

The social sphere

Vines for energy. Or work towards the democratisation of energy production in the Penedès region

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Overview

The world of wine is one of the economic sectors that has most evolved with the passing of time, because the product and the means used to obtain it, both in the vineyard and at the winery, have been gradually adapted to the needs and possibilities of the society that cultivates the sector, and because quality standards for the final product have risen. Throughout the course of the twentieth century, efforts were made constantly to adapt the sector to changing circumstances: replanting after phylloxera; intensive management of vineyards in the early years of the last century; gradually growing commitment to quality in both processes and final product; opening of “oenological stations”; vocational training colleges and university; fairs to present the latest developments; the introduction of ecological wine-growing; and, at the turn of the twenty-first century, moves towards biodynamic wine-growing in the more advanced sectors.

Throughout this process, a major role has been played by the social organisation of farmers through cooperatives. Both in the initial phase, during the time of the *Mancomunitat de Catalunya* association of municipalities, and in a second stage, leading up to the 1960s (since the entire process had to be re-established after the destruction caused by the war and the subsequent repression),

cooperatives united the wine production sector. These associations became, primarily, suppliers to large wineries until now, in the twenty-first century, when they combine the supply of raw material to these establishments with the development of their own products, which they place directly on the market, enjoying truly remarkable success.

In this context, the wine sector will face three very different global challenges this century, and which it will have to deal with in the coming years; firstly, to overcome the economic and fiscal obstacles imposed by States and distribution multinationals; secondly, to link the concepts of wine, drinking in moderation and health; and, finally, the fight against climate change, reducing CO₂ emissions in the sector whilst also using part of its raw material to generate the energy it needs.

This is, then, just a brief overview to note that economic aspects are key, as they are in all production processes, but in this case worsened by the interest of many governments, particularly in the emerging countries, to join those that already apply additional taxes to wine or to reduce European Union support for the industry. This makes it ever more important to reduce operating costs so that all farmers can obtain some profits from their products. All this can be helped by using everything that the vine produces, and not just the grapes to make wine.

The energy challenge and climate change in the wine sector

Wine is a product that is closely linked to a given territory. The vine develops different characteristics

according to the terrain in which it grows. For this reason, the wine industry is particularly interested in maintaining the climate that determines that the vines will evolve in a given way. This is, therefore, one of the sectors that lead the fight against climate change through the organisations and procedures established. However, those most interested in combating climate change are farmers, as they possess land in a particular location, unlike winemakers, who purchase land or wine produced in more distant areas, but which reproduce the climate in the place of origin.

One of the key elements in combating climate change is to decrease CO₂ emissions throughout the production process, from the time of working the early to the wine fermentation stage and the elimination or use of by-products during the process. On this point, the International Organisation of Vine and Wine (OIV) has approved that, in future, labels on wine bottles (whether still or sparkling, etc.) should state the amount of CO₂ emitted to produce it, including all accompanying processes (work in the field, fermentation, transport, glass, cork, label...). In this fight to reduce CO₂, what is vital is not to generate more emissions than are strictly necessary. And this is where, precisely, the use of vine branches to generate energy rather than burning the vines comes into play.

For some years now, initiatives have been launched with regard to vines, such as gathering branches from pre-pruning for use as biomass, generating thermal energy – heating and cooling – for use at wineries. These pilot schemes were conducted by both large wineries and proper-

ties with both vines and winery. However, particularly outstanding in Catalonia was the work of Nou Verd ("New Green"), a cooperative engaged in inclusion into employment. For several years, with support from various foundations, Nou Verd has experimented with what we might call *social vine biomass* and has laid the foundations, along with other private sector initiatives, for more coordinated action with greater guarantees of success.

When seeking to move from the experimental phase to a regular operational stage, what is required is the organised participation of a large group of farmers who grow vines, who are organised and aware of the importance of advancing such a common project from test to mass production in order to obtain tangible results for the territory as a whole and the wine industry in particular. This is where COVIDES, the largest wine cooperative in the Penedès region and Catalonia comes in. COVIDES has more than 600 members with a total vine growing area large enough for the application of energy policies that have impact on the territory, the environment and the economy.

The Vines for Heat project in the LIFE programme

Within this framework, Vilafranca del Penedès Council decided that it was necessary to pass from experimental measures to ensure that an entire territory – in this case, the Penedès DO region – uses vine branches to produce thermal energy, whilst avoiding direct CO₂ emissions caused by burning the vines and the use of fossil fuel energy currently employed by wineries. This was to be done, moreover, in such a way that the scheme could be extended to other wine-making areas in Europe, which, though it may seem surprising, have not estab-

lished such processes with regard to vines, even though they have done so in the case of forestry management.

To implement this initiative, Vilafranca del Penedès Council formed a partnership with three key social stakeholders in the process: the COVIDES cooperative, which brings together a larger number of wine-makers in the area and will be the main, though not exclusive, raw material supplier; the Nou Verd cooperative, which has experience in the subject and will be responsible for pre-pruning work and for preparing the biomass and transporting it to the place of consumption; and, finally, the INNOVI cluster, which embodies a different way of practising the social economy, as it brings together most leading producers in the DO region to promote innovation in processes in the wine industry. These are, then, three partners with a marked social character, committed to the fight against climate change and to reducing CO₂ emissions.

