



## ENERGY

Optimizing the energy intensity in the industrial, commercial, logistical and administrative operations by means of the promotion of a culture focused on the efficient use and the migration to cleaner energy sources.

Employee at the distribution center of the Coffee Business production plant in Medellín, Colombia.

## STRATEGY

[GRI 103-2]

Reducing the energy intensity of the operations.

Reducing the use of electrical energy in the operations.

Reducing the use of thermal energy from non-renewable sources in the operations.

Increasing the use of renewable energy sources.

## PROGRESS 2018

[GRI 103-3]

- **Accumulated** reduction of 20,4% (kWh/t.p.) in the consumption of thermal energy from non-renewable sources and electric power from the grid for the 2010-2018 term in the industrial operations in Colombia.
- **The** electrical energy consumption indicator (kWh/t.p.) increased 0,9% with respect to 2017 but, for the 2010-2018 term, the accumulated reduction in Colombia was 12,3%.
- **5,9%** reduction in the consumption indicator (kWh/t.p.) for thermal energy from non-renewable sources (fossil fuels) in Colombia in relation to 2017.
- **23,8%** accumulated reduction in the indicator (kWh/t.p.) for thermal energy from non-renewable sources for the 2010-2018 term.
- **98,4%** of the Organization's energy usage consists in cleaner energies (natural gas, electrical energy and biomass) in the operations in Colombia.
- **23,6%** of the total energy usage of the food production operations in Colombia, Mexico, Costa Rica, the Dominican Republic, Peru and Chile corresponds to biomass.
- **2.268.766 kWh** of clean energy generated in the Chocolates Business in Colombia through solar panels on the roofs of the Rionegro production plant, representing 9,5% of the electrical energy consumption of said facilities.

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The Company **advances in the search** for a lower energy intensity and a lesser environmental impact of all its operations.

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## RISKS AND OPPORTUNITIES

### [GRI 103-1]

The energy supply in the regions where Grupo Nutresa operates is affected by the volatility of the worldwide fossil fuel prices, which presents an increasingly uncertain scenario due to geopolitical changes such as the instability of the countries that are members of the Organization of the Petroleum Exporting Countries (OPEC), Russia, Iran and even the United States.

Moreover, the energy from hydrological and wind sources generates a parallel risk due to the variability of the climate phenomena that are affecting the hydrological cycle around the world. This significantly increases the intensity of the drought and rain events, which also have still unidentified occurrence patterns.

The volatility of the oil price will produce financial and operational impacts that will force the Organization to look for energy independence. Therefore, the reduction in energy consumption from non-renewable sources (fossil fuels) and the energy efficiency are two key variables for ensuring the operation, minimizing the financial impact and preventing reputational risks.

## OUTLOOK

Considering the challenges, the Organization has defined the following goals for 2020:

- Reducing by 25% the energy consumption indicator (non-renewable sources and electrical energy from the grid) per ton produced.
- Achieving full energy supply from cleaner sources, in other words, electrical energy, natural gas and renewable sources.

Grupo Nutresa's Businesses have established plans for 2020 in order to reduce energy consumption by means of projects focused on technological overhaul, equipment update and energy audits that allow to reduce the dependence on thermal energy from non-renewable sources. Therefore, the Organization will increase its share of alternative energies, consequently decreasing the greenhouse gas emissions, which mitigates the effects of climate change.

Grupo Nutresa continues to make progress in the search for a lower energy intensity and a lesser environmental impact of all operations by means of the implementation of energy efficiency programs in the productive processes, the technological overhaul, the incorporation of new low energy demand technologies, the development of lesser-impact logistical processes, the construction and implementation of distribution centers with energy efficiency principles, the expansion of a transport fleet with more efficient vehicles powered by cleaner energies, driver training on energy efficiency practices, and the promotion of diverse alternatives of sustainable mobility among all employees.





## SUCCESS STORIES AND ACKNOWLEDGMENTS

[GRI 103-3]

**An aspect worth highlighting** is the standardization and improvement process in the recirculation of hot air in the Medellín production plant of the Coffee Business, which allowed to reduce the consumption of natural gas during the cycle. This process allowed to achieve savings amounting to 279.447 m<sup>3</sup> of natural gas, that is a 6% reduction in the process energy indicator.

- **It is also** worth highlighting the redesign and automation of the automatic CIP heating system for the two phases without mixing the currents, an initiative carried out by the Ice Cream Business in Manizales. This ensures the recovery of all the condensate and the maximum energy utilization from steam. Additionally, this initiative allowed to achieve savings of 348 m<sup>3</sup>/year in the consumption of drinking water and prevented the consumption of 10.752 m<sup>3</sup> of natural gas because the system maintained the temperature of the condensate returned to the boiler at stable levels.

