Capstone 1

Heartbreak Estates Vineyard & Winery Ltd. — Case

***CPA Evaluation* — 2018**

(All dollars are Canadian dollars unless specifically stated otherwise.)

It is February 1, 2018, and you are employed as a CPA with Bennett & Robertson LLP (BR), a local CPA firm in Picton, Ontario, offering a full range of accounting, tax, audit and advisory services to clients. Jean Bennett, a founding partner of BR, is Heartbreak Estates Vineyard & Winery Ltd.'s (HEVW) adviser. You are part of the team assigned to prepare a report for the owners of HEVW.

HEVW's two owners, Andrew and Geneviève (Jenny) Heartwood, recently engaged BR because the company's accounting and regulatory reporting was overwhelming Jenny. After discussions with Jean, the Heartwoods now realize they need advice from professionals to facilitate the growth of HEVW into a medium-sized vineyard and winery. Andrew and Jenny want BR to complete a strategic analysis and provide recommendations related to planting the remainder of their acreage and building an on-site winery and tasting room. The results of this analysis will be included in their business plan. A decision must also be made on the distribution channel and price for their wine, keeping in mind their goal of becoming a premium estate winery. As well, an educational institute has approached HEVW about a strategic partnership, and BR must analyze this potential opportunity. HEVW's business plan will be presented to prospective investors, lenders and strategic partners, and will need to include draft pro forma financial statements reflecting the recommendations. There are also many financing, tax planning and operational issues that Andrew and Jenny would like BR to address.

The following information has been compiled for the engagement team to review and analyze. Andrew has also compiled a list of terms used by the wine industry (Appendix XI).

Heartbreak Estates Vineyard & Winery Ltd.

HEVW is a privately held vineyard located in Prince Edward County, Ontario. Currently, one-quarter of its land is planted and produces premium grapes, which are made into wine at a nearby winery. HEVW's 2016 "First Heartbreak" Pinot Noir won the Gold Pinot Noir Award at the 2017 Ontario Wine Awards. Andrew also received the Young Winemaker Medal. The Heartwoods are seeking to expand the vineyard and establish a winery and tasting room because of a deep love of the vineyard, winemaking and wine.

Industry information

Consumer preferences

Wine consumption in Canada is growing three times faster than globally, and total domestic per-capita wine consumption is approximately 15 litres per year.[1] Industry statistics show that current consumption trends are favourable for the domestic wine market, especially for producers of premium wines. There is also a growing interest in organically grown grapes.

Wine accounted for 15.8% of the total volume of alcohol sales in Canada in 2014/2015 (up from 12.4% in 2005/2006),[2] with 59% of Canadians preferring red wine (consumption of red wine has grown by 6.8% since 2014[3]).

Premium wines tend to be made from grape varieties recognized by the Vintners Quality Alliance (VQA) and are grown following sustainable growing practices. The grapes are handled gently throughout the harvest and winemaking process, usually under the direction of a winemaker known for making quality and award-winning wine. Most premium wines are featured in fine restaurants, which prefer to carry at least one red and one white wine from a premium brand. These wines are able to command a higher price, which is also paramount for branding.

Vitis vinifera (common grape vine) is native to the Mediterranean and southwestern Asia, and produces both red and white grapes that contain high amounts of sugar and tartaric and malic acids, making them excellent grapes for premium winemakers. Until the late 1980s, the Canadian wine grape industry was based on hybrid varieties. Recently, however, there has been a conversion of plantings to the *Vitis vinifera* varieties. The most popular white *Vitis vinifera* varieties in Canada are Chardonnay, Pinot Blanc, Pinot Gris, Riesling and Vidal. The most popular red *Vitis vinifera* varieties in Canada are Cabernet Franc, Cabernet Sauvignon, Marechal Foch, Merlot and Pinot Noir.

Market demographics

Adults of drinking age can be divided into three broad generations: baby boomers (boomers), generation X (gen-Xers) and millennials. Each generation has unique preferences and buying habits.

The growth in the premium wine market can be attributed to the aging boomers, who, in or nearing retirement, have accumulated significant wealth over their lifetime and can afford to spend money on luxury items such as premium wine. Wine is the preferred dinner beverage for this demographic, and their consumption of premium wine is expected to increase for a number of years.

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[1] http://www.cbc.ca/news/business/per-capita-canadian-wine-consumption-now-15-litres-a-year-1.1412093
[2] http://www.statcan.gc.ca/daily-quotidien/160510/cg-b002-eng.htm
[3] https://www.thestar.com/business/2015/02/17/canada-among-the-worlds-top-consumers-of-imported-wine.html

Millennials, born between 1980 and 2000, are driving a changing landscape for the wine industry and, by 2020, will represent one in three adults.[4] Millennials represent the largest cohort in the workforce at 37% in 2014.[5]

The following are some important facts[6] about the attitudes of the millennial generation:

- 89% expressed a stronger likelihood they would buy from companies that supported solutions to specific social issues.
- Millennials account for more than $1 trillion in consumer spending in the United States.
- 87.5% of millennials disagreed with the statement that "money is the best measure of success," compared to approximately 78% of the total population.
- 63% of millennials want their employer to contribute to social or ethical causes they feel are important. About half of older gen-Xers and boomers felt the same.
- 64% of millennials would rather make $40,000/year at a job they love than $100,000/year at a job they think is boring.
- 19% of millennials agreed with the statement, "most people can be trusted." This compares to 31% of gen-Xers and 40% of boomers.
- 83% of millennials agreed with the statement, "there is too much power concentrated in the hands of a few big companies" — more than all other generations.
- The average investor aged 21 to 36 has 52% of their savings in cash, compared to 23% for other age groups.

