

“Exploring the Role of Smart Technology in the Future of English and Welsh Wine Production against Water and Energy Challenges”



The WEFWEBS project was initiated in October 2015, bringing together researchers from a wide range of disciplines and backgrounds with the aim of mapping the water energy food (WEF) nexus across spatial and temporal levels and over multiple dimensions. Besides scientific insights, the views and perceptions of a varied range of stakeholders are equally important aspects of the WEFWEBS programme, and these were sought via a series of workshops. This report covers the findings of the workshop held at the Ridgeview winery focussing on the English and Welsh wine industry. From a relatively small base, the UK wine industry is rapidly expanding with levels of production set to increase substantially over coming years. Over the course of a day and a half the WEFWEBS team worked with 16 industry actors in order to develop an understanding of relationships between wine production and the WEF nexus and the possible use of smart tech in the industry.

A visioning exercise represented the initial step in the workshop process. It required the various participants to collectively identify a common vision for the wine industry and prioritise key goals towards the attainment of that vision. The three top ranked vision elements identified during the visioning exercise were: (i) environment and sustainability, (ii) identity, and (iii) yield. Participants were then divided into three groups, each of which was given responsibility for developing a vision for based on these vision elements. These were:

Identity Group: *“In the future, UK Wine is the preferred wine in the UK. UK Wine is able to establish itself as the preferred wine in the UK supported by yields and production of consistently high quality with an appropriate price-to-quality ratio. It is an industry that is impact neutral with respect to the environment, is an integral component to community building throughout the UK, as well as an important industry in supporting the UK labour market and job creation.”*

Environment and sustainability: *“The English and Welsh wine industry is recognised as a model for environmentally sustainable agricultural production that compliments the environment in which it is produced.”*

The Yield Group: *“To achieve an expansion in yield per hectare to above 6T/Ha at high quality (sugar/acidity).”*

Embarking from these collective visions in the next stage of the process, the three groups outlined a plan in the form of the series of steps required in order to achieve their desired vision. While the steps necessarily varied, it was notable that all three groups identified the need for some form of governance innovation alongside technical innovation. How this can be achieved in a small and very diverse industry emerges is an important question. It may be the case that rather than competing with each other it currently makes more sense for English and Welsh wine producers to seek ways to co-operate in attempting to win a larger share of the UK wine market from their overseas competitors and gain wider support from the Government and research community.

Following this exercise a set of four scenario skeletons were developed through a participatory exercise during the workshop these were. Three of these scenarios were selected and developed into full scale narratives:

Scenario A – Wine boom and bust; under this scenario government is supportive and the industry collaborates well. Regulation is up to date and data flows well within the industry.

Scenario C – Let them drink wine; under this scenario government support is weak but collaboration within the industry is good. Under this scenario regulation of the industry is weak and there is a lack of state investment in supporting the industries development this is somewhat offset by good collaboration within the industry which supports good information flows and exchange of ideas and self-regulation.

Scenario D - Goon of fortune; under this scenario state support is weak and there is poor industry collaboration regulation is weak and data fears, lead to culture of secrecy and need to prioritise data privacy. There is little scope or incentive for bench marking, industry is fractured and growth is limited.

Having had the opportunity to review each of these narratives, groups were asked to consider how their plans were likely to fair under each of the three scenarios. For all three groups the scenario testing makes a broadly similar conclusion: measures to address the visions of the groups are more likely to be successful in a situation in which the government is supportive and the industry enjoys high levels of collaboration.

At the conclusion of the workshop participants identified actions to take forward some of the ideas generated over the course of the workshop. It was possible to identify a number of challenges faced by the UK wine Industry:

- The horticultural challenges of growing a species which is marginal for the UK climate.
- The need to developing technical capacity to manage vineyards and wine production.
- The need to gain market share in the face of established overseas competition.
- The need to develop effective and affordable of quality control mechanisms.

The English wine industry does however have some significant advantages. These include a growing body of expertise in the cultivation of grape varieties that are suited to the UK climate, a growing reputation as a producer of quality wines and a good degree of intra-industry collaboration.

The workshop concluded with a call to action. Among the actions proposed in the immediate and short term in an effort to mobilise the plans outlined during the workshop were;

- To establish partnerships between wine producers and academia to further build up comprehensive stakeholder maps of the UK Wine Industry.
- To source finance to fund such partnerships and also to support research in key areas including; yield, disease control, precision input delivery, and process monitoring.
- To work towards the development of quality benchmarking alongside the development of adequate monitoring and evaluation protocols.
- To work with scientists to develop enhanced user interfaces so that technical data is available to producers in useable formats.
- To work with design/marketing schools to stimulate projects looking at the branding of UK Wine
- To engage with IT/design schools to stimulate projects for the development of mobile apps that support the branding of the UK Wine Industry.
- To undertake field studies that visit regions who have successfully implemented glass bottle return/recycling systems (e.g. Germany) – facilitate dialogue with local governments to support local bottle recycling.
- Reach out to *Provenance* to learn more about ‘block-tracking’.