The role that Vilafranca del Penedès Council plays in this group is to provide security for the whole chain, as a public authority guarantees the conditions agreed and that there will be no unexpected surprises in a sector like the energy industry that is subject to so many ups and downs nowadays. To this end, the local authority charged the Aigües de Vilafranca municipal corporation with the work of coordinating all operations. The company has now changed its statutes so as to be able to engage in the world of thermal energy and to distribute it, as it does with water, to several townships, in the same way as municipal energy companies in central Europe.

Besides promoting consumption of biomass made from vines in the local wineries, Vilafranca del Penedès Council will also establish a district heating system in

the town, with support from the LIFE programme, approved this year. The system will provide heating to various public facilities in the town and, if possible to a block of public rented apartments with a view to supply new blocks. All this will serve to preach by example and stimulate the sector to use its by-products to generate energy as much as possible. For, if branches are not enough, then the pomace or marc can also be used, once the alcohol has been extracted, as this has as much calorific power as all the branches in each vine. All this leads to the declaration that the Vines for Energy project is the way established in the Penedès region to work towards the democratisation of energy production, which is currently in the hands of large corporations and international interests that have made energy a weapon to be employed in the economy rather than to support its development. This makes it necessary to democratise its functioning through the social economy.

The technical and social innovations in the project

Though it brings together what many farmers and wineries had been attempting in a dispersed way, Vines for Energy project also includes a series of technical and social innovations.

The key technical element is the design of a prototype for a pre-pruning machine that crushes and gathers the branches before they fall to earth, as one of the main problems of vine biomass is that, at present, the pre-pruner cuts the branches off and throws them onto the ground, where they become dirty and need to be cleaned subsequently and, even so, they still contain earth that then dirties the boiler and restricts performance. This new design is currently at a highly advanced stage and there are

hopes that it can be tested in pre-pruning this winter.

A social or organisational innovation that has already been mentioned is the fact that the Aigües de Vilafranca municipal corporation will act as an intermediary, encouraging municipal public companies and similar enterprises to provide the basic elements required for safe, efficient, effective and economic production – as occurs in the more developed European countries – and as is beginning to be adopted in the leading cities and towns in this sector in our country. All this should provide security and transparency in an opaque market that contributes to rising social inequalities in Catalonia.

The energy generated from branches in wine-making Europe will be the equivalent of 2.2 times that produced by a nuclear power station, but will be owned by all producers, not just a few monopolies.

A third innovative element is that all this will be supported by companies and organisations in the social economy. As a result, everyone will be able to buy or sell on this circuit (through the municipal corporation), but the base will be formed by cooperatives of farmer, companies that promote integration into the workplace, consumer association and, if possible, clusters of wineries committed to the progress of the wine industry and the territory.

Another factor generated by the project, as this approach has not yet been generally adopted all over Europe, is the possibility of establishing a reference model for the wine industry, with initiatives springing up as they have in forestry areas. We should remember that the energy generated by vines in wine-making Europe (basically, the south, which is where there are more economic problems at present) would be practically the equivalent of 2.2

times the energy produced by a nuclear power station, and double that figure is energy generated from pomace or marc is also included. This is, therefore, no small matter. Rather, we are looking at the possibility of generating clean, renewable, non-pollutant and much more economical energy that does not need the same investment nor the same maturing time before startup as nuclear power stations. Moreover, the activity is safer and generates many more jobs. However, above all, this is energy that is not in the hands of a few companies that control the sector, but is owned by a large segment of the population. This can, therefore, be an important step towards democratising energy processes by applying to this sector approaches that have already been tried and tested, with excellent results, in others.

The benefits of cooperative work

We have seen how the main challenges to the wine industry concern the economy (and taxation), health (for citizens) and CO₂ emissions. This project, though its main focus is on reducing CO₂ emissions, also centres on aspects of the other two great challenges facing the sector. From the economic standpoint, at a time when the European Union no longer provides aid to wine-makers as regards production processes (though support is still provided for marketing, which does not usually include small producers if not through cooperatives), any reduction in production process costs is really important. To this end, although it might seem hardly significant at first glance, the fact that there are no direct or indirect additional costs in the pre-pruning process (labour, tractor, diesel oil, etc.) is a very important factor.

However, this methodology, applied to the entire DO region, also furthers the concept of health, an important consideration in the world of wine, even more so when the industry is receiving attacks from various fronts. The fact that CO₂ emissions are minimised in the production process, and that fossil fuel energy is not used, helps to transmit the message that wine is a food and drink product that, taken in moderation, is quite healthy and needs no external regulations, as the sector is self-regulating.

This step forward, which opens up new prospects for the wine industry, is made possible by the existence of an organised social structure that, in part, is of very long standing, such as, for example, the farmers' cooperatives, whilst another part is more recent, as is the case of wine company clusters and cooperatives for inclusion into the workplace. However, there is a need for everyone to pull together in changing the approach to energy issues in the sector and in agriculture in general, as the agri-food industry has plenty of room for manoeuvre to adapt its energy consumption structures to new approaches, with more self-sufficient production and energy use that does not depend on the large energy production corporations or the willingness or otherwise of governments to subsidise a particular form of energy production.

All this will not be achieved from the top down (clearly, this initiative is not in the interest of those that control energy), but must be launched and conducted from the bottom up, in each different territory, in the conviction that this will lead to the establishment of new ways of producing energy without harming either the environment or the productive economy. Such an effort cannot be made, clearly, in isolation or individually; rather, it requires a co-

operative approach and the support of social structures closest to citizens, such as local authorities. And if, as is our case, there

is also support from the European Union due to agreement over the need to work in environmentally-friendly ways, then all the

better for our efforts to meet the challenge of democratising energy production through cooperative enterprise.