

LIGHTER WINES: A major industry initiative

**A progress review of the Lighter Wines
PGP Programme**

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10 May 2017

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Acknowledgements

The reviewer acknowledges the important contributions of three specialist reviewers –

- *Dr Mark Krstic of the Australian Wine Research Institute (vineyard operations)*
- *Dr Richard Gardner, Emeritus Professor and formerly Professor of Biological Sciences at the University of Auckland (wine science)*
- *Kathie Bartley of Kathie Bartley Marketing (market and marketing).*

The reviewer is also grateful for assistance and support of Ross McIsaac, MPI Investment Manager, the Programme Manager - Dr David Jordan of Vine to Wine to Market Ltd, for their helpfulness throughout the review. Thanks are also due to Programme Steering Group and Programme Technical Advisory Committee members, growers, winemakers, vineyard and winery owners/CEOs, exporters, consultants, representatives of Government agencies (including MPI and the Investment Advisory Panel), and others who contributed their time and information.

Finally, thanks are due to Dr Peter Fennessy of AbacusBio Ltd for his thoughtful and probing quality assurance role. Responsibility for the report, apart from the three specialist reviews, lies with Vantage Consulting Group.

CONCLUSIONS

1. The Lighter Wines PGP Programme is co-funded by a substantial section of the New Zealand wine industry, led by NZ Winegrowers Inc., and by MPI's Primary Growth Partnership. The programme is in the third year of a seven year term of operation.
2. The programme has made very good progress across five major projects which cover the full value chain from vineyard to final product in store. The projects aim to develop lower alcohol wines, and enable lower alcohol levels in standard wines, through natural methods.
3. Technical reviews of vineyard manipulation and winery manipulations research and trials, along with market access, have been universally positive, and have noted some new areas worthy of attention by the programme.
4. The programme is well planned and managed by a very experienced and committed Programme Manager with a comprehensive knowledge of the wine industry. He is supported by the General Manager, Research, NZ Winegrowers.
5. The programme has an effective governance and advisory structure executed respectively through a Programme Steering Group and a Programme Technical Advisory Committee.
6. There is scope to increase industry representation on the Programme Steering Group, and to augment professional marketing capability on the Programme Technical Advisory Committee.
7. Reports by contractors to the Programme Technical Advisory Committee, and subsequently by the Programme Manager to the Programme Steering Group are of high quality. Improvements to the latter reporting will increase focus on outputs and outcomes vis a vis activities, and reduce the heavy reporting load on the Programme Manager.
8. The programme has developed a category story and associated toolbox of information to enable companies to differentiate lower alcohol New Zealand wines derived as a result of the programme from other lower alcohol wines in global markets. The next challenge will be to achieve consensus among wine companies on this approach, while enabling each to follow its own corporate strategies.
9. The review noted a strongly collaborative culture within the New Zealand wine industry and this augurs well for a consensus-based approach to marketing of lower alcohol wines to be adopted through and beyond the programme's timeframe.
10. The review concluded that the programme is likely to meet its target of \$285 million sales of lower alcohol wines by 2024.
11. The review also noted some useful spin-offs from the programme in terms of information for other aspects of grape growing and wine production, capability building and employment of research contractors, graduates and other skilled staff in the programme.

SUMMARY

The Programme

1. The Lighter Wines Programme is a very important and promising seven year initiative co-funded by MPI's Primary Growth Partnership and the New Zealand wine Industry, led by NZ Winegrowers Inc. It aims to produce lower alcohol wines naturally – from vineyard through wine production, and also to help winemakers produce conventional wines with slightly lower alcohol levels. The programme management, governance and advisory structure has successfully implemented a comprehensive business plan and established multiple linked Milestones with explicit achievement measures across 16 Objectives within five core Projects. The work programme spans all stages of the supply chain, and includes market analysis, technology transfer and communication.

Vineyard, Winery and Market Access Reviews.

2. This governance and management review was supported by specialist market access, vineyard manipulations, winery manipulations reviews. These reviews were contracted by New Zealand Winegrowers and MPI and executed independently of the lead reviewer.

Market Access Review

3. The market access review by Kathie Bartley found that the marketing component of the programme has been executed across multiple marketing topics with a high level of professionalism and had produced excellent results. The market opportunity, consumer purchasing drivers and target markets for New Zealand Lighter wines have been well explored to guide the work plan for this project. The reviewer commented on the good progress to-date and the range of factors that will determine whether the project, and ultimately the programme, are successful. A number of recommendations were provided for consideration by the programme to improve the likelihood of successfully developing the category in the domestic and overseas markets, and ensuring New Zealand's position in the premium price range is maintained with the Lighter wine category.

Vineyard Manipulations Review

4. The vineyard manipulations review by the Australian Wine Research Institute's Victorian Node Manager, Dr Mark Krstic, concluded that the relevant projects were well designed and managed, and that progress against designated targets has been very good. This included mention of the evolution of the project over time and also the decisions to stop some pieces of work when they were assessed to be unlikely to provide useful contributions to producing lower alcohol wines – this emphasised the strong focus on commercial outcomes. The reviewer provided recommendations for areas of research that aren't currently planned but should be considered to improve the range and robustness of techniques used to produce lower alcohol wines.

Winery Manipulations Review

5. The winery manipulations review by former University of Auckland Professor Richard Gardner concluded that researchers in this project have successfully achieved their

specific annual experimental targets. The work has been carried out to a very high standard and has made good progress, with strong connections across the research fraternity and regular and clear dissemination of information to industry. It was noted that the project has identified a number of methods for producing lower alcohol wines but also the challenge associated in getting consistency of results when scaling up from smaller scale trials – something that is not unique to this programme. Recommendations were provided to overcome this challenge and also additional areas of research for consideration.

Other Projects

6. Although not the subject of technical reviews, Project 2 (Sensory Perception) and Project 5 (Communications and Technology Transfer) were noted by the lead reviewer to have made very good progress against milestones. Achieving the flavours and other sensory qualities of lower alcohol wines that can be positioned in the premium priced segment of domestic and global markets is central to the overall programme. Communication and technology transfer mechanisms such as research reports, articles, e-newsletters and workshops have exceeded original expectations for Project 5.

Programme Governance

7. Governance of the Lighter Wines Programme is through a Programme Steering Group (PSG). It is well chaired, effective and harmonious with good and open input from members. The chair is independent of the programme, but plays a leading role in wine industry governance. Notwithstanding the currently effective chairing, MPI favours an independent chair, and any future changes could align to this preference. This would need to be agreed by all parties as it was not required in the original contract,
8. New Zealand Winegrowers represents the industry interests on the PSG. The latter representation reflects a legitimate desire to ensure that all grantors are treated equally, but is not consistent with an important principle of the Primary Growth Partnership that industry leadership in the governance structure is paramount. There is scope – and grantor support – for the addition of two grantor representatives on a rotating basis to attend PSG meetings to reinforce industry input into final decisions on the programme's direction and resource allocation.

Programme Advisory Structure

9. The Programme is guided by a Programme Technical Advisory Committee (PTAC), a well-chaired, effective and harmonious body.
10. The PTAC plays a stronger and more influential role in the Lighter Wines Programme than is typically the case with PGP programmes. The PSG is still the ultimate decision-making body for the programme, and is guided substantially by in-depth analysis and discussion from the PTAC plus its research providers and technical experts.
11. All of the grantor companies are represented directly or (for smaller financial contributors) indirectly on the PTAC, and New Zealand Winegrowers Inc. also attends meetings effectively providing a whole of industry perspective.

12. The operation and industry appreciation of the PSG and the PTAC could be enhanced by greater communication between the chairmen of the two entities.
13. Those responsible for programme management and governance are committed to increasing effective communication with top management of larger grantor companies as a priority. This is important in order to maintain strong grantor support for the programme. This could be addressed by the PTAC chair and the NZ Winegrowers' representative on the PSG visiting and consulting with grantor companies every two years. The visits should target those most senior managers within grantor companies known to have a decision-making role or at least a strong interest in the programme.
14. Executing the advisory function for Project 1 (marketing) has required greater effort than for the other Projects. This reflects an industry where marketing staff are relatively mobile compared with vineyard and winery specialist staff and where formal research processes (as distinct from commercial market research) are less understood by the marketing function compared with their technical counterparts involved in vineyard and winery operations. Participation in the PTAC by grantor marketing representatives has been more variable, but the Project 1 strategy and focus has benefited from three valuable and well-attended marketing workshops.
15. The advisory function for Project 1 is evolving, and would be strengthened by the appointment to the PTAC of a respected and experienced marketing academic or professional who combines a formal research background with strong commercial FMCG credentials. There is also a need to address ambiguity on the part of some grantors as to how the PTAC guides Project 1.
16. There has been some miscommunication/misunderstanding of what MPI's information management protocols are. In fact, MPI operates very tight and well defined protocols for dealing with confidential and commercially sensitive information, and this should provide industry with confidence in the confidentiality processes that MPI follows.

