

## Sustainability Report

Sustainability has become a common topic within the cooperage industry; PFEC-certified forest, recycling, traceability and many other sustainability terms are becoming relevant in our industry. Tonelería Nacional (TN) has taken this as a long term commitment and in the past years we started different programs in order to make this sustainability trends as a key part of our productive process. Today at TN we are strongly focused in improvement related to our toasting system, waste management, water use, and energy efficiency so we can fulfill our customer needs reducing our environmental impact.

### Eco-Friendly toasting system by TN

The traditional finish of wine barrels has always been achieved by manually toasting the interior directly over an open flame. At Tonelería Nacional, 10% of its production (Mistral line) is still carried out this way but since 2004 the company, being aware of the innovation requirements of wine industry and follow by our strict environmental policies, TN created and patented a unique Toasting technology that uses the convection heating principle. In this process, the barrels are toasted in an airtight convection oven that uses LPG (Liquid Propane Gas) as its main fuel source.

LPG is a readily available combustible, easily transported in cylinders and energetically efficient. Its calorific value is 55.000kJ/Kg while that of wood –mainly used as a heat source for barrel toasting in cooperages– is between 17.000-22.000 kJ/kg. This means GLP needs 3 times less energy than wood to toast a barrel. On the other hand, by using GLP, our processes release neither particulate matter (PM) nor greenhouse gases (NO<sub>x</sub> and Co<sub>x</sub>) and can significantly reduce emissions of carbon dioxide (CO<sub>2</sub>). According to a report of the work LP gas Association wood's emissions 700, 7 kg CO<sub>2</sub>/Gj whereas LPG's emissions are 116, 8 kg CO<sub>2</sub>/Gj. In other words switching from wood to LPG our process can reduce net carbon emission by 67%.

### Product Waste Efficiency Program (PWEF)

In accordance to our eco-environmentally production programs, TN aims to achieve that every step of its production line be as much efficient as possible. After a rigorous quality inspection and categorization process, nearly 95% of the total oak-waste material is reutilized to produce oak by-products, such as chips, viniblocks and fuel material (for its Mistral barrel line). The remaining 5%, mainly oak dust mixed with aluminum particles that come from the barrel sanding process, is taken to produce compost.



## **Water seasoning program**

One of the most important processes in Tonelería Nacional begins in our wood yard, where oak maturation takes place. This step, commonly known as “oak seasoning” is where unpleasant aromas and flavors, such as bitter tannins, are removed from oak wood by different natural means. To do this, staves are castellated to improve air circulation and aged by exposure to sun, wind, water and occasional showers. This process lasts between 18 to 36 months before staves are ready for being received by the craftsman.

Being aware of its surrounding environment, Tonelería Nacional has developed a unique and thorough Spray-water application program to facilitate the elimination of these unwanted organic components. The program calculates the specific amount of water the staves need according to the weather conditions, and the seasoning time they are. This algorithm permits to extract from the groundwater wells just the exact amount of water the staves need. Then, the remaining water that falls through the staves is recovered and received into a specific gutter system, which its main purpose is watering all nearby farming crops lands.

## **Energy Efficiency program**

Our new facilities light are equipped with low-consumption lightning and solar panels that help us to minimize our energy consumption. Also TN new productive plant is equipped with micro vented walls that help us to take advantage of the natural sunlight in order to minimize the use of artificial illumination during daytime and also provide natural ventilation reducing the need of artificial air conditioning within the building.

## **Sustainable forest management criteria**

As a regular oak wood consumer and according to all its environmental policies, TN promotes sustainable forest management through a forest certification program. This program called PFEC (Program for the Endorsement of Forest Certification) is an international non-profit, non-governmental organization dedicated to promoting Sustainable Forest Management through independent third-party certification. PEFC works throughout the entire forest supply chain to promote good practice in the forest and to ensure that timber and non-timber forest products are produced with respect for the highest ecological, social and ethical standards. In this sense, TN ensures that all wood suppliers must be certified by PEFC.