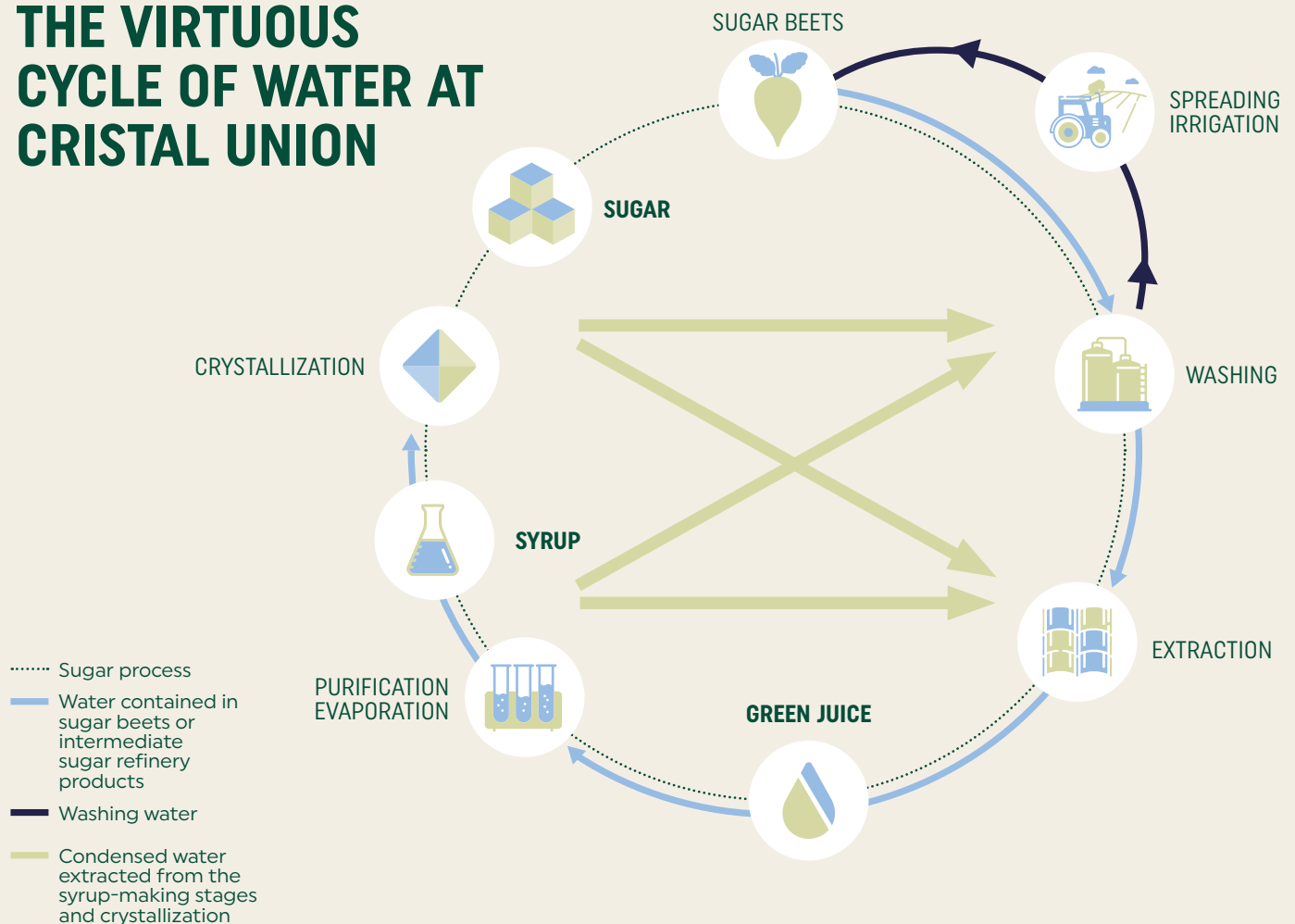
Second biggest French producer, Cristal Union manufactures bioethanol from agricultural raw materials (sugar beet, wheat), sugar refinery residues from its own sites, but also residues such as wine marc and lees or starch residues from industries.