Management and Planning

17. The Lighter Wines programme is well managed, with strong input from the Programme Manager, research providers, companies participating in the programme (Grantors) and the General Manager Research and his colleagues at New Zealand Winegrowers.
18. Planning is of a high order, with annual and other more frequent reviews of progress and adjustments to the programme. Industry and research provider stakeholders contribute to these reviews. At the commencement of the programme, Plant and Food Research had some clearly defined ideas about what direction it should take, but these have been progressively modified via the PTAC.
19. Some stakeholders believe there is scope to increase novel thinking in suggestions for new research project themes. It is possible that this concern will be alleviated by changes made after the last grantors' workshop and by implementation of the recommendations of the technical reviewers that form part of this report.
20. Reporting by the Programme Manager to the PTAC is of a high order, and reports from both to the PSG are also very good. These reports are quite demanding of the

Programme Manager. The reports to the PSG could be briefer, with greater emphasis on outputs, outcomes and challenges and less emphasis on project activities.

21. Briefer and more targeted reports should be facilitated by an improved dashboard style reporting template being developed by the Programme. The reporting on Measures should have been instituted much earlier in the execution of the programme, and the pending improvement reflects an improved working relationship between co-investors following a staff change at MPI.
22. The new reporting template will also help sharpen the Programme Steering Group's focus on the link between outputs and outcomes now that important technical and market research information is increasingly flowing from outputs across the various Projects.

Realising Value from the Investment

23. A key finding of the review is that the Lighter Wines Programme adds value to grantor companies in very different ways. This includes the percentage of alcohol reduction targeted, the methodologies from the programme applied in vineyard and winery and even the incorporation of programme components with other sometimes competing alcohol reduction technologies.
24. A category story underpinning naturally produced wines from the Lighter Wines Programme has been developed along with a "toolbox" as a differentiator to guide consumers to understand and appreciate the benefits of Lighter Wines' value proposition. In conjunction with this, it is possible that some sort of quality mark might be developed. Grantors stress the importance of underpinning any such approach with comprehensive and robust support information across the supply chain for the category story and associated toolbox.
25. The development and usage of the category story could prove challenging. There may be some risk in achieving consensus in this important area – risks well signalled in the original business plan and subsequent updates. This risk reflects the range of strategic and commercial objectives across wine companies. Some small grantor companies have captured valuable and premium market niches in international markets for both standard and lower alcohol wines. Larger grantor companies typically have much broader strategic objectives across a number of brands and markets. The risk lies in whether or not the diverse companies can agree on the final content and usage of the category story and associated toolbox.
26. A particularly credible strength of the programme is the industry's genuinely collaborative approach and the cohesive industry ethos that underpins the venture. This ethos is founded on many years of joint and co-operative research and wider collaboration across the industry during which time viticulturists and winemakers from different companies have built up a culture of mutual trust and information sharing. They have proven able to balance this with production practices that allow each company to develop, produce, differentiate and market their own wine styles, brands and labels – each with their own unique combination of product and marketing mix characteristics. NZ Winegrowers' General Manager Research, who is widely respected and trusted by wine

industry stakeholders, has been an influential catalyst for many years in the development of this collaborative ethos.

27. This industry ethos will be crucial to the on-going achievement of successful outcomes from the programme. It gives the lead reviewer confidence that the risks relating to the use of the category story and toolbox will be effectively addressed. It will enable companies to produce wines in a wide range of forms that benefit from different components of the programme's technical outputs. The corollary is that aggregate national revenue generated from the programme will be maximised.
28. The strongly collaborative industry ethos probably explains why New Zealand wine companies not directly involved in funding the programme that were consulted in this review are broadly supportive of it. They are monitoring future outcomes with interest.
29. Programme governance and management are aware of difficulties faced by larger wine companies in communicating relevant programme information to their considerable numbers of executives. The programme management is seeking to address this problem, and the reviewer strongly commends and supports effort in this direction.
30. There is a high probability that the programme will meet its economic (industry revenue) targets. Domestic sales volume targets have already had to be increased because of the rapid progress and industry uptake of the programme. Ironically, the major long term constraint on expansion of lower alcohol wines from the programme is likely to be the success of standard wines, particularly Sauvignon Blanc, in global export markets competing for grapes as the raw ingredient for both.
31. In this context, it could be argued that the Lighter Wines Programme is effectively a form of insurance for the New Zealand wine industry, offering a specialist product for certain market segments. The programme's value to the industry and to New Zealand could increase further in the event of any decline in demand for standard wines, for example if there was increased domestic and international concern about reducing maximum blood alcohol levels for driving on the road, or if future health information further emphasises the value of lower alcohol beverages.
32. Economic spin-offs from the programme are evident, but difficult to quantify. Several companies have lower alcohol wines in production, some resulting from the programme while other companies have produced these wines for many years. As detailed in the report, there have been several technical findings that are of benefit to wine production in general, beyond the parameters of the programme. Importantly, there is strong feedback from companies that they value the findings from the programme, even when they are selective about whether or not to utilise or implement them.
33. The tourism industry is likely to benefit at least marginally from the programme through the network of vineyard based tasting and restaurants that can promote new wines.
34. While there is evidence that some significant areas of vines have been allocated for production of lower alcohol wines, it is not feasible to confirm the exact area or to confirm that total plantings of grapes have increased *solely* as a result of the programme. First, wine companies may utilise existing plantings. Second, companies may make late

decisions during the growing season about product applications (including wine alcohol levels) depending upon market demand and conditions. A rough estimate from a survey of grantors in October 2016 is of the order of 100-150 hectares of new plantings. More importantly than the planted area is the exceptionally strong domestic market growth in lower alcohol wines and expanding exports since the programme's inception. This is reflected in greater volumes of grapes being used for new products valued at almost \$40 million arising directly out of the Lighter Wines Programme.

35. Employment generation associated with the programme has been modest, with several examples of graduate students recruited by companies to work on the programme, and other staff having part of their time allocated to it. Perhaps more important than generation of employment have been the substantial learnings from the programme absorbed by grantors' staff across the value chain.
36. Overall, the programme is progressing effectively in line with the latest updated annual plan and with excellent financial and in-kind support, including trials, by grantors. The programme has every chance of meeting its designated targets (including the revenue target of \$285 million by 2024) unless the wider industry's exports of standard wines are so successful that lower alcohol wines are deemed a relatively lower priority by wine companies. From an industry perspective, it is difficult to categorise this as a problem, and industry feedback indicates that even if this were to occur, wine companies would still regard the programme very much as a "net positive" and a success.

RECOMMENDATIONS

Market Access Reviewer's Recommendations:

1. The reviewer provided a number of recommendations that were focused on:
 - a. Maintaining the strong focus on distribution with Grantors;
 - b. Encouraging consistency by New Zealand wineries in the messaging and communication about the Lighter wines category;
 - c. A stronger focus and strategy for the on-premise market;
 - d. Broadening the Lighter wines offering in terms of varieties;
 - e. Innovative ways for target consumers to sample Lighter wines; and
 - f. Increased promotion of the category.

Vineyard Manipulations Reviewer's Recommendations:

1. A number of recommendations were provided for research activity that were refinements or extensions to existing activity, or new activity that should be considered for inclusion in future work plans to ensure robust vineyard methods are validated for a range of varieties and growing regions. Two of the main areas for consideration are the effect or

contribution from clonal or rootstock selections, and the effect of site to the response of canopy manipulations.

Winery Manipulations Reviewer's Recommendations for Future Strategy, Direction and Delivery

1. The recommendations provided are for extensions to existing research and for consideration of some additional research that will increase the likelihood of a number of winemaking methods being validated for the reduction of alcohol while maintaining wine quality.