When it comes to wine, millennials have different preferences than gen-Xers and boomers:

- Millennials do not pay attention to expert wine reviews. They place more value in wine recommendations from their peers.
- Millennials value the stories behind the wines and the opportunity to experience a personal connection with the vineyard.
- Millennials look for quality, but at a reasonable price, as they have less money to spend.
- Millennials prefer to drink wine with friends in an informal setting and are more likely to buy wine by the glass than a bottle in a restaurant.

[4] www.brookings.edu/.../11-facts-about-the-millennial-generation
[5] http://www.canadianbusiness.com/innovation/the-millennial-majority-workforce/
[6] www.brookings.edu/.../11-facts-about-the-millennial-generation

- Millennials are technologically savvy, environmentally engaged and eager for stories about the things they love.[7]
- Both boomers and millennials prefer red wine over white.[8]
- Recently, millennials have been showing an interest in red blends as well as Riesling, Chardonnay, Cabernet Sauvignon and Pinot Noir.[9] Riesling, Chardonnay and Pinot Noir have shown increasing popularity through Liquor Control Board of Ontario (LCBO) sales.[10]

Results from a survey of wine-drinking millennials[11] showed the following:

- 86% buy a bottle or glass of wine they've never tried before at least two to three times a month.
- 22% subscribe to a print wine magazine, newsletter or other publication.
- 85% have met someone after work for a glass of wine at least once in the past month.
- 43% have visited four or more winery tasting rooms in the past 12 months.
- 61% have commented on wine on Facebook or read the wine comments of others on Facebook in the past month.
- 72% have posted a photo on Facebook, Instagram, Pinterest or other social media platform showing wine they enjoyed in the past month.

Wine on tap is becoming more popular, and millennials in particular are flocking to restaurants offering good-quality wine on tap. They are also open to wine in different packaging types. Boxed wine is more accepted by the younger demographic, with almost half saying boxed wine is just as good as bottled wine.[12]

Tourism and the wine industry

Each year, wine-related tourism welcomes more than three million visitors to Canada, indirectly generating more than $1.2 billion annually in tourism revenue and employment.[13] Chinese tourists play a key role, numbering over 440,000 visitors and spending more than $1 billion annually. Chinese tourists prefer high-end wine products.[14] There is still an over-reliance on domestic visitors, however, and Canada competes with California, France, Australia and New Zealand, which are well-recognized wine regions. Yet Canada does enjoy a competitive advantage in wine

[7] https://www.wsj.com/articles/how-millennials-are-changing-wine-1446748945
[8] Ibid.
[9] http://marketwatchmag.com/millennials-and-wine-december-2015/
[10] https://wgao.ca/wp-content/uploads/2016/03/Shari_MogkEdwards_Presentation.pdf
[11] https://www.wsj.com/articles/how-millennials-are-changing-wine-1446748945
[12] https://www.specialtyfood.com/news/article/wine-tap-popular-among-millennials/
[13] http://www.canadianvintners.com/2013/03/05/canadian-wine-and-grape-industry-contributes-6-8-billion-in-economic-impact-to-canadian-economy/
[14] http://tiac.travel/_Library/TIAC_Publications/vintner_report_2015_FINAL.pdf

tourism, including well-marked wine routes, free online wine route planners, top restaurants located in and around wineries, and wine festivals and events.[15]

Direct sales at the vineyard are critical to a winery's success.[16] Tourists appreciate hearing the story behind the wine and they like to feel a relationship with the winemaker. Vineyard tours attract visitors and are key to driving increased wine sales, enhancing brand awareness and helping to differentiate between each wineries' products.

When building a winery, incorporating elements that will encourage tourism, such as safe viewing of the production processes and wine production, will yield more visitors. In addition to wine quality, elements that encourage tourism include:[17]

- a sufficient number of knowledgeable, friendly staff on hand during business hours
- exterior attractiveness (such as architecture, car parking facilities and signposting)
- ambience (such as interior design, furnishing, decoration, equipment, order and cleanliness)
- merchandise articles and brochures

Many Canadian wineries already incorporate these elements into their operations; as such, they must seek ways to differentiate themselves, such as offering unique culinary experiences, cooking courses and special events.[18] Some best practices related to wine tourism include:[19]

- wine roads/routes
- wine community partnerships
- special wine events and festivals
- experiential wine programs
- linking wine production to regional tourism
- unique partnerships (such as with golf courses and spas)
- wine villages
- focus on art and architecture
- food and wine pairing
- green tourism/ecotourism

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[15] Ibid.
[16] http://academyofwinebusiness.com/wp-content/uploads/2014/07/TE03_Ratz_Juliane.pdf
[17] McDonnell, A. and Hall, C. M., "A framework for the evaluation of winery servicescapes: A New Zealand case" (2008), available at:http://www.pasosonline.org/Publicados/6208special/PS0208_7.pdf (accessed 28 November 2008).
[18] Hashimoto, A. and Telfer, D.J., "Positioning an Emerging Wine Route in the Niagara Region: Understanding the Wine Tourism Market and its Implications for Marketing" (2003), in Hall, C.M. (Eds.), Wine, Food and Tourism Marketing, Haworth Pr Inc., New York, pp. 61-76.
[19] https://lizthachmw.com/2013/12/06/12-best-practices-in-global-wine-tourism/