**Another aspect that stands** out is the process focused on reducing the glycol supply pressure without affecting the performance of the processes in the Cold Cuts Business production plant in Medellín. Thus, by modifying the system frequency, the consumption of 133.560 kWh was reduced in the pumping process. This idea was implemented without a money investment and it can be replicated in several production plants of the Business, which will significantly increase the benefits.

Employees from the production and maintenance departments of the Biscuits Business production plant in Medellín, Colombia.

## PROGRESS 2018

[GRI 103-3]

### Optimization initiatives

In Colombia, Grupo Nutresa achieved a 20,2% accumulated reduction in the indicator for the consumption of energy from non-renewable thermal sources and electrical energy from the grid for the 2010-2018 term. The indicator decreased by 3,5% in relation to the previous year thanks to the process standardization initiatives, such as the cases of the roasting process in the Coffee Business, the glycol pumping system in the Cold Cuts Business and the improvement in the washing processes in the Ice Cream Business.

In the operations in Chile, Costa Rica, Mexico, Panama, Peru and the Dominican Republic, the energy consumption indicator was reduced by 11,1% in comparison with the previous year. This reduction was driven mainly by the improvements to the processes made in the production plants in Costa Rica, Chile and Mexico.

### Total energy consumption [GRI 302-1] [GRI 302-3] [ODS 12.2]

■ Non-renewable GWh ■ Renewable GWh □ Electricity consumption GWh

Total energy consumption GWh Consumption intensity (kWh / t.p.) Consumption intensity (kWh / 1.000 main dishes m.d.)



\*The data for Colombia does not include the consumption of the Retail Food, Armenia Ice Cream and Setas Colombianas production plants.



Solar panel roofs of the Chocolates Business facilities in Rionegro, Colombia.

### **Reduction of electric power consumption in the operations**

**[GRI 302-4] [ODS 12.2]**

The specific electrical energy consumption indicator (kWh/t.p.) increased by 0,9% with respect to the previous year but, for the 2010-2018 term, the accumulated reduction was 12,3%. The behavior of this indicator is related to the implementation of new control processes, some of which are the environmental control systems with the start of the operations of the industrial wastewater treatment plants, which increase the energy consumption without an increase in production.

### **Reduction of the consumption of thermal energy from non-renewable sources in the operations**

**[ODS 12.2]**

The indicator for the consumption of thermal energy from non-renewable sources (kWh/t.p.) decreased by 5,9% in relation to 2017 thanks to the standardization work in several processes and to the improvement in the quality of the supply of raw materials in the Businesses that use wheat. For the 2010-2018 term, the accumulated reduction in the thermal energy consumption indicator was 23,8%. The Coffee Business continues to work on standardizing the roasting process and the gas post-combustion process (environmental control) that was started in the Medellín production plant, and it began implementing it in the other three production plants in Colombia. This process allowed to achieve a natural gas consumption reduction of 6%, which is equivalent to 279.447 m<sup>3</sup>/year. In the Ice Cream Business, the steam generation processes have achieved operational improvements that have prevented the use of 10.752 m<sup>3</sup> of natural gas.

### **Green energy supply**

**[ODS 13.1]**

In its industrial operations in Colombia, Grupo Nutresa consumed 151 GWh of energy certified as “zero emissions”. Due to the fact that this energy was generated by hydroelectric power plants and wind farms, the Organization prevented the emission of 16.319,8 tons of CO<sub>2</sub>eq. The energy supplied by EPM in Colombia has a CO<sub>2</sub>-eq emission factor equal to zero, according to EPM’s I-REC certificates.

EPM obtained the certification of the small hydroelectric power stations of La Vuelta and La Herradura, the Jepirachi Wind Farm and the Porce III hydroelectric project under the I-REC standard. This standard has an international scope and allows to issue, market and redeem Renewable Energy Certificates –RECs– for intensive energy consumption customers in countries where there are no certification systems. For more information, visit <https://bit.ly/2Su3oqe>

In its industrial operations in Chile, Grupo Nutresa consumed 12,6 GWh of energy certified as “green energy”. Due to the fact that this energy was generated by hydroelectric power plants and wind farms, the Organization prevented the emission of 5.328 tons of CO<sub>2</sub>eq. The energy supplied by Chilquinta in Chile has a CO<sub>2</sub>-eq emission factor equal to zero, according to the corresponding certificates.

## Increase the use of renewable energy sources

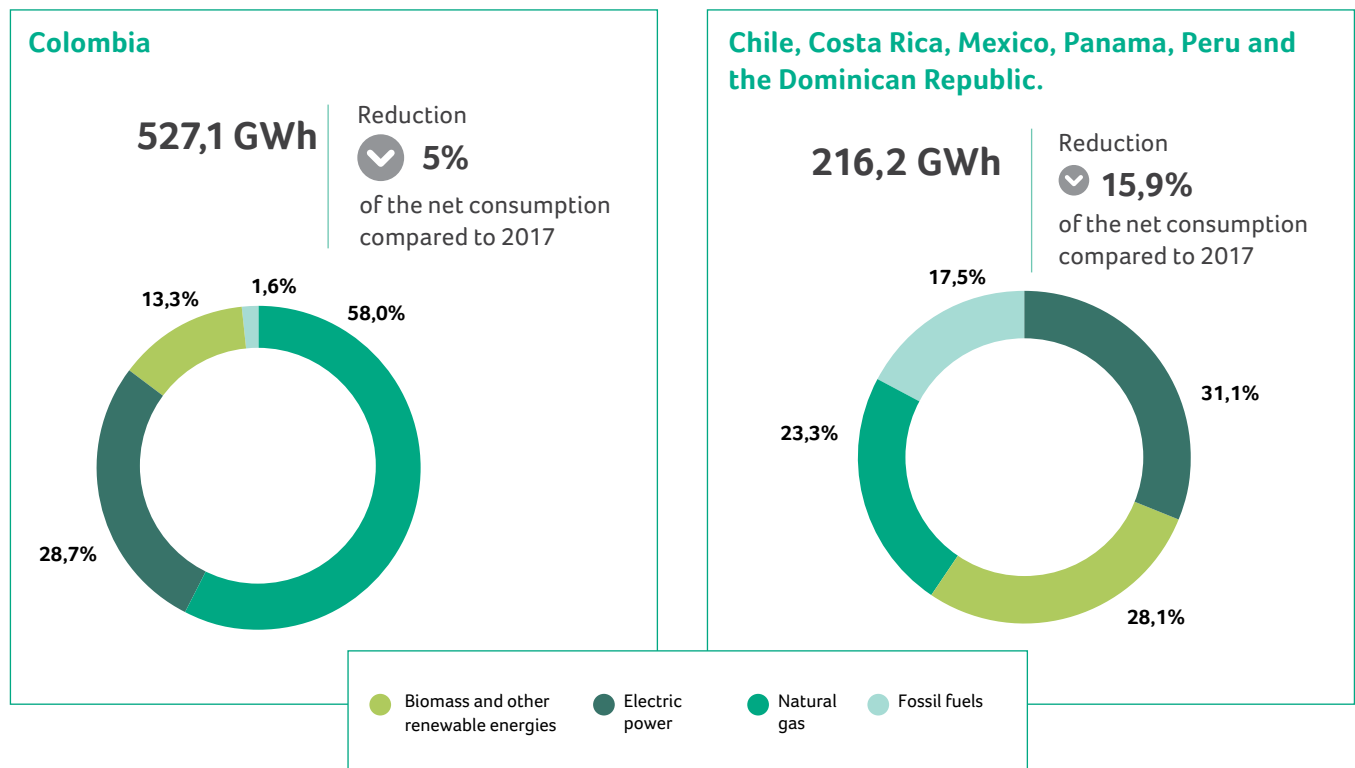
[ODS 13.1]

Based on its environmental philosophy, Grupo Nutresa prioritizes the use of renewable energies, which is why the use of biomass represents 12,9% of the total energy consumed in Colombia and 33,5% in the international operations.

In this context, the Chocolates Business in Costa Rica uses wood biomass, which represents 41% of the total energy demand of that production plant. Moreover, in its productive processes in Chile, the Tresmontes Lucchetti Business produces coffee, tea and wheat waste that is adapted through drying processes to be utilized as biomass for the generation of steam, which is necessary for said productive processes. This is part of the Organization's initiative to create small circular economy solutions in its facilities. With the addition of wood chips, this biomass represents 44,3% of the energy usage of the production plants in Chile. Therefore, Grupo Nutresa continues to search for alternatives focused on broadening the utilization of the biomass produced in its other Businesses.

Grupo Nutresa achieved an accumulated reduction of **20,4% (kWh/t.p.)** in the consumption of thermal energy from non-renewable sources and electric power from the grid **for the 2010-2018 term in Colombia.**

### Total energy consumption of the industrial production plants





Employee from the roasting process department at the Coffee Business production plant in Medellín, Colombia.