Lead Reviewer's Recommendations

1. In order to increase industry representation, two grantors, on a rotating basis, should be invited to attend Programme Steering Group meetings. These grantors should also have attended the most recent Programme Technical Advisory Committee meeting.
2. In the event that the chair of the Programme Steering Committee is replaced, any new appointee should be independent of the industry. It should be noted that this recommendation is intended to align with recognised best governance practice of comparable joint venture structures and is in no way a criticism of the current chair.
3. The Programme Steering Group chair and the Programme Technical Advisory Committee chair should communicate more frequently and formally about the programme's progress and the challenges it faces. This recommendation acknowledges the very strong influence of the Programme Technical Advisory Committee on the programme and its governance.
4. The Programme Technical Advisory Committee chair and the General Manager Research of NZ Winegrowers should jointly visit all grantors every two years to emphasise the importance of ongoing stakeholder support for the programme. The visits should target those most senior managers within grantor companies known to have a decision-making role or at least a strong interest in the programme.
5. The PTAC's role in advising on Project 1 (Marketing) needs to be reinforced by the appointment to the Committee of a recognised academic or professional with a specialising in FMCG marketing with a formal research background and with strong commercial credentials.
6. The PTAC should ensure that there is greater clarity amongst grantors as to how it provides industry guidance for Project 1 (Marketing).
7. Industry stakeholders should note the strict information confidentiality and sensitivity protocols operative within MPI and that they can be confident in sharing commercial information.
8. The current initiative to develop a dashboard style of reporting to the PSG should be completed and implemented as soon as possible. This should improve reporting by facilitating more brevity, greater emphasis on outputs, outcomes, risks and challenges, less emphasis on project inputs, and be less demanding in terms of project management

time. This should also help with the Programme Steering Group's greater focus on outputs and outcomes now that important technical and market research information is increasingly flowing from operations across the Projects.

9. The PTAC should review the scope for more novel thinking in suggestions for new research project themes, but assess whether this can be achieved via the technical review recommendations that form part of this report.
10. New Zealand is not the only country producing lower alcohol wines, and global markets are highly competitive. In order to achieve targeted economic outcomes, grantor ***companies will need to maintain the integrity and market differentiation of the total package of natural elements that contribute to the production of lighter wines.*** This includes achieving consensus on and consistent use of a "category story" and associated "toolbox" that have been developed by the Programme. At the same time, the programme participants will need to acknowledge that value can also be extracted from the programme when companies utilise specific components from it (e.g. canopy management). This parallel value extraction may occur in conjunction with lower alcohol technologies such as reverse osmosis and spinning cone. Achieving a good balance of marketing strategies and consumer market acceptance amongst these alternative approaches to lower alcohol production will be crucial to overall successful programme outcomes and will require a continuation of the high level of trust and collaboration that is a defining feature of the New Zealand wine industry.
11. As part of Project 5, programme management should continue concentrated efforts to enhance and better target communication of programme information to managers and executives within large wine companies.

INTRODUCTION

The New Zealand wine industry has maintained an outstanding level of export-driven growth for over two decades. Over the last decade, exports have increased from \$41 million in 1995, to \$435 million in 2005 and to \$1.424 billion in 2015. In particular, New Zealand has become world-renowned especially for the quality of its Sauvignon Blanc and Pinot Noir wines. Recently, it was announced that New Zealand had moved into second place after France for volume of exports to the United States. New Zealand has proven adept at producing and marketing premium priced wines, and has consistently “punched above its weight” in international wine competitions.

This is the industry context in which the Lighter Wines PGP Programme was initiated. The programme has been funded for a seven year timeframe under the Ministry for Primary Industries’ Primary Growth Partnership (PGP). The programme includes the wine industry’s industry body, New Zealand Winegrowers Inc., 18 grantor companies (see Annex 3) and the Ministry for Primary Industries.

The grantor companies are divided into two categories:

“A” companies providing annual funding of \$20,000.

“B” companies providing annual funding of \$5,000.

The programme aims to develop high quality, premium market positioned and premium priced lower alcohol and lower calorie wines. It commenced in March 2014 with a vision to deliver NZ\$ 285m annually in net sales by the end of 2023. The programme encompasses five integrated and complementary Projects comprised in turn of 16 Objectives and a much larger number of Milestones intended to address multiple technical and market challenges that need to be overcome to develop and consistently produce the desired new product range. The five Projects and their subsidiary Objectives cover:

1. Market access
 - 1.1 Market definition
 - 1.2 NZ Inc. branding
 - 1.3 Legal market access
2. Sensory perception
 - 2.1 Sensory & consumer
 - 2.2 Alcohol & chemical
 - 2.3 Sensory & non-sensory
3. Vineyard manipulations
 - 3.1 Early harvest
 - 3.2 Late harvest
4. Winery manipulations
 - 4.1 Grape harvesting & processing
 - 4.2 Fermentation processes
 - 4.3 NZ yeasts
 - 4.4 Post fermentation
 - 4.5 Commercial scale trials

5. Communications and technology transfer.
 - 5.1 Tech transfer and communications
 - 5.2 Programme Management
 - 5.3 Monitoring and evaluation

By the time of the review in early 2017, the programme had been operating for almost three years.

SCOPE AND OBJECTIVES OF THE REVIEW

This independent progress review of the programme is intended to enable the partners in the Lighter Wines PGP programme to determine how the programme and its five projects are tracking towards the outcomes as contracted and modified through the annual plan update process.

The scope of the review is largely prescribed by the programme's outcome logic map (Annex 1), business plan and subsequent annual modifications, and this information formed the basis of the review plan. The terms of reference for the review are contained in Annex 4.

David Miller (Vantage Consulting) led the review from February to April 2017. He has long experience of reviewing research orientated joint venture structures, and has been lead reviewer of two previous PGP reviews, as well as undertaking more than 50 industry research consortium or partnership due diligence and review assignments for MBIE or its predecessors.

The terms of reference required assessment of progress against each of the five programme Projects. Three specialist reviewers were contracted to assess vineyard manipulations, winery manipulations and marketing aspects of the programme. The specialist reviewers were contracted directly by MPI and New Zealand Winegrowers. They were unknown to and outside the control of Vantage Consulting Group, which cannot be held responsible for the quality or sufficiency of their reviews. Dr Peter Fennessy of AbacusBio provided quality assurance for the overall review (but not for the review components undertaken by third party reviewers).

The reviews and reviewers are summarised below:

Review Component and Project	Reviewer
A. Marketing (PROJECT 1)	Kathie Bartley, specialist marketing consultant, Kathie Bartley Marketing
B. Vineyard manipulations (PROJECT 3, with references to PROJECT 5 - Communications & technology transfer)	Dr Mark Krstic, Victorian Node Manager, Australian Wine Research Institute
C. Winery manipulations (PROJECT 4, with references to PROJECT 5 - Communications & technology transfer)	Dr Richard Gardner, former Professor of Wine Science, University of Auckland
D. Overall review - with observations on PROECT 2 (Sensory perception) and PROJECT 5 – Communications & technology transfer)	David Miller, Director, Vantage Consulting Group

There was no explicit specialist review of Project 2 (Sensory perception), but it is briefly canvassed by the lead reviewer. Aspects of Project 5, Communication and technology transfer, came up as elements of all of the reviews.

Each reviewer was put in contact with relevant stakeholders from whom to source information. Each reviewer also evaluated programme related material provided by the Programme Manager and MPI.

For the lead reviewer, it was important in undertaking the review to ensure that a good sample of key stakeholders was consulted. It was anticipated that the PGP programme's projects would impact on, or require the goodwill and cooperation of, several points of the supply chain and that it would be necessary to engage with the industry and government stakeholders in order to develop a comprehensive view of the programme and progress to date. This proved to be the case.

The lead reviewer attended a PSG meeting which included an industry presentation by one of the Grantors on progress to date and the impact of the Programme on their lighter wine production and marketing activities. He also visited Blenheim in order to interview important industry stakeholders face-to-face. Other stakeholders were interviewed face-to-face in Wellington or by phone. Those interviewed extended across representatives of both grantors and non-participating wine companies, New Zealand Winegrowers, programme management, and MPI and also included those involved in governance through the PSG or PTAC. Multiple interviews, discussions and email communications were conducted with those most directly involved in the programme.

Documents perused by the lead reviewer included PSG and PTAC minutes, contracts, quarterly reports by the Programme Manager to both PSG and PTAC, original and annually updated business plans, and various other programme related documents.

The lead reviewer synthesised and cross-validated reports outlining the projects and progress to date, interviews of stakeholders and assessment and relevant third party documents and other useful written and web based information.

MAJOR FINDINGS OF SPECIALIST REVIEWS

Project 1: Market Access

The market access review found that Project 1, the marketing component of the programme, has been executed across multiple marketing topics with a high level of professionalism and has produced excellent results. Market size and potential for lower alcohol New Zealand wine has been extensively explored and confirmed through multiple market research exercises in several key markets. A market penetration rate in New Zealand reflecting recent growth significantly stronger than for standard wine augured well for expansion into international markets. The reviewer noted that the New Zealand market has the highest sales of lower alcohol wines in the world as a percentage of total wine sales. Target consumers have been identified consistent with global trends and implications for product development and the marketing mix assessed as positive for future growth and lower alcohol wine sales. This work has provided a common frame of reference for all companies involved in describing and communicating lower alcohol wines as “naturally lighter”. The combination of naturally produced lower alcohol wines, high quality and taste at least as good as standard wines was confirmed as key.