# 100% OF SUGAR BEET WATER REUSED!

Strongly committed to the logic of the circular economy, we take care to protect one of the most precious resources of all, water. At Cristal Union, we reuse 100% of the water contained in our sugar beets. Between 2010 and 2020 we have thus reduced our water withdrawal from the natural environment by 57%, 5 million m<sup>3</sup> of water have been saved per year!

## THE VIRTUOUS CYCLE OF WATER AT CRISTAL UNION



Sugar beets contain over 70% water! Once viewed as a drawback, this property has now become an asset. Since 2010, Cristal Union has invested considerably in its industrial sites in order to reuse the water contained in sugar beets and thus reduce its withdrawal of water from the natural environment. Nowadays, sugar plants use the water they extract from their raw material!

Two stages of the sugar process use water: washing the sugar beets at the factory entrance and extracting the sugar from the sugar beet cossettes.

On the other hand, two stages produce water: the syrup stage making it possible to purify and dehydrate the sweet juices extracted from sugar beet and the syrup crystallization stage producing white sugar. The right balance has therefore been achieved through adjustment of our tools. The water collected in syrup and crystallization is now reused for washing sugar beets and extracting sugar.

After the sugar beet campaign, the excess water is stored in basins near the sugar factories. Once decanted, it is used for the irrigation of the surrounding plots, thus rendering a great service to farmers in the summer period. **All the water is reused and recovered, down to the last drop!**



# ENGAGED IN AGRICULTURAL R&D

As part of the CRISTAL VISION's continuous improvement process, we are constantly adapting our agricultural practices and we are attentive to all developments.

Today, 78% of our growers are Gold or Silver SAI certified, and we also closely follow innovative agroecology approaches.

## EVER MORE SUSTAINABLE PRODUCTION METHODS

At Cristal Union, we invest in innovation and R&D to offer adapted growing techniques and quality products.

For example, our agronomic service created a few years ago, **Cerc'OAD®** to fight in a more sustainable way against cercosporiosis, the infamous sugar beet pest. It was also a driving force in the development of **organic sugar**, making Cristal Union the leading producer of organic sugar beet sugar in France since 2019!

Today, the field of action of our agronomists is very diverse. With our cooperators, they test innovative equipment and technical routes in more than **15,000 trial micro-plots**. They also participate in the research **of the TERRALAB pilot farm** aimed at reducing the environmental impacts of farms, taking into account crop rotation. In 2018, Cristal Union also joined the association **For a Living Agriculture (PADV)**. Our team of agronomists participates alongside 15 members in a working group dedicated to agroecology, also called regenerative agriculture, whose main areas of work are soil cover throughout the year, reduction of tillage and carbon storage.

**ALONGSIDE THE STATE AND INDUSTRY PLAYERS, WE ARE ACTIVELY PARTICIPATING IN THE NATIONAL RESEARCH AND INVESTMENT PLAN, EQUIPPED WITH 7 MILLION EUROS, THE OBJECTIVE OF WHICH IS TO FIND ALTERNATIVE SOLUTIONS TO NEONICOTINOIDS TO FIGHT EFFECTIVELY AGAINST SUGAR BEET YELLOWING.**

We are actively participating in the research plan co-piloted by INRAe and ITB which aims to better understand how sugar beet yellowing develops, to identify virus resistance genes, but also and above all to highlight the best control techniques: development of resistant varieties, solutions such as biocontrol or auxiliary insects. As part of the pilot experimental farms, our agronomic service participates in the validation of these techniques.

Almost a third of the pilot farms are followed by the services of Cristal Union.

**ONE CONVICTION: ONLY A COMBINATION OF SOLUTIONS WILL COMBAT SUGAR BEET YELLOWING!**

## TAILOR-MADE SUPPORT AND EVER MORE AGRICULTURAL SERVICES



**CRISTALCOOP**  
**100% MOBILE GEOLOCATION**

The development of information and real-time exchange tools is essential to support our cooperative members, in the field as well as in all of their relations with their cooperative.

**A new version of Cristalcoop** was launched in early spring 2021, for 100% mobile compatibility. From now on, our members can access all the functionalities of their extranet, wherever they are, from their smartphone in the open field, on their tablet or more traditionally on their PC.

Cristalcoop is equipped with a plot location tool which facilitates agronomic monitoring, harvest management in connection with our Cristal Field application as well as the management of co-products and the use of the Cristal Cerc'OAD® app.

# COLLECTIVE ACTION TO ENCOURAGE BIODIVERSITY

Beyond the search for alternative solutions to neonicotinoids, we are now taking concrete action in favor of biodiversity, within the framework of projects such as "Bee Happy" and "Apiluz". Focused on the development of new sectors, we also promote the cultivation of organic alfalfa.

With the **Bee Happy program**, Cristal Union offers its cooperative members seeds of mixed flowers allowing them to **provide food for pollinating insects**. We also support the operation **APILUZ** for the establishment of flowering alfalfa strips in Champagne.

**OVERALL, THE OBJECTIVE IS TO COVER NEARLY 1,600 HECTARES WITH MELLIFEROUS PLANTS WITHIN 3 YEARS.**



In addition, we are also helping our alfalfa producers to develop their activity in the south of Paris. For example, our Sidésup subsidiary will build a new drying line in 2022.

**THE ALFALFA AREA WORKED BY CRISTAL UNION COOPERATORS WILL THUS BE ABLE TO INCREASE BY 4,000 TO 6,000 HECTARES, MAINLY ORGANIC!**

An investment for the future, when we know all the agronomic virtues of alfalfa.

A true refuge for biodiversity, alfalfa feeds pollinators and improves the sustainability of farms (less fertilizer used, better soil structure, reduced erosion, etc.).

This project, which is part of the "France Relance" Protein Plan, benefits from financial support from ADEME and the ecological transition agency.

# WE ARE AGILE AND EFFICIENT

Our industrial and commercial agility is a strength allowing us to adapt to the agricultural and sanitary context, to market constraints, and to meet new customer expectations.

## EUROPEAN LEADER IN ALCOHOLS FOR HYDROALCOHOLIC GELS

OUR ALCOHOL SALES FOR HYDROALCOHOLIC GELS HAVE MULTIPLIED BY

**x10**  
SINCE 2019!



In 2017, we launched Biocidal®, our range of alcohols for pharmaceutical and hygiene use, ahead of market expectations.

Thus, from the first lockdown we were capable of mass-producing alcohols intended for to the production of hydroalcoholic gel.

## LEADER IN THE INDUSTRIAL SUGAR MARKET

A MARKET SHARE OF

+of  
**50%**  
IN FRANCE

**10%**  
IN EUROPE

**THE RESULT: RECORD SALES, RISING FROM 50,000 hl IN 2019 TO MORE THAN 500,000 hl IN 2020!**





# DADDY, AN INNOVATION ALLIANCE AND LASTING COMMITMENT

Daddy, our emblematic brand marketed by Cristalco, is celebrating its 40th anniversary this year! 40 years of innovation and sustainable commitment, as close as possible to consumer expectations.



## PIONEER OF ORGANIC SUGAR

In addition to the marketing of organic cane sugar, **we were the first to invest in the creation of a French organic sugar beet sugar industry**, in order to meet the high expectations of consumers. **The first organic sachets of our famous sugar Daddy were marketed as early as 2019.** The production of organic sugar beets is complex and demanding, especially with regard to weed control issues. We offer support to our cooperative members, by testing new techniques with them to make their crops more sustainable. In turn, these innovations are also a benefit to conventional sugar beet growers.

The transformation of organic sugar beets also requires an adaptation of our production at the different stages of the transformation. We succeeded, with this great innovation. It should be noted that organic sugar production is only possible thanks to the parallel existence of conventional sugar beet production, allowing processing costs to be amortized.

## ECOLOGICAL KRAFT SACHETS

**It's because of our commitment that our transformation succeeded. The iconic soft bags of all Daddy sugars are now made from kraft paper.**

We have thus reduced the weight of our packaging by 20% and the amount of plastic by 72%.

**IN TOTAL, NO LESS THAN 10 MILLION PLASTIC BOTTLES SAVED PER YEAR!**

**THE FLEXIBLE KRAFT BAGS ARE ALSO PERFECTLY RECYCLABLE.**

A great success which concludes a work of eco-design and Life Cycle Analysis (LCA) of our products, carried out over several years, in partnership with Ademe.



# NON-FINANCIAL INDICATORS

	INDICATORS	UNIT	SCOPE*	REPORTING PERIOD
	Number of sites	Number	3	Calendar year
SOCIAL INDICATORS	Permanent workforce	Number	1	Calendar year
	Seniority of permanent staff	Years	1	Calendar year
	Percentage of total women in the Management Committee	%	1	Calendar year
	Percentage of women in permanent staff	%	1	Calendar year
	Internal mobility	Number	1	Calendar year
	Level of absenteeism	%	1	Calendar year
	Percentage of permanent workforce having received training	%	1	Calendar year
	Percentage of payroll devoted to training	%	1	Calendar year
	Percentage of employees having carried out an annual interview	%	1	Calendar year
	Number of collective agreements signed	Number	1	Calendar year
	Rate of frequency of accidents with stoppage		4	Calendar year
	Lost time accident severity rate		4	Calendar year

2010	2015	2020	COMMENT
-	14	11	Only production sites are considered.
-	2,068	1,699	Number of people with permanent contracts registered as of December 31.
-	15.34	14.22	All Socio-Professional Categories combined.
-	16.6	20	
-	20.5	20.25	
-	53	40	Number of people who have benefited from internal mobility (change of site).
-	3.2	5.51	Calculation Total working days of absence/total theoretical working days, based on the total workforce. Days of absence are included in the days of absence due to a work accident, leave for family events, sick leave and sick leave for professional illness, maternity and paternity leave and other absences (authorized paid and unpaid absences, unpaid leave, strikes, disciplinary layoffs, CIF, leave for examination, union training). 2020: impact of the health crisis
-	78	71	2020: impact of the health crisis
2.73	3.57	3.03	From 2014, the data takes into account the integration of IVR.
54	92	99.2	
4	8	3	Only agreements concluded at Cristal Union level are taken into account. Agreements concluded individually by industrial establishments are not included in this indicator.
-	9.49	5.09	These two indicators take into account permanent and fixed-term contracts, excluding temporary workers.
36.23	30.09	17.29	

# NON-FINANCIAL INDICATORS

	INDICATORS	UNIT	SCOPE*	REPORTING PERIOD
TRADE	Percentage of achievement of our objective of reducing the number of customer dissatisfactions by 50%	%	1	Calendar year
AGRICULTURAL PERFORMANCE	Deployment of the CRISTAL Vision standard among our cooperative growers	%	1	Campaign
	Average time of the trucks on the plant to unload the sugar beets	minutes	1	Campaign
	Average sugar beet supply radius	km	1	Campaign
	Share of supplied sugar beets transported by 44 tonne trucks	%	1	Campaign
	Share of sugar beet volumes supplied benefiting from digging up	%	1	Campaign
INDUSTRIAL PERFORMANCE	Energy consumption per tonne of sugar beet worked	Base 100 index in 2010	1	Calendar year
	GHG emissions per tonne of sugar beet	Base 100 index in 2010	1	Calendar year
	Water withdrawal from industrial sites	Base 100 index in 2010	2	Calendar year
	Quantity of waste produced per tonne of sugar beet processed	kg / tb at 16	2	Calendar year
	Air emissions: Quantity of NOx emitted	Base 100 index in 2011	2	Calendar year
	Air emissions: quantity of SOx emitted	Base 100 index in 2011	2	Calendar year
	Percentage of sites certified ISO 14001	%	3	Calendar year
	Percentage of sites certified ISO 50001	%	3	Calendar year
	Percentage of sites certified food safe (ISO 22000 or FSSC 22000)	%	3	Calendar year

**\*Scope:**

1. Scope corresponding to the CRISTAL UNION UES (the Bourdon and Toury establishments were closed in 2020 and a
2. Scope corresponding to the sum of the UES CRISTAL UNION and DISLAUB (DIS),
3. Scope corresponding to the sum of the CRISTAL UNION, DIS and GOYARD UES,
4. Scope corresponding to the sum of the UES CRISTAL UNION, DIS, GOYARD and TTS

2010	2015	2020	COMMENT
-	13.3	24.8	
-	52	82	
13'40	10	9	
28.3	28.5	31.41	
75	99	100	
-	50	68	The practice of digging up is adjusted according to the terroirs and the climatic conditions of the harvest.
100	93	91.85	This is the energy (primary energy expressed in kWh PCI and electricity purchased in kWh) consumed at the sugar refinery (including reception center and pulp presses in relation to the quantity of turbinated white sugar). NB: Excluding dehydration, irrigation, spreading, overhaul workshop.
100	85	83.6	From 2010 to 2013, fuels used for the production of steam in sugar factories and distilleries, excluding lime kilns and dehydration, are taken into account. From 2013, the fuels used for the production of heat in lime kilns and dehydration are also taken into account.
100	55.3	43.16	Water withdrawals from surface, groundwater and the distribution network are considered.
-	0.612	0.709	All site waste is recorded and includes, among other things, packaging, chemicals and components dismantled following their replacement in processing workshops.
-	83	40	Nitrogen oxides (NO <sub>x</sub> = NO + NO <sub>2</sub> ).
-	62	20	Sulfur oxides (SO <sub>x</sub> = SO <sub>2</sub> SO <sub>3</sub> ).
-	93	100	
0	100	100	
-	73	100	

re therefore not considered for updating the Industrial Performance indicators).



# OUR CONTRIBUTION TO THE OBJECTIVES OF SUSTAINABLE UN DEVELOPMENT



## END HUNGER, ACHIEVE FOOD SECURITY, IMPROVE NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

- Creation and development of our agricultural sustainability standard CRISTAL VISION
- Experiments and agricultural R&D on 15,000 micro-plots
- Organic sugar production
- Agronomic partnerships: TERRALAB, AKER project
- Active member of the PADV association



## ENSURE EQUAL ACCESS TO QUALITY EDUCATION FOR ALL AND PROMOTE LIFELONG LEARNING OPPORTUNITIES

- Cristal Académie internal training school
- Edutainment training
- Deployment of the SPOT field training software
- Agreements in favor of youth employment (work-study contracts, professional contracts, internships, etc.) and gender equality



## ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

- Collective agreement on gender equality in employment, recruitment, development



## GUARANTEE ACCESS FOR ALL TO SUSTAINABLY MANAGED WATER SUPPLY AND SANITATION SERVICES

- 57% reduction in water withdrawal from our industrial sites in 2020 compared to 2010
- Circular economy by recovering water from sugar beets and reusing it in our industrial sites.
- "Residual water" at the end of the sugar beet season is offered to farmers for irrigation



## GUARANTEE UNIVERSAL ACCESS TO RELIABLE, SUSTAINABLE AND MODERN ENERGY SERVICES AT AN AFFORDABLE COST

- Finalization of the Group's 1st energy transition phase, with the exclusive use of biomass or natural gas to fuel our boilers
- Commitment to decarbonization
- Production of certified sustainable bioethanol



## PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

- Cristal Union is a cooperative company based on the "1 man 1 vote" principle
- Ethics charter, code of conduct
- Decent work: Safety Approach Global Safety Group (SECU)



**BUILD RESILIENT INFRASTRUCTURE,  
PROMOTE SUSTAINABLE  
INDUSTRIALIZATION THAT BENEFITS  
EVERYONE AND ENCOURAGE INNOVATION**

- Eco-design of our products and packaging
- Circular economy, industrial ecology on the Pomacle Bazancourt platform
- Co-founding of an incubator for innovative start-ups



**ESTABLISH SUSTAINABLE CONSUMPTION  
AND PRODUCTION PATTERNS**

- Circular economy, ecology / industrial synergy,
- Supplier charter, purchasing charter



**TAKE URGENT ACTION TO COMBAT  
CLIMATE CHANGE AND ITS  
REPERCUSSIONS**

- Reduction of our emissions since 2010
- Commitment to SBTi in favor of decarbonization
- Eco-design of our products
- Responsible transport



**PRESERVE AND RESTORE TERRESTRIAL  
ECOSYSTEMS, ENSURING THAT THEY  
ARE USED IN A SUSTAINABLE MANNER,  
SUSTAINABLY MANAGE FORESTS, FIGHT  
AGAINST DESERTIFICATION, HALT  
AND REVERSE THE PROCESS OF SOIL  
DEGRADATION AND PUT AN END TO THE  
LOSS OF BIODIVERSITY**

- Actions in favor of biodiversity (Bee happy, Apiluz)
- Cristal Vision sustainability standard
- Active member of PADV in favor of agroecology
- Development of organic farming

**SUSTAINABLE  
DEVELOPMENT GOALS**

# CRISTAL UNION

[WWW.CRISTAL-UNION.FR](http://WWW.CRISTAL-UNION.FR)