- unique wine tours (such as wine and kayaking)
- social media for wine tourism

Having a social media presence has become critical to promote wine tourism. Higher brand awareness, increased tourism and greater sales can be supported by social media. If effective, social media can create a positive brand conversation that entices consumers to visit winery locations or the winery website.[20]

Legal and regulatory environment

Vineyards are regulated by the Ontario Farm Products Marketing Act. The majority of grape growers in Ontario belong to the Grape Growers of Ontario, which advocates on their behalf. The Vintners Quality Alliance Ontario administers and enforces the Vintners Quality Alliance Act (VQA Act), which sets the framework by which standards for the production of VQA wine and appellations for wine-growing regions are established. Vineyards seeking organic certification may also need to comply with federal Organic Product Regulations and Standards.

The wine industry is highly regulated as the LCBO controls the sale and distribution of all liquor for the province of Ontario. The LCBO sells liquor through its own retail stores and website. The Alcohol and Gaming Commission of Ontario (AGCO) grants licences for the sale of liquor at non-LCBO locations, which include independent winery retail stores, restaurants and wineries.

The sale of wine is heavily taxed via several different levies and fees:[21]

- Bottle deposit: A refundable bottle deposit of $0.20 is charged to the consumer on each bottle of wine.
- HST: Wine is taxable for HST purposes, and is charged on the basic selling price, excluding the bottle deposit.
- AGCO fees: The AGCO charges the following taxes[22] on the sale of wine:
    - Basic tax: 6.1% of basic selling price — this is not charged when wine is sold in the LCBO stores
    - Environmental tax: $0.0893 per unit (bottle) sold
    - Volume tax: $0.29 per litre of wine
    - Excise tax: the federal government charges excise tax on alcohol, including wine, but wine made from 100% Canadian agricultural products is exempt

Because of the regulations in place, wineries can't get grapes at the price and quality

[20] http://www.winebusiness.com/news/?go=getArticle&dataid=96151

[21] https://hellolcbo.com/ci/fattach/get/93163/0/session/L2F2LzEvdGltZS8xNDk2NzcwNjM5L3NpZC9lbC1rRnNrbg==/filename/Pricing+Examples+April+2017.pdf

[22] http://www.fin.gov.on.ca/en/tax/bwt/

they want and, as a result, are usually vertically integrated. Estate wineries would prefer to invest in marketing their product, but instead, they invest in vineyards to ensure they produce quality grapes below the current pricing model for wholesale grapes.

The net revenue of wineries is also significantly impacted by its distribution channel(s):

LCBO retail stores

The LCBO has over 650 retail stores and more than 210 agency stores in Ontario that sell beer, wine and spirits. In order to have a product listed for sale through the LCBO, a business (or agent acting on behalf of the business) must apply to the LCBO through a comprehensive, multi-phase application process, and products are accepted based on identified needs, consumer trends, sales and marketing plans, and product differentiation, among other criteria.[23]

When products are accepted and sold via the LCBO, they are subject to a prescribed markup on the basic price net of taxes and a wine levy (which the LCBO charges in addition to the taxes and fees described earlier). The LCBO has been increasing the markup by 2% each year over the past several years (Appendix VI).

Liquor sales licences

The AGCO grants a variety of licences to sell liquor, and these licences can be divided into two main categories: licensees and winery retail. The application process takes between 10 to 12 weeks, but may take longer if risks are identified requiring further investigation. Applicants are required to detail specific information about their premises and business, as well as personal and financial information. Applications require a completed municipal information form as well as an agency letter of approval from the local fire, building and health departments. Applicants will undergo licensing inspections and may be required to hold a public hearing.

Licensees: A licensee, such as a restaurant or independent retail store, purchases wine at a 10% discount, calculated on the basic price. These wine sales are subject to the same taxes and levies as wine sold via the LCBO, with the exception of the LCBO markup and the wine levy. The licensee can set its own price to sell the wine to the consumer.

Winery retail: Wineries are permitted to sell wine they make themselves at an on-site retail store, and, by law, must sell the wine for the same price as at an LCBO store. This category also includes wine bottled under licences for other wineries, and direct sales such as wine mailing clubs. These wine sales are also subject to the same taxes and levies as those sold by other licensees, but are not subject to the 10% discount.

[23] http://www.doingbusinesswithlcbo.com/tro/Forms-Documents/pmpp/files/assets/downloads/publication.pdf

Soil and climate

Choosing a vineyard site on a south-facing slope contributes to good air drainage, allows for the greatest exposure to the sun, as sunlight is absorbed through the vine leaves and is converted to sugar, and avoids frost.

There are certain regions in Canada that enjoy a climate that is ideal for growing grapes. One such region is the Niagara Escarpment, where the ground warms up in the spring and cool air is drawn inland from Lake Ontario. This cool air delays bud bursts on the vines, which prevents potential damage from late spring frosts.[24] Other regions with climates ideal for grape growing are those with lands in close proximity to a large body of water, where the water has a moderating effect on the air temperatures.

Canadian grape farmers face an added challenge when dealing with Mother Nature, and unseasonably cold Canadian winters have been known to destroy crops. For example, in 2014, a polar vortex wreaked havoc on the vineyards in southern Ontario, with the Merlot and Sauvignon Blanc grape varieties suffering very low bud survival rates. After the incident, some southern Ontario farmers decided to replace their Merlot with hardier grape varieties.

Canadian grape farmers have implemented techniques to protect the vines when the temperature falls below –23 degrees Celsius. Some vineyards in Ontario's wine regions have built bonfires throughout the vineyards, rented helicopters to fly over the vines or purchased large wind machines to keep the cold air away from the vines. Hardy cool-climate grapes include Cabernet Franc, Cabernet Sauvignon, Chardonnay, Gamay, Gewurztraminer, Merlot, Riesling, Sauvignon Blanc, Syrah, Pinot Blanc and Pinot Noir. The appropriate cool climates for growing grapes for wine are characterized by a long period of growth and sunshine with little cloud cover.

In addition to the damage inflicted by cold weather, hot and wet weather can also destroy crops. Hot weather can cause grapes to dry out and become overripe. In the spring, heavy rains can knock blooms off the vines. At harvest time, excess water resulting from wet weather can cause the grapes to swell and burst, and mildew can spread among the vines.

Even a perfect growing season can cause overproduction and the quality of the wine may suffer. It is standard practice for growers to trim off excess grape bunches to ensure that the remaining grapes ripen to become more flavourful and complex. A smaller yield is often preferred if the goal is to produce a premium wine, which will hopefully yield a higher value when the time comes to sell the bottled wine.

Company background and operations

Andrew attended university in Burgundy, France, to continue his studies as a grape grower and winemaker. There, he gained a deep passion for the famed dry, red wine

[24] http://escarpment.org/travel/highlights/wineries/index.php

of the region, Pinot Noir. It is also where he met his wife, Jenny, who was born in Burgundy and grew up on an estate winery. Shortly after meeting, Andrew and Jenny started making plans to establish their own vineyard in Canada. Andrew knew that the soil where his family operated a vineyard did not have the right conditions to grow Pinot Noir, and his research led him to the newest wine region in Ontario, Prince Edward County.

Andrew and Jenny purchased 40 acres of land in 2012. The land is located on a rolling south-facing stony hillside in the northwestern corner of Hillier, a community in Prince Edward County that borders the main road tourists use to travel to other wineries as well as to Sandbanks Provincial Park, which enjoys over 750,000 visitors per year. The hill on which the land is located attracts the sun and appears to repel rain and frost. This particular plot of land has fairly fertile clay with limestone gravel, and Andrew and Jenny have found it to be very similar to the soil in Burgundy. The morning fog gives way to moderate temperatures during the day, enabling the fruit to stay relatively cool during the prime growing season and allowing for maximum time on the vine with optimal flavour development. The vineyard is just over a kilometre from Lake Ontario and enjoys the moderating effects of the breezes from the warmth of the lake.

Andrew and Jenny married and began the vineyard while living in a rundown farmhouse situated on an additional quarter-acre of land, adjacent to their vineyard. Andrew and Jenny purchased the farmhouse and the quarter-acre of land for $25,000 from the farmer who previously owned the vineyard. In the spring of 2013, Andrew planted Pinot Noir rootstock on 10 acres, leasing back the remaining 30 acres to the farmer who sold them the land, for $75 per acre per year. Andrew oversees the vineyard and Jenny handles all administration.

The first Pinot Noir grapes were harvested in the fall of 2015 and the wine was released for sale in the fall of 2016. While establishing HEVW's vineyard and to generate income, Andrew has been the resident winemaker at County Winery (CW), a neighbouring and well-established Prince Edward County winery.

Currently, HEVW is operating as a "virtual" winery at CW — HEVW's grapes are pressed into wine and the wine is aged in barrels for approximately 12 months, at which time it is bottled, under licence at CW, and released for sale. HEVW pays CW for all winery services, including bottling costs, when the grapes are pressed.

50% of HEVW's wine has been sold at CW's retail store for a 10% commission on the gross retail selling price, but the wine is not offered at the CW tasting bar. 40% of the wine is sold through a wine club HEVW established under CW's licence. Both the wine sold by CW and the wine sold through the wine club are classified as "winery retail" for LCBO and taxation purposes. The remaining 10% of HEVW's wine is sold to a few local restaurants that support Prince Edward County wines. The restaurants are all licensees with the AGCO.

Demand has been good and HEVW has been selling all of the wine it bottles within the year it is released for sale. CW currently has excess bottling capacity of 40,000 bottles annually, which HEVW can use. CW will sell up to 3,000 cases of HEVW wine from its retail store, but this could be reduced at any time, as CW's priority is selling its own wines.

Andrew and Jenny have invested a great deal in their vineyard, financially, physically and emotionally. They know that small wineries don't typically generate large profits and they don't expect to be handsomely rewarded in this business. Andrew and Jenny want their business to provide a reasonable margin and to be a rewarding future for their family, with target revenues of no less than $2,000,000 but no more than $5,000,000. Working capital will be required to sustain the business while the future vineyards reach 100% production, which will take another five to six years. Jenny has suggested that this may mean exploring other revenue opportunities in the interim to supplement the sales revenue of the wine produced from the current Pinot Noir vineyard.

Vision statement

Grow the finest grapes, let them shine in the finest wine and attract all types of people from all places to see where the magic happens at our vineyards in Prince Edward County, Canada.

Mission statement

Our **vineyards** will grow premium *vinifera* grapes, and we will use hand labour and sustainable farming methods to care for the grapes to the point of harvest.

Our **winery** will produce premium wines, which are the best expression of our unique terroir, with minimal intervention and minimal impact on the environment.