Premium pricing, branding messaging and labelling has already been evaluated, and has informed future activity as to how this will be communicated to consumers....

The industry was found to be in a good position to leverage existing distribution relationships for the new category.

Project 3: Vineyard Manipulations

The vineyard manipulations review concluded that the relevant projects within Objective 3 were well designed and managed and progress against designated targets was very good. While findings to date are impressive, the reviewer stressed the need to test the various methods on a range of sites across Marlborough to determine their durability and robustness. The long-term sustainability (year on year) of management systems also needs to be tested.

The programme has also rightly reappraised and discontinued areas of research that have been assessed as not being useful contributors to the production of lower alcohol wine.

The review raised some areas of research for future consideration, and also stressed the importance of now moving beyond Sauvignon Blanc and looking more closely at Pinot Noir, Pinot Gris and Merlot, as stated in the original project/milestone aims. This is important, as the viticultural solutions for lower alcohol production in these varieties may be substantially different to those developed for Sauvignon Blanc.

Overall, Dr Krstic concluded that the NZW Lighter Wines Programme is an impressive, industry focussed programme, which appears to be delivering tangible outcomes and impacts in industry already. The strong focus on industry collaboration and near-to-market vineyard manipulation innovations will ensure that the New Zealand wine industry will be a world leader in the production of lower alcohol wines.

Project 4: Winery Manipulations

The winery manipulations review covering Project 4 concluded that researchers in this project had successfully achieved their specific annual experimental targets. The work has been carried out to a very high standard and has made good progress, with strong connections across wine research networks and regular and clear dissemination of information to industry. This means that the programme is on target in terms of achieving its scientific and technology transfer goals.

The reviewer noted the long-term target outcome of upskilling the industry on new techniques, and observed that at this point, no novel techniques or new yeast strains have yet evolved from the research. However, the reviewer considered that this is reasonable for such a project at this point, and progress to date means that, while difficult to assess, the probability of eventual success remains high.

Scaling-up of fermentations from small and medium scales to full production level was identified as the major risk – this was cited as an international problem, and not just applicable to this programme. It will be critical that the matter was addressed and will require continued close interaction between New Zealand research and winemaking communities. The new medium-scale fermentation system at the Marlborough Research Institute should prove valuable in this area, and the reviewer proposed specific experiments relating to scale-up.

COMMENTS ON OTHER PROJECTS

Project 2: Sensory Perception

As noted earlier, there was no specific review of Project 2. Sensory perception is vital to the programme in that companies do not (at least in New Zealand) have their own sensory laboratories in-house. Achieving the flavours and other sensory qualities of lower alcohol wines that can be positioned in the premium priced segment of domestic and global markets is a core component of the overall programme. This Project requires the use of sensory panels, which are expensive to operate, with up to 120 consumers trained to evaluate wines, and involves extensive and rigorous data collection and analysis.

Progress has been acceptable, with some world leading sensory research on the impacts of alcohol level on the sensory character of wines, and with one area deferred in favour of higher priority research. There has been in-kind grantor support for the sensory panels. There is good integration between sensory perception and Projects 1, 3 and 4 covering market access, vineyard and winemaking manipulations respectively.

Project 5: Communications and Technology Transfer

Both the lead reviewer and all three specialist reviewers found very good examples of regular and high-quality communications emanating from the programme and being appropriately disseminated to industry. Liaison with MPI about information dissemination has also been very good. Performance within this Project has benefited from the contribution of a specialist communications and publications contractor.

There was good evidence of technology transfer, with company representatives confirming that they had adopted new practices as a result of the programme. A key point here is that companies are not necessarily looking to adopt a naturally produced wines (“vine to bottle”) template in its entirety; most examples given were of *particular components* of the programme’s value chain – e.g. components within the vineyard and/or the winery.

Workshops and field days have been very successful – with more held than envisaged in the original business plan and with strong attendances. The programme manager has been especially proactive in attracting leading overseas and domestic wine research experts to the workshops, along with a highly rated marketing expert from outside the industry – enabling marketing managers to draw upon lessons from FMCG product innovation in the dairy industry. It was clear from industry interviews that workshops in particular are an important source of information for wine companies.

A key factor that will underpin effective communications and technology transfer into the future and for the entire New Zealand wine industry will be the open-source style IP agreement incorporated in the programme’s foundation contract between industry and MPI. This is detailed later in the report, and sets the scene for information from the programme to be available immediately to grantors and for technology transfer to occur quite rapidly to other New Zealand wine companies.

There were some specific communications issues identified during the review.

First, it was noted, and openly recognised by those involved, that the NZ Winegrowers website has, over time, become less than satisfactory in terms of its user-friendliness for industry. A major upgrade of the website is almost complete, and while this has not been assessed by the lead reviewer, he has been advised that it will be a major improvement that will improve the ability of the Lighter Wines Programme to disseminate information to industry stakeholders.

Second, the larger wine corporates face a particular communications problem because they have large staffs undertaking differentiated roles. Lighter Wines Programme management is dependent upon the ability of appointed representatives of such companies to draw programme generated information to the attention of relevant staff. This can be quite complex and challenging, given large corporates’ multiple vineyard, winery and marketing related roles in-house. It can be difficult for representatives of large corporates to identify relevant recipients of all documents generated by the programme and to ensure that the programme information reaches the recipients on a timely basis. This is especially applicable to for marketing staff.

The programme’s governance and management are aware of the difficulties faced by these companies. The programme manager is seeking to address this problem, and the reviewer strongly commends and supports effort in this direction.

MAJOR FINDINGS OF GOVERNANCE AND MANAGEMENT REVIEW

Governance

Programme Steering Group

Governance of the Lighter Wines Programme is the responsibility of a Programme Steering Group (PSG). The PSG is chaired by John Clarke, a leading winegrower from Gisborne who is also Deputy Chair of New Zealand Winegrowers. Other members of the PSG are:

- Simon Hooker, General Manager Research, New Zealand Winegrowers
- Luke Southorn, Director Economic Development and Partnerships, Ministry for Primary Industries
- Ross Mclsaac, Investment Manager, Ministry for Primary Industries

Janette McKibbin, Research Administrator at New Zealand Winegrowers takes the minutes.

The Chair and members of the PSG are all contributing effectively. The contribution of the MPI representatives is appreciated by industry. There was a marked improvement in the quality of MPI's input to the PSG over the last 12 months after a change in MPI representative.

Should the Chair ever stand down through the course of the programme it is recommended that an independent chair be appointed. This is in no way a criticism of the present chair, but is simply an acknowledgement of best practice as favoured by MPI throughout the Primary Growth Partnership¹.

The PSG meets quarterly, and typically includes a presentation about a project being undertaken within the programme, attendance at a field day or a visit to a vineyard or winery actively involved in programme trials. The PSG has made a visit to the sensory lab in Auckland which is an important component of Project 2, Sensory perception. The PSG evaluates overall progress of each Project, and approves any necessary changes to the programme, the resources allocated across it, and the annual budget for the programme. The PSG also has the final say on cessation of any parts of the project that are deemed no longer necessary or warranted in terms of cost and likely outcomes.

The PSG retains a detailed register of risks (including probability of occurrence and mitigation strategies).and a record of any conflicts of interest reported by its members.

It is clear that the PSG is functioning effectively within its operating parameters; meetings are harmonious and operate essentially on a consensus basis; and meetings are appropriately minuted with action points both recorded and followed up. The quarterly frequency of meetings was queried by one stakeholder as perhaps being too frequent, but there was otherwise general support that it was about right.

¹ Independent chairs are also required by MBIE for industry research partnerships they co-fund.

Compared with other Programme Steering Groups of similar industry-Government co-funded R&D programmes, industry representation is low. The lead reviewer understands that this is because of desire not to advantage any particular grantor or grantors vis a vis others. This does mean that direct industry influence on the programme is less obvious than would normally be the case – notwithstanding the excellent contribution of the NZ Winegrowers' representative. It is considered that a reasonable compromise to positively rebalance this influence would be for two grantors to be invited to attend PSG meetings on a rotating basis. It would be preferable that they had attended the preceding PTAC meeting in order to be “up with the play” on the programme's progress.

Key inputs to the PSG's deliberations are reports from the PTAC and from the Programme Manager (see PTAC and Reporting sections below).

Some of the market related information presented to the PSG is commercially sensitive. There have been some misunderstandings within industry about how MPI's protocols for handling such information. In fact strict protocols operate within MPI, which is well used to dealing with information bound by even more severe sensitivity and confidentiality provisions. This should give confidence to industry for sharing sensitive information with MPI.

Programme Technical Advisory Committee (PTAC)

The PTAC is responsible for advising the PSG on Projects 1, 2, 3 and 4.

The PTAC meets for no more than two and a half hours quarterly, immediately before the PSG. This allows for efficient reporting of up to date programme information to the PTAC and then as required to the PSG. The PTAC is chaired by Jane Shearer, an independent contractor with long experience of working with industry co-funded research programmes. Jane was responsible for orchestrating the business case of the application for the originally named Lifestyle Wines programme.

The PTAC is scrupulously careful to comply with the competition requirements of the Commerce Act.

As described in the Introduction, industry co-funding is based around two categories, “A” companies – generally larger companies that contribute \$20,000 per annum to the programme, and “B” - smaller companies that contribute \$5,000 of funding each annually. This is reflected in differential representation on the PTAC, with “A” companies each represented in their own right, and “B” companies represented by three of their number.

MPI is represented by Nick Dalgety, Senior Policy Analyst. The NZ Winegrowers General Manager Research also attends some PTAC meetings.

Consistent with the programme's base contract, the PTAC is an especially influential body in the overall governance of the programme, both relative to the PSG and compared with similar entities in other R&D joint ventures co-funded by government. This is because of the extensive grantor representation on the PTAC vis a vis the PSG. The PTAC organises workshops to which PSG members are always invited. Meetings are held by appointed

subgroups between PTAC meetings on particular topics such as scaling up or to consider more urgent research proposals - essentially informal, subject focused subcommittees.

The PTAC has taken time to settle into its deliberations, but especially for Projects 2 through 5 has developed into an effective and smoothly operating advisory body, crucial to the programme's operation. The inputs of the chair and NZ Winegrowers' General Manager Research are crucial to its success, and there is a high level of trust and collaboration amongst PTAC members. PTAC minutes are distributed to all grantors.

Amongst comments about the PTAC from grantors during the review were:

- Good cross section of winemakers, general managers - broad perspectives, multiple disciplines.
- Everyone very engaged. No dominant personality.
- Openness.
- Good discussion of research papers presented – since the programme's inception.
- Industry giving clear vision of what is practical and what isn't.
- Examples of project stop/go thinking, avoiding wastage of funds.

This positive PTAC atmosphere is undoubtedly underpinned by the extraordinarily collaborative culture of the New Zealand wine industry. Amongst the points consistently made by stakeholders in the course of this review were:

- the industry collaboration, cohesion and vision goes back many years, and has been long been expressly cultivated by the NZ Winegrowers General Manager Research and his colleagues
- many of the winemakers and viticulturists know one another and communicate openly
- the big companies involved in the programme look after the smaller companies
- the collaborative ethos is envied by overseas winemaking countries, especially Australia who find the level of trust, transparency and ability of New Zealand companies to work together difficult to comprehend

These positive cultural components are reinforced by the programme's IP strategy contained in the original contract between grantors and MPI. As noted later in this report, this has a strongly "open source" flavour.

In this context, it is hardly surprising that the PTAC is able to operate so effectively and cohesively.

In order to reinforce continued alignment of strategic thinking across the programme with grantors' priorities and strategies, and to retain strong Grantor support for the Programme, it is suggested that the chair of the PTAC and the General Manager Research of NZ Winegrowers (from the PSG) jointly visit grantors (at or as close as CEO level as possible) every two years.

Project 1 (Marketing)

The advisory structure on Project 1 is less developed than for the technical Projects. In the course of the review, there was evidence of ambiguous perceptions by industry stakeholders as to how this particular aspect of governance operates (and even who chairs it). The lead reviewer concluded that this element of the programme's governance needs to be strengthened and communicated better to stakeholders.

The reasons behind this are somewhat complex.

First, unlike their technically inclined counterparts, wine industry marketing managers do not necessarily have a strong background or understanding of Frascati research² as distinct from market research.

Second, marketing managers generally are relatively mobile through their careers. This tends to differentiate them from those involved in viticulture and winemaking, where key professional staff often have long service careers with a particular company and also develop extensive horizontal networks across the wine industry. In contrast, marketing managers often do not spend the time in their positions to develop comparable intra-industry networks. Because of shorter tenures, they are more focused on understanding their roles and achieving commercial goals than in appreciating the broader industry significance of a programme such as Lighter Wines. Accordingly, getting good attendance at marketing workshops has taken more effort than an equivalent vineyard or winery technical workshop.

Third, because of commercial in-house pressures, especially in larger companies, and commercial sensitivity between companies, it is more of a challenge to get marketing managers around the table for governance purposes. Different people sometimes represent companies at programme meetings and workshops, making it difficult to achieve good continuity of grantors' contribution to the governance of Project 1.

Fourth, there was slight delay in identifying and contracting Richard Lee, who has outstanding marketing credentials for leading and executing Project 1.

Accordingly, the role of the PTAC with respect to Project 1 is evolving – with appropriate guidance from the Programme Manager. The PTAC has mostly technical rather than corporate marketing representatives in attendance, although some experienced members, especially from smaller companies, encompass both competencies. This has placed a relatively heavy responsibility upon NZ Winegrowers' General Manager Research and Global Marketing Director to provide direction for Project 1, along with the support of grantors. Marketing workshops have also served to provide important inputs into the

² Frascati research is described here: http://www.ara.ac.nz/_data/assets/pdf_file/0019/37144/Frascat_Definitions.pdf For example, such research is usually experimental in nature, replicable, able to be peer reviewed and is open to publication in reputable scientific journals. The PGP does not require expenditure on research to be of a Frascati standard. However, the main providers to the Lighter Wines programme's technical objectives operate in an environment where Frascati research dominates, is well understood and broadly sets the standard for the work undertaken. Market research also has important professional standards (e.g. questionnaire design, sample sizes, sample error estimates, interviewing techniques), but they are not the same as Frascati standards.

PTAC's marketing related decisions. A project group was about to be formed at the time of the review to improve the facilitation of collaborative market-related decisions.

There is a case for bolstering the PTAC's professional marketing capability and clarifying its role with respect to Project 1. The PTAC could be strengthened by the addition of a leading marketing academic or professional who combines strong formal research knowledge with commercial FMCG experience.

Management

The programme partners have been extremely fortunate to find in Dr David Jordan a well-qualified and highly experienced Programme Manager available to allocate the necessary time to it. The Programme Manager has spent several decades working in the wine industry, is widely known and trusted by participants and has a deep and broad knowledge of viticulture and winemaking. He is strongly committed to ensuring that the programme is a success, and works many hours outside his remunerated timeframe.

Both of the technical reviewers and the market access reviewer commented positively in different ways on the quality of the management of the programme and on the very good progress against Milestones, along with tight budgetary control. The industry led nature of the programme was noted by all of them as a key strength.

The Programme Manager works closely with NZ Winegrowers General Manager Research. The latter also has many years' experience in the wine industry, and has developed an outstanding reputation for being available to industry stakeholders and for having a comprehensive knowledge of useful industry resources and government agencies. In particular, he is recognised for identifying and recruiting or contracting high quality people who can contribute to the industry's growth and success. This, along with the Programme Manager's own enthusiasm and hard work, has been particularly material to the success of the programme.

The Programme Manager has close and appropriately frequent liaison with other key individuals such as the chair of the PTAC, the Global Marketing Director of NZ Winegrowers and the chair of the PSG and the relevant Science Group Leader at Plant and Food Research plus the other research contractors (UoA, Lincoln and others).

At an operational level, the good progress made across the board by the programme management can be attributed to the selection and motivation of skilled University and CRI providers and private sector contractors with relevant and often rare skill sets able to execute the multiplicity of projects that combine to make up the programme as a whole.

There are in excess of a dozen researchers and private contractors involved. For the sake of simplicity they are hereafter referred to as "contractors". There have been no performance issues with any contractors and overall outputs have been greater than promised.

Although the programme is divided into five Projects, it is important that the participants also appreciate and acknowledge through their behaviour the holistic nature of the programme. The Programme Manager arranges a weekly meeting of contractors at 10 AM every Tuesday. This provides an opportunity for the contractors to understand what others are

doing, and ensures that they do in fact perceive the programme holistically. Several of them know each other well and the upshot has been that there is a good sense of collaboration and valuable teamwork on the part of the contractors. This extends to integration where appropriate across Projects, e.g. the key contractors involved in sensory perception link effectively with their counterparts working on market access and winery manipulations.

Notwithstanding this good overall structure and operation, there is still a residual risk that when contractors are treated on an arm's length basis (i.e. as contractors) they may perceive the structure as centrally controlled and not always feel inclined to be proactive in taking up opportunities to contribute to the direction of the programme. Balancing this, programme management with support from NZ Winegrowers has had to work on the flexibility and responsiveness of institutional contractors, especially Plant and Food Research, and ensure that their programme priorities and outputs are aligned with the needs of the programme and its industry client base.

NZ Winegrowers has also operated an effective research committee for many years, and the programme has benefited from the committee's disciplined approach to dealing with expressions of interest, reviewing progress and making stop/go decisions on specific projects.

An Annual grantors' Workshop, where the outputs of the year's research activities are presented by research providers and discussed with grantor representatives, is held in October, the last being in 2016. Three marketing workshops (August 2015, April 2016 and February 2017) have also been held. These events have been well supported by industry. They have been crucial to the programme by enabling contractors to provide feedback to industry and to receive useful guidance on future programme direction - in conjunction with the PTAC.

There have been some good examples of decisions to *not* proceed in particular directions, e.g. work on irrigation and nutrition and a specific offshore consumer research exercise - all based on well-founded analysis and assessment of progress, likely outcomes and other priorities. These examples are important in demonstrating effective and prudent use of the financial resources available to the programme³.

While the research and other activities that make up the programme are carried out discretely, they are organised under Projects, and there is good evidence of liaison and cross-fertilisation and even integration of projects where required. A good example is the interface between the research projects involving sensory perception and winery manipulation of skin contact. Similarly, it is reasonable to expect that in a market-led industry, Project 1 (Marketing) would significantly influence the other, technical Projects. There is good evidence that this has occurred. For example, in the 2016/17 revised annual plan, there is particular emphasis on feedback from the market of the importance of uncompromising attention to wine quality with clear implications for the execution and quality of outputs required of the technical Projects.

³ It should be noted that this review does not encompass financial management, which has been the subject of a separate audit by MPI.

The high quality of operational management was also evident in the specialist reviewers' reports. There were some "missed opportunities" noted in the otherwise generally very positive market access review, and this reinforces the importance of formalising the governance arrangements of Project 1, as highlighted earlier.

Planning and Budgeting

A structured approach to planning is evident from the inception of the programme. The planning has benefited greatly from the early detailed work and obtaining of industry support that took place to source the original PGP funding from MPI. This was an extensive exercise, and the programme has continued to benefit from its depth and breadth. The PTAC Chair played a key role in the original planning, which ensures that she has a comprehensive understanding of the programme's dimensions.

The original plan has been updated effectively each year on the basis of workshops and industry discussions. The Programme Manager is careful to meet with each contractor regularly and engages with the Grantors to ensure that they all have the opportunity to provide input into annual plan revisions.

Throughout the review, there were multiple examples and overall a very strong thread of the programme's management and governance systematically collecting and evaluating research and other trial results and making appropriate changes to the programme's priorities, direction and specific content. This applied across all Projects.

The importance of this systematic analysis of progress and flexibility of response cannot be overstated. It helps to ensure

- development and maintenance of a comprehensive and up-to-date knowledge base on the programme and that progress is achieved
- that resources are continuously allocated to the highest priority Projects - areas where future benefits are most to arise
- there is a logical sequence of effort through the range of topics identified at the outset of or through the programme but which cannot all be attacked at once, e.g. grape varieties, regional variations, interactions (e.g. canopy management and irrigation; geographic and demographic markets).
- there is maximum likelihood of that grantors will grasp and take advantage of important opportunities arising out of work to date
- identification of additional novel topics for further evaluation by the programme.

There was good evidence of smooth connectivity between adjustments to the plan and ensuing modifications to the budget, as cash resources were reallocated to new or higher priority areas through the annual updating of the Programme's Plan.

Retention of Programme Outcomes

While there have been well founded changes to the programme as it has progressed, a particularly positive concomitant has been that the fundamental outcomes of the programme established at its inception have been maintained. While small changes to programme outcomes are tolerable, major changes can sometimes indicate that a programme is faltering in its direction. At worst it may raise questions as to the validity of the original rationale, or at least the strength and longevity of that rationale.

In the Lighter Wines programme the grantors' commitment to achieving the production, market positioning and distribution of premium lower alcohol wines has continued. All of the modifications to the programme Milestones and priorities have been consistent with this ongoing industry commitment.

Reporting

There are three broad categories of reporting important to the broad management and governance of the programme.

First, research providers and other contractors provide reports to the programme manager. Second, the programme manager provides reports to the PTAC and the PSG. Third, reports once approved, along with a range of popular articles and information sheets are disseminated to industry – notably through uploading to the programme's designated and passworded location on the NZ Winegrowers' website.

Programme management has a structured approach to its reporting. This applies to its expectations of providers and contractors which makes it easy to evaluate the quality of reports and to determine whether or not they have met their milestones. For example, research contracts utilise NZ Winegrowers' well-established standard template that includes explicit milestones and detailed achievement measures, completion dates for each of these measures, quarterly budgeting for each and specification of the individuals responsible for achieving them.

Similarly, the Programme Manager uses a consistent approach in quarterly reporting to the PTAC and the PSG. Reports to the PSG commence with an executive summary, then provide a progress report for all projects describing activity over the last quarter across all Projects. Each Project has three broad evaluation areas - timing, financial and outcome, and these are easy to assess visually through a simple, colour-coded evaluation that assesses Projects as on track, slightly delayed, significantly delayed or completed.

Finally, reports and information provided to industry via a programme e-newsletter and through a dedicated section of the NZ Winegrowers the website are also carefully considered and well structured.

There are some areas of reporting where improvements are required, and actions have already been initiated to address them. The Programme Manager's reports to the PSG in particular are quite long and balanced too much towards inputs vis-a-vis outputs, outcomes, risks and challenges. The reports are also too demanding of the Programme Manager's

time, and place unreasonable pressure on him in allocating sufficient time to overall programme management.

An updated dashboard style template is being developed by the Programme. This should have been addressed much earlier in the life of the programme. Good recent progress appears to have been a result of an improved working relationships following a staff change at MPI. Second, the good quality reports and information made available to industry may have been limited in their uptake by a relatively complex NZ Winegrowers website, generally speaking a victim of high industry growth and a great deal of concomitant industry activity. The website is currently being completely upgraded, and the section allocated to the Lighter Wines Programme will benefit significantly from the upgrade. As noted in the progress report on Project 5, there may be online applications and email services that can ensure reports are disseminated in a way that more precisely matches recipients' needs.

IP Management

In the contract between the grantors and MPI, there are explicit provisions for the treatment of IP generated by the programme. This is extremely important because:

- the grantors are a combination of wine companies who are funding the programme directly, and
- NZ Winegrowers, representing those grantors and also a large number of other wine companies that are not funding the programme directly.

Previous experience of the reviewer with numerous joint venture R&D programmes indicates that clear mutual understanding of all parties' rights and obligations with respect to IP amongst all the parties involved is critically important⁴. It is vital in the maintenance of trust amongst companies within the wine industry, both grantors and non-grantors. It is equally critical in ensuring reasonable and adequate dissemination of programme outcomes across industry. This is essential because of the financial commitment of New Zealand Winegrowers representing the great bulk of the wine industry, and MPI, which seeks the best possible economic outcomes from the programme for the benefit of New Zealand.

In broad terms, the IP component of the Lighter Wines contract⁵ (Schedule 3) and the original programme business plan provide that:

- Non-proprietary IP is available to all members of NZ Winegrowers
- The benefit to New Zealand of the programme (including any spillover benefits) should be maximised, in recognition of the origins of those funding the programme

⁴ An early major problem with Australia's Cooperative Research Centres was a failure to clarify expectations and lock down an explicit strategy for dealing with IP generated by the government and industry co-funded programme.

⁵ The base contract is between MPI and a limited partnership established by the wine industry as a special purpose vehicle for the programme.

- The parties to the contract must make their existing IP rights freely and perpetually available for the purposes of the Programme.
- All new IP rights will be owned by the industry parties, unless they agree to allow a third party to own the rights.
- Commercialisation of IP must not prejudice the current or future supply of the products and services to New Zealand growers and must be careful to ensure that the Programme benefits New Zealand.

In practical terms, grantors get a 6 – 12 month head start over other New Zealand companies in accessing programme generated information through a passworded Lighter Wines Programme section of the NZ Winegrowers website.

The “open source” nature of the IP arrangements and their focus on benefits to the New Zealand industry reflects NZ Winegrowers own mandate to serve the whole industry rather than a subset of companies. This approach maximises the likelihood of widespread industry uptake of the programme outcomes. There is unlikely to be any material risk of loss of valuable IP to competing wine producing countries from the open approach to IP dissemination. This is because grape growing conditions in New Zealand are significantly different from those in other countries and the information would therefore be of limited use to them.

Industry Collaboration Generated by Programme

The industry collaboration generated by this programme has been outstanding. While it has been emphasised elsewhere in the report that the ethos of the wine industry is unusually collaborative, there is evidence that the Lighter Wines Programme has taken it to a new level. This is reflected in both the evolving quality and extent of interactions of representatives on the PTAC and in the enthusiasm of grantors directly involved in trials and experimentation. The number and frequency of workshops and field presentations has far exceeded initial plans. Even non-grantor wine companies are supportive of the initiative.

The importance of such collaboration was reinforced for the lead reviewer by a recent and independent comment from a leading Brazilian wine importer to the effect that for the New Zealand wine industry to break into the Brazilian market, a collaborative approach would be essential. “The first and most important attitude is to act together, promoting the category, instead of individual wineries acting alone. Non-competitive behaviour, so commonly seen in the production side of our business, becomes scarce in promotion initiatives. Collaborating together towards a common goal is key to delivering a stronger message to your target audience.”⁶ The Lighter Wines Programme reinforces exactly this type of collaboration across all business functions needed for industry success in global markets.

⁶ Uncorking Brazil: what to know about this young drinking nation. Rodrigo Lanari, Founder of Winext.
<https://www.nzte.govt.nz/en/news-and-media/features/uncorking-brazil-what-to-know-about-this-young-drinking->

Economic Spinoffs from the Programme

Economic spin-offs from the programme are evident, but difficult to quantify. Several companies have lower alcohol wines in production, some resulting from the programme while other companies have produced these wines for many years. As noted elsewhere in the report, there have been several technical findings that benefit wine production in general, beyond the parameters of the programme. Importantly, there is strong feedback from companies that they value the findings from the programme, even when they are selective about whether or not to utilise or implement them. This positive feedback extends to companies not participating directly in the programme.

While there is evidence that some significant areas of vines have been allocated for production of lower alcohol wines, it is not feasible to confirm the exact area or to confirm that total plantings of grapes have increased *solely* as a result of the programme. First, several lower alcohol wines were already produced by a few wine companies prior and subsequent to the programme commencing. Some of these extend back several years. Second, wine companies may redirect existing plantings of grapes for lower alcohol wine production. Third, companies may make quite late decisions during the growing season about product applications (including wine alcohol levels) depending upon market demand and conditions. A rough estimate from a survey of grantors in October 2016 suggests that new plantings for lower alcohol wine production are of the order of 100-150 hectares. More important is the exceptionally strong domestic and developing export market growth in lower alcohol wines since the programme's inception. It is reflected in greater volumes of grapes being used for new products - an additional 327,000 cases of lower alcohol wines with a value of almost \$38 million arising directly out of the Lighter Wines Programme.

Employment generation associated with the programme has been modest, with several examples of graduate (mostly Masters) students recruited by companies to work on the programme, and other staff having part of their time allocated to it. Perhaps more important than generation of employment have been the substantial learnings from the programme absorbed by grantors' staff across the value chain. This benefit extends further to contractors and researchers involved in the programme. This includes retaining aggregate wine research skills within research organisations, especially Plant and Food Research and the University of Auckland, and reinforcing the research capabilities required for the new Marlborough Wine Research Centre.

The tourism industry is likely to benefit at least marginally from lower alcohol wines generated by the programme. The structure of the wine industry in New Zealand is such that major wine companies have high profile vineyards and wineries with public tasting offered and often on-site restaurants in regions with strong reputations as wine trails with international and domestic visitors. Most if not all of the grantors can be characterised in this way so are ideally positioned to promote lighter wines and their benefits to domestic and

http://www.ubiquity.com.au/nation/?utm_source=ubiquity&utm_medium=engage&utm_campaign=en17032016&utm_content=Read%20More%20Button%20-%20Find%20your%20way%20in%20Brazil%27s%20wine%20market

international visitors. The programme's developing category story and shared value proposition will enable grantors to pitch brand differentiated but consistent Lighter Wines consumer messages.

International tourists returning to their home countries can in turn be expected to disseminate the Lighter Wines value proposition to their connections, further reinforcing future industry export revenues.

Other spin-off benefits of programme for the wine industry

In addition to being "on target" across the five Projects, there have been a number of benefits to the industry over and beyond the key achievement targets:

- Land selection decisions for both standard and lower alcohol wine production are likely to benefit from an improved understanding of subsoil types and locations most suited to each type of wine.
- The programme is providing a better understanding of the process of ripening, over and above knowledge relevant to the production of lower alcohol wines.
- Canopy management trial outcomes should benefit ripening of standard wines as well as being of great importance to production of lower alcohol wines.
- Irrigation trials have demonstrated greater tolerance of Sauvignon Blanc grapes in the absence of irrigation than previously assumed.
- As noted in the vineyards manipulations review, findings relating to thiol production will have broader benefits for the industry.

Key Risks, Threats and Mitigation Strategies

A number of production and market related risks are cited in the business plan (and updated regularly) and characterised in terms of their probability of occurrence and impact on the programme. The great majority of these are rated as low probability and medium/low impact.

In addition to when there are changes to the individual risks, the programme reviews them on a periodic basis to ensure that the risk rating and mitigation strategies are appropriate and current.

Probability of programme achieving its targeted outcomes

The technical reviews included a number of comments about the progress of the programme vis-a-vis its targeted outcomes, and these are captured below along with the views of the lead reviewer.

Project 1 - Market access

Initial concerns from early market research that lower alcohol wines might cannibalise standard wines have not eventuated. The market access review showed that recent domestic growth in lower alcohol wine sales had achieved almost 5x comparable growth in standard wine sales. This is reflected by grantors presenting 28 different lower alcohol wines at an October 2016 programme marketing workshop. The original domestic revenue target for lower alcohol wines in 2024 was \$222 million. This has already been surpassed (grantor company aggregate lower alcohol wine revenues for 2016/17 are estimated at \$35 million, and the target has been revised to \$40 million.) At first sight the new target looks as if it will be easily achieved. However, it is anticipated that future growth will come primarily from export markets.

Total targeted annual economic benefits (measured as global sales) to be generated by the programme by 2024 are \$285 million. This is a challenging target, but the market access reviewer concluded that the programme's progress to date indicated that it was likely to achieve that goal - 42% of grantors are already exporting their lower alcohol wines. While the programme was sometimes described by industry interviewees as "small" in scope, it must be remembered that the grantors involved in the programme represent a significant volume of New Zealand's total wine production.

It should be noted – both for domestic lower alcohol sales to date and for future global sales - that it is extremely difficult to attribute increases and changes in these directly to the programme. Some of the lower alcohol wines that have been, are being or will be sold are derived from techniques other than "naturally lighter" methods. The new reporting template being developed by the Programme includes sections on production and sales information which will enable closer scrutiny of the link between the Lighter Wines Programme and lower alcohol sales in the market.

There is still a risk that even this improved reporting will not capture all of the economic benefits, given that some companies are seeking to utilise programme outputs to reduce alcohol levels for specific wine types rather than just to produce lower alcohol wines.

It will be advantageous to retain the input of the present primary contractor responsible for advancing market access within the programme. It is clear that his competence in all aspects of marketing and market research and his overall contribution to the programme are excellent. Given the inherent marketing personnel challenges cited earlier, it will also be important for industry stakeholders - especially CEOs - to be proactive in maintaining the impetus of progress already achieved with Project 1.

Project 2 - Sensory perception

The long-term aim of Project 2 is that the sensory qualities of lower alcohol wines will contribute to and be consistent with the targeted high quality products and premium market positioning of lower alcohol wines developed by the programme. Programme reports indicate that projects under Project 2 have been progressing well towards end targets although this has not been verified independently. Sensory perception is closely linked to the other Projects and is substantially affected by the extent and rate of progress on viticultural and particularly winery manipulations research.

Project 3 - Vineyard manipulation

The reviewer of this Project is confident that the programme is on track to achieve its targeted outcomes.

Project 4 - Winery manipulation

The reviewer of this Project is confident that the programme is on track to achieve its targeted outcomes.

Project 5 - Communications and technology transfer

While not reviewed in its own right, long-term progress on this particular Project can be most easily assessed by performance to date and current direction. As referred to in the section on reporting above, the Programme Manager has instituted an effective communications programme utilising the NZ Winegrowers website, a programme e-newsletter, NZ Winegrowers' own newsletter, regular articles in the New Zealand wine industry trade magazine "NZ Winegrower", and a mix of well attended field days and workshops. (Each grantor company has attendance at workshops restricted in order to control numbers). The programme's 2016/17 Business Plan noted that 14 technology transfer events had been held in the previous year, eight more than projected.

As noted earlier, the programme's governance and management are aware of and seeking to address the difficulties faced by larger wine companies in communicating appropriate programme generated information to multiple managers and executives.

As noted in the IP Management section above, the IP arrangements in the original contract have a strong "open source" flavour. This, combined with the collaborative ethos within the industry provides an excellent base for effective technology transfer from the programme. Interviews with grantors provided multiple anecdotal instances of companies utilising programme outputs - especially canopy management. There was even one instance where programme outputs had not been utilised but the trials that had been run within the programme had proven of considerable value to the company as it undertook its own relevant trials.

Given that these communications and technology transfer mechanisms and behaviours are now well embedded in the programme and the wider industry, it is highly likely that they will continue through the life of the programme, ensuring that final outcomes from the programme are communicated effectively to industry and adopted to the maximum extent possible.

Overall programme

The marketing and technical reviewers expressed considerable optimism about the programme's likelihood of it meeting its targets by

- contributing to improved economic outcomes and commercial performance
 - e.g. through ensuring improved quality of lower alcohol wines, improved understanding of climate, and incremental sales growth in all markets
- contributing to a greater sense of social responsibility
 - demonstrated by the industry's financial support of the Lighter Wines Programme
- reinforcing good health outcomes through lower consumption of alcohol and calories
- complying with the NZ Winegrowers' definitions of sustainable winegrowing practices
- achieving employment growth in viticulture, winemaking, marketing and research
 - while grantors were typically hesitant to specify additional employment or land allocation to lower alcohol wines, there were some examples cited. Perhaps more importantly, there was clear evidence of people becoming involved with the programme through taking on a range of new roles or responsibilities, and of masters and PhD students being employed on the programme. There is no question that the programme has been important in retaining and building capability around lower alcohol production amongst providers, notably within Plant and Food Research and the University of Auckland.
- contributing to the New Zealand wine industry's image as an innovator.
 - the New Zealand market has the highest sales of lower alcohol wines in the world as a percentage of total sales.
 - the programme has already spawned new lower alcohol brands or labels

In summary: grantors and reviewers alike acknowledged

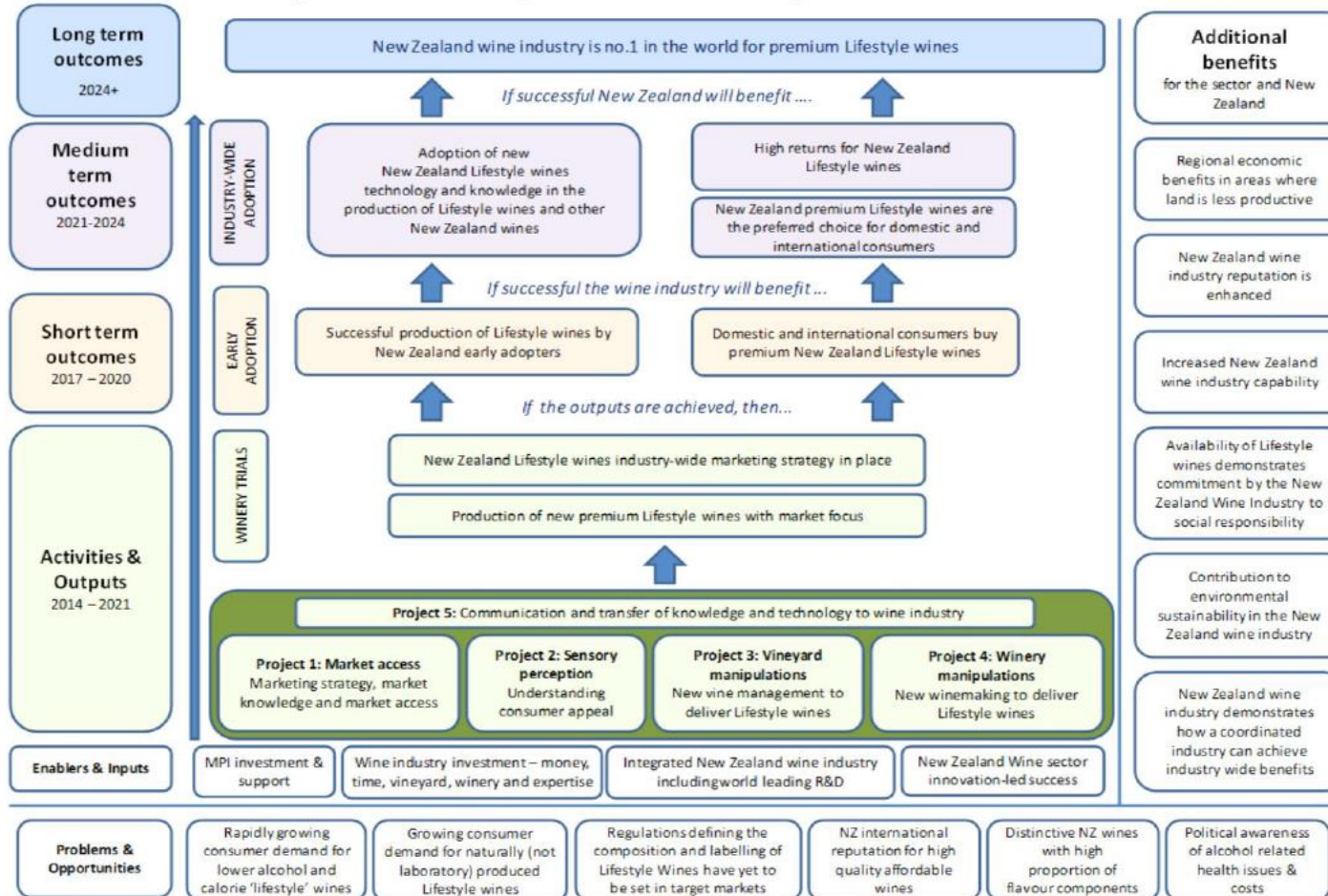
- the complexity and interactions involved in overcoming the technical challenges, and
- the need for a long-term approach to overcome possible market reluctance to grasp the value proposition underpinning the programme.

The lead reviewer concludes that

- the most important competitive, technological and supply constraint risks have been considered and addressed
- the overall progress to date and the direction of the programme suggest that it is likely to achieve its targeted outcomes
- acting upon the recommendations contained in this report is expected to enhance the programme.

Annex 1: Outcome Logic Map

Outcome Logic for NZ Lifestyle Wines PGP Programme 2014 – 2021 version 7 July 2014



Annex 2: **Original Vision for Lighter Wines Programme**

The vision for this programme is 'By 2024 the New Zealand wine industry is number one in the world for premium Lighter wines'.

- Lighter wines - naturally produced, lower alcohol and lower calorie
- Premium - top 25% in price (consistent with current quality NZ wine price)
- Number one - consistently top in international market surveys, first to mind when the discerning customer is looking for this category of wine
- NZ wine - product labelled as from New Zealand
- By the end of 2023 it is hoped that the broad economic benefits from the Lifestyle wines PGP programme is estimated at NZD 285 million, made up of
 - NZD 22 million of increased domestic wine sales
 - NZD 263 million of increased FoB export earnings

Economic Sustainability

The programme will lead to improved commercial performance for the industry through:

- Greater control of consistency and quality of lower alcohol wine production
- Greater understanding of climatic effects on grape and wine quality
- Increased economic sustainability of the industry through growth in export returns and reduced risk in grape and wine production.
- Contribute to the NZ innovation culture, through accelerated innovation in the wine industry and, more broadly, regarding consumer-centric food and beverage science.

NZ Wine industry Image

Contribute to the growing image of the NZ Wine industry as being:

- Health conscious
- A continuous innovator
- A market leader

Social Responsibility

- Demonstrate the commitment of the New Zealand wine industry to social responsibility and the safe and healthy consumption of its products
- Provide consumers with more high quality options to ensure greater uptake of lower alcohol and lower calorie wines and that consumer consumption of alcohol and calories is moderate and responsible

Environmental Sustainability

- Aligns and integrates with New Zealand Winegrowers' sustainable wine industry practices, particularly its focus on natural processes
- Contribute to environmental sustainability through integration with the NZW sustainability drive as embodied in Sustainable Winegrowing New Zealand

Capability

The programme will contribute to the building of capability in New Zealand both within the industry and within support sectors, including increasing

- Employment opportunities through industry growth
- Research capability, PhDs, and Post Doctorates
- Know how on how to ripen grapes in poor years
- Regional investment

Annex 3: ***Grantor Companies***

Accolade Wines NZ Ltd
Allan Scott Wines and Estate
Constellation Brands
Forrest Estate Wines
Giesen Wine Estate Canterbury
Indevin Limited
Kono NZ LP
Lawson's Dry Hills Ltd
Marisco Vineyards
Mount Riley Wines
Mt Difficulty Wines Ltd
Pernod Ricard New Zealand Ltd
Runner Duck Estate Ltd, Matakana
Spy Valley Johnson Estate
Villa Maria
Whitehaven Wine Company Limited
Wither Hills – Lion
Yealands