Our **wines** will please the most discerning wine lover's palette, and we will introduce fine wine to an entirely new wine loving demographic.

Our **business** will provide a satisfactory profit to enable the owners to focus on this business with sufficient returns to fund future growth goals.

Company structure

HEVW is a limited company owned equally by Andrew and Jenny, who incorporated the company for a nominal value. While there is no formal Board of Directors, Andrew's father, John Heartwood, acts as the couple's industry adviser.

Management team

Andrew is from a fourth-generation family of farmers in Niagara-on-the-Lake who converted their 250 acres of farmland to vineyards over a 15-year period from 1978 to 1993. Throughout this period, new winemakers moved to the region, believing that southern Ontario was ideally suited to grow the same varieties of grapes that are grown in Europe.

Andrew spent many years as a child, alongside his two brothers, helping to plant and tend the vines. The family sells their grapes to established winemakers in the Niagara region. The name of their vineyard has been featured on the label of premium VQA wines from several reputable wineries over the years. They are well known for their Chardonnay and Cabernet Sauvignon grapes, but they also grow several other varieties. They attempted to grow Pinot Noir, but after several failed attempts, Andrew's father replaced the vines with more hardy *Vitis vinifera* and hybrid vines.

After graduating from Brock University in 2008 with an undergraduate degree in oenology and viticulture, Andrew expressed an interest in pursuing winemaking and in growing high-quality grapes. His father, John, supported him and funded his education in France, where Andrew earned a master's degree in vineyard and winery management from the Université de Burgundy. Throughout his studies, Andrew gained hands-on experience learning about the inner workings of a winery. He knew the experience would be invaluable and he learned to clean and repair almost every pump, conveyor, tank and other piece of equipment used in a winery.

Jenny grew up as the daughter of a small vineyard owner and resident winemaker in Burgundy. She studied history at the Université de Burgundy. Jenny was actively engaged in managing the small family vineyard operation before marrying Andrew and immigrating to Canada.

Financing

Andrew borrowed $750,000 from his father against his interest in the family vineyard in Niagara-on-the-Lake. The borrowed monies were used to fund the purchase of the 40 acres of land and the immediate development of 10 acres. The 250-acre vineyard in Niagara-on-the-Lake was recently appraised at $70,000 per acre. John owns 50% and each of his three sons have a one-sixth ownership interest.

John told Andrew that he would not charge interest on this loan until the Pinot Noir grape vines were at 100% productivity, which occurred in 2017. Interest is charged at a rate of 6% while the loan is outstanding. Andrew has agreed to forego any claim to dividends on the family vineyard while the loan is outstanding.

Andrew can borrow against his remaining interest in the family vineyard from his father to finance expansion, but only if he can demonstrate that HEVW can repay the loan over 15 years and that HEVW will show profitability within five years. Andrew has the

option to sell his interest in the family vineyard outright, but he is legally obliged to sell it to family members. Andrew's brothers have young families and it is unlikely that they have the cash flow to purchase his interest.

Risk management

There are many risks associated both with the growing of grapes and with winemaking. On the growing side, the risks involved include grape variety selection, grape quality, grape prices, weather, disease, water, pests and funding the long vineyard establishment period, among others. On the winery side, the risks include market uncertainties, changing consumer preferences, the regulatory environment, the political climate, taxes, competition from the large wineries, continued industry consolidation and funding the long manufacturing cycle.

The AgriStability, AgriInvest, AgriInsurance and AgriRecovery programs[25] have been established in Ontario to help grape growers address these various risks and uncertainties. The details of these programs are as follows:

- AgriStability: Producers receive relief payments if current-year margins fall below 70% of a calculated previous-year average.
- AgriInvest: Producers make an annual deposit of 1% of their operations' allowable net sales for the program year into a special account and receive a matching government contribution.
- AgriInsurance: Producers pay a premium in advance, and payments are triggered when there is a decline in production for the year.
- AgriRecovery: This program fills the gaps when the other programs cannot respond quickly to a weather or disease disaster that may impact only a small geographic area of the province. There are intentionally no established calculations so each situation can be assessed individually (for example, drought, flooding, catastrophic crop disease).

Meeting dialogue

Jean recently met with Andrew, Jenny and John on January 26, 2018. Andrew provided the team with additional background information on the wine region, Pinot Noir and winemaking (Appendix I). Jean obtained the draft financial statements from Jenny (Appendix II) and located industry metrics to use in the analysis of results (Appendix III). Jean also assembled additional information for the team based on information from Andrew and Jenny and BR resources on vineyard expansion (Appendix IV), winery development (Appendix V), distribution channels and pricing (Appendix VI), a pricing calculator (Appendix VII) and a strategic partnership with Niagara College (Appendix VIII).

[25] https://www.bdo.ca/getattachment/ca06a088-08a9-4a0d-b1df-403feb1c63a3/attachment.aspx/

Jean: Thank you for taking the time to meet with me today. I want to give my team clear direction regarding what you require of us so I hope that you don't mind that I am recording our conversation.

Andrew/Jenny/John (in unison): No problem.

Jean: We have received the additional background information you sent us, along with your financial statements for the past six years. We will review this information and provide you with comments. The industry metrics we have found will be useful as a benchmarking tool.

Andrew: Thank you, Jean.

Jean: I know that you've also requested that we present a strategy document that will enable you to develop a clear direction for the future of the company. To confirm, you would like us to prepare the draft pro forma financial statements, for 2018 and into the future, to complete your business and financing plans, which you will then share with your father and brothers and with other potential lenders, investors and strategic partners. The pro formas and financial projections we prepare will incorporate our recommendations.

Andrew: That's correct.

Jean: Thank you for your confirmation Andrew. I will need to obtain some more information to assist us with this project.

Andrew: Right now, our vines are at full production of our Pinot Noir grapes, and we have a little over 2,000 cases of wine to sell in 2018 that we produced in 2017.

Jenny: Our award-winning *"*First Heartbreak*"* wine is selling quickly. I don't think we will have a problem selling these wines through our wine club or CW's retail store.

John: Andrew plans to bring the vineyard to full production by planting 25 of the remaining 30 acres over the next five to seven years. The remaining five acres are earmarked for an on-site winery. We would like advice from BR on what to plant. I'd like to recommend grape varieties that I know have a high yield and a proven market, but Andrew correctly pointed out that what we plant depends upon a variety of factors, some of which are geographical.

Andrew: We need to select the grape varieties that complement our Pinot Noir. I have heard from other winemakers in the area that the Pinot Gris is a top seller and a hardy variety, but I am open to suggestions on the appropriate mix. Also, when it comes time for harvesting, I don't want all of the grapes ready at the same time. We aren't a large vineyard and our labour is limited.

Jenny: The decision should also relate back to the research we have conducted on the industry demographics, consumer preferences and price. Andrew is so focused on the quality of the grapes and wine that he forgets we need to sell it!

John: The yield will differ by grape variety and we have good industry data to use.

Andrew: We all have different viewpoints and would like BR to perform an analysis and provide a recommendation on product mix. I am also interested in the decision criteria that you use to determine the product mix. As well, I would like to know the annual expected yield by grape variety based on the recommended product mix and a five-year forecast of the total costs associated with the vineyard establishment and ongoing operations. To aid in the financial projections, I have provided the actual costs for establishing and operating the first 10 acres of Pinot Noir, and you should use this to estimate the costs for planting the additional 25 acres, regardless of the grape varieties recommended.

Jenny: I think we should plant all 25 acres immediately since it takes so long to get to 100% yield, but Andrew has some other ideas.

Andrew: The additional lease income has been helpful. I believe that we can continue leasing out any portion of the land that we decide not to plant at the same rate per acre to the farmer who previously owned the land. My passion is for Pinot Noir grapes, and while I don't want to plant more Pinot Noir immediately, perhaps some portion of the land should be reserved for future planting. All winemakers in the county are closely watching those vineyards and wineries that have been successful with Pinot Noir. In the Canadian wine market, this could be a niche for Prince Edward County and HEVW.

John: No matter what is decided, there is an additional way HEVW can add to the grape value. Andrew hasn't used pesticides on the current 10 acres of Pinot Noir and he uses only the organic farming methods that I taught him. As much as we can, we rely on crop residues and manure to maintain the soil quality, supply nutrients to the plants and control weeds, insects and other pests. There is an opportunity to market HEVW grapes as "organic" and to charge a premium.

Andrew: We know that the farmer who has been leasing our remaining land does use agricultural toxins (pesticides, herbicides, fungicides and chemical fertilizers) on his crops and he refuses to discontinue this practice that he has always used. We haven't pushed the issue as we need the lease money. He has been kind enough to spray on still days, which minimizes the impact on our Pinot Noir. We won't use pesticides on the new vineyards we plant.

Jenny: We will keep the history of the pesticide use confidential, as we can't afford to wait the three years it normally takes for the pesticide residue to dissipate from the soil in order to start planting vines that would be organic. While I don't see any problems with this, perhaps BR can identify any potential concerns.

John: Andrew and Jenny have done well with the Pinot Noir and I think they should continue to concentrate on the vineyard and put the winery development on hold. It is a big investment for a young couple. Wine could still be made at CW so I don't understand the immediate need for expansion. I'm sure the cost to process grapes at our own winery would be comparable to the amount we are paying CW.

Andrew: A winery will provide added income for our future. BR can complete an analysis of the costs related to processing grapes using our own winery versus outsourcing, and any other factors we should consider in making this decision. I understand my father's concerns, and we need to ensure that the winery is the right size. I've obtained information about how much it would cost for each of the components of our new gravity-fed winery, but I would like the BR team to estimate the square footage we would require, assuming we proceed with the winery, based on the expected yield of the recommended product mix. I'd like to see an estimate prepared of the winery investment and then incorporate the required investment into the financial forecasts. Neither Jenny nor I know how we should show this investment in our financial statements or how it might be treated for tax purposes.

Jenny: I also think we should consider leasing any excess winery capacity to other current and future virtual wineries in Prince Edward County, if we don't produce enough grapes initially. We have seen from leasing the land to the farmer that additional revenue sources are beneficial. My father-in-law's vineyard may even provide a source of grapes while waiting for our new vineyards to reach maturity.

John: Andrew is right; should the winery be built, it needs to be small and hopefully there won't be an excess capacity issue. I have offered Andrew and Jenny some additional financing by borrowing against Andrew's remaining interest in my vineyard. I don't want to risk my retirement and I am interested in seeing the final business plan.

Andrew: I'm concerned where we will get the cash flow needed to fund this potential expansion and would like you to provide an analysis of our financing options. Jenny researched an alternative financing option that I'd like you to include in your assessment (Appendix IX). It would be nice to keep my share of the family vineyard as a sort of insurance policy or, if we are successful, a source of future financing for further expansion.

We would also like your team to determine how much money is needed each year over five years to establish the remaining vineyards and construct the winery and tasting room, outlining all of the operational and financial assumptions. The analysis should include projected capital asset purchases, revenue, operating costs, selling and administrative costs and cash flows.

I can continue my role as CW's winemaker until such a time as our new vineyards reach 75% production. Jenny currently earns $45,000 per year as a bartender in Picton, but will quit that job when we start building the winery. We rely on her income to help pay our personal expenses as we are trying not to take much out of the business.

If there are funding programs we could apply for, we would like to hear about them as they would help fund operating or capital requirements. For example, one of our neighbours received $40,000 a couple of years ago. I have heard of the Marketing and Vineyard Improvement Program. I am not sure if this program still exists or if there are others and, unfortunately, I don't have time to do the research.

Jenny: We also need a plan for how much we should sell in each of our different markets. I have done some research on pricing, and our Pinot Noir will be our premium wine. Some of the local wineries, including CW, hire an agent to sell their wines to licensees. We want to know if this is the direction we should take or if we should hire someone full or part time to represent our winery.[26]

John: I think HEVW should distribute through the LCBO. Our vineyard supplies some large wineries and I understand that the LCBO takes care of all the marketing and distribution. The LCBO would allow Andrew and Jenny to concentrate on growing quality grapes and making more award-winning wine.

Jean: The net revenue varies dramatically by distribution channel. We will evaluate each of the options and explain why any channels may be ruled out. To help with this analysis,our firm has developed a pricing calculator and it has been updated with the 2018 rates. I had one of our tax experts check the fees, taxes and calculations, and it works correctly.

Jenny: That sounds great! In addition to advice on how much of our wine should be distributed through each channel, I would also like help with our strategic pricing decision as I need to know what price to list each type of wine at, keeping in mind that our goal is to establish a premium brand. Operationally, I would like the BR team to suggest some marketing ideas appropriate for the size of HEVW.

Jean: We will provide you with analyses of these issues.

Andrew: At the 2017 Ontario Wine Awards, I became reacquainted with a former university classmate, Grant Bailey, whose winemaking career has included winery work overseas. Grant is currently a winemaker instructor at Niagara College (NC). A few years ago, NC acquired a 40-acre vineyard and winery in Niagara-on-the-Lake and it became a teaching winery and satellite campus of NC.

John: The addition of a teaching winery has increased awareness of our wine region. We have benefited from the advertising NC does for its winery. I've heard that NC is investigating the possibility of marketing through the LCBO.

Andrew: Since the acquisition, Grant has been teaching several courses in addition to overseeing the vineyard and wine production. Under Grant's leadership, NC has received numerous industry awards for its ice wine, which is now marketed across the

[26] http://www.noahwinegroup.com/#!the-wine-agent/tm6exbe

world. NC is looking to establish a second teaching winery to be part of its Canadian Food and Wine Institute in another Ontario wine region and has approached us with a proposal.

Jenny: While I don't think Andrew ever imagined being an instructor, the marketing benefits would be fantastic. I also see the potential for other revenue generating opportunities through the strategic partnership.

John: How is Andrew going to concentrate on his vineyard if he is teaching and working at CW? I'm not sure I would want inexperienced students tending my grapes.

Andrew: It is something to consider as it could allow me to concentrate on our vineyards and winery instead of working at CW; I don't think I could do both. I have a passion for grapes and wine that I would love to share and, having learned through hands-on experience, I would like to provide that same opportunity for other students. There may also be an opportunity to create new jobs in our local area, which is good for the community. Financially, the opportunity provides us with access to some financing, and the free student labour could reduce ongoing labour costs for the vineyard by 70%. There is a set curriculum so students will have some background before they start tending the vines.

John: The monitoring stations make me nervous. I don't think you want to tell the whole industry your formula for growing prize-winning grapes. You'll lose your competitive advantage.

Andrew: The monitoring makes sense to me. I was thinking of volunteering this information anyways, since there is a lack of data for the Prince Edward County wine region. We have been lucky so far but the alerts would be helpful.

Jenny: We will also be local heroes if the university can get us broadband Internet service in the region. We would like BR to provide us with an analysis on this proposal. As you can see, we are conflicted on whether we should proceed.

Jean: BR will be able to prepare an analysis of the NC proposal for you. As well, thank you for the information on all of the strategic issues; our team will work with the information you have provided and do some additional research before we provide our findings to you.

Andrew: Given all the strategic changes and new direction that HEVW will be embarking on, it would be useful if BR could summarize how my, and Jenny's roles will change, and whether we need to consider hiring any additional staff to help us with these roles.

Jean: We can provide this summary. The next thing I would like to discuss is the accounting, tax and risk management side of the business. Am I correct in my assumption that you use Excel to record all of your vineyard and winery transactions?

Jenny: Yes, I use a spreadsheet to record all of the vineyard and winery transactions. It is getting harder and harder to keep things organized now that we are bottling wine and receiving payments from CW. I would like some advice as to how I can better manage the accounting side of the business without spending a lot of money.

Jean: It sounds like you need some accounting software. We will identify your needs, develop some criteria to evaluate various accounting software packages and provide you with a recommendation.

Jenny: Excellent. With regard to taxes, I have filed my personal taxes including employment income only for my bartending job, but we haven't filed taxes for the company because we have accumulated losses. We have included Andrew's job at CW in HEVW's income so I have not filed a personal tax return for him. We are withdrawing $2,500 from the company each month to help pay for our personal expenses and make repairs to the old farmhouse.

We have an HST number but I have not filed an HST return yet because our input tax credits are higher than the HST we have collected. Are there any issues with this?

Andrew: We will also need some help with tax planning given your understanding of our future goals. As you can see, we are expensing our winery supplies. I read an article stating that estate wineries such as ours can be considered farms and are able to use the cash basis of accounting,[27] so we currently record our expenses when paid and record income when it is received. We would like your input on that decision, as I don't want to get into trouble with the Canada Revenue Agency and would like to do what is best from an accounting standpoint. How does this impact our company and investments that we have made? Jenny mentioned there may be special accounting rules related to growing and processing grapes, but we don't know what the proper accounting is and could use some help.

As well, please let us know any other significant tax issues that we should be aware of, based on your knowledge of us and our business.

Jenny: I know that once we open the winery there will be certain licensing and regulatory requirements we will need to comply with, but I'm not sure on the details of what is involved. I would like BR to prepare a summary of the licensing and inspection requirements under the AGCO and the LCBO audit requirements. I have found the following resources to get your team started:
http://www.agco.on.ca/en/whatwedo/licence_apply.aspx and
http://www.lcbo.com/content/lcbo/en/corporate-pages/about.html#.WO4tAoWcGhd. As well, I know the NC proposal requires a review engagement. I'm not sure what this entails. Could you provide me with some relevant details specific to our situation?

[27] http://www.mnp.ca/en/posts/is-winemaking-farming; http://fbc.ca/knowledge-centre/farmers-benefit-cash-method-accounting

John: I believe it would be helpful for me if HEVW had some sort of performance management system linked to the key success factors in the industry. While I am comfortable offering Andrew and Jenny advice on vineyard operations, Jenny has spoken of further agritourism facilities and events. If we were able to track some key metrics, it could offer them both an outside perspective.

Jenny: I will need some guidance on what to track and in what format. As well, Andrew and I currently manage operations and make all decisions, and we rely on John to provide us with business advice. I have heard that other organizations have a more formal governance structure and was wondering if you could provide some analysis and advice related to this.

Andrew: We will be facing significant risks through the vineyard expansion. Jean, could your team identify these risks and address how to prevent or manage them in your report? As well, we have heard that a few neighbours have participated in some risk management programs offered to the industry. We would like to know which of these, if any, we should enrol in. The costs should be incorporated into the financial plans and pro forma financial statements.

Jean: BR can advise on all financial and regulatory reporting requirements. I'll have the team suggest a framework for performance management and what key metrics should be tracked. We will develop a risk management plan for the vineyard as part of our report. We will also prepare the pro forma statements that you require for your business plan, incorporating all of our recommendations, both strategic and operational.

Table of appendixes

Appendix I
Additional background information
Per discussion with Andrew Heartwood

Prince Edward County wine region

Prince Edward County is an island community located east of Toronto and south of Belleville, with the Bay of Quinte to the north and Lake Ontario to the south. It encompasses 1,000 square kilometres, with over 500 kilometres of shoreline, beautiful beaches and limestone-rich soil. It is the newest VQA-designated viticulture area in Ontario. The scenery and close proximity to large centres make it a favourable tourist destination. Twelve new restaurants serving wine have applied for AGCO licences and plan to open in the area within the next few years.

The soils, although fertile, are difficult to farm because of their stoniness. The broken limestone bedrock creates excellent drainage in the spring and absorbs water throughout the growing season. In this location, the vines tend to grow deeper during the hot summer months. The result is a lower yield of grapes with more concentrated flavours. The vines also yield less fruit because they are pruned to allow only the healthiest to benefit from the shorter growing season.

Since Prince Edward County is the newest viticulture area in Ontario, the price for land is less expensive than in Niagara-on-the-Lake. As a result, many hobby farmers are now establishing vineyards in Prince Edward County.

Pinot Noir

Prince Edward County lends itself to growing Pinot Noir, and many vineyards in the county are planting this grape with the hopes of capitalizing on its growing popularity. In Oregon, 82% of the vineyards grow Pinot Noir grapes. The price of this variety is much higher than others and has exceeded $2,400 per ton.

Pinot Noir acquired the name “the heartbreak grape” for its fickle nature in the vineyard. It typically does better in cooler climates, but cool climates can also be challenging. The Pinot Noir grapes have very thin skin. This makes them sensitive to fluctuations in temperature and, if they are exposed to too much sun, they can be sunburned. Their thin skin also makes Pinot Noir grapes susceptible to rot, fungus and mildew because of their tight, disease-prone clusters. Because of this, Pinot Noir has a propensity to produce lower yields than other grape varieties. Growers such as HEVW typically hand-pick these grapes.

Winemaking

The grapes are fermented to create wine. Wine can be white, red or pink, and it can be sparkling in all these colours. Fermentation occurs when grape sugar is attacked by yeast. The sugar is converted into alcohol and the grape juice becomes young wine.

Pinot Noir requires careful attention and respect during each phase of the winemaking process. Grapes that have been handled too much can end up making wines that lack flavour and harmony. For these reasons, most Ontario Pinot Noir comes from the estate vineyards of wineries where the winemaker/owner has a passion for the Pinot Noir grape and takes a non-interventionist approach to winemaking.

Pinot Noir grapes should be sorted by hand and the stems gently removed, leaving many grapes uncrushed. The grapes are then placed in a large, open-top fermenter for two to three weeks. Natural yeasts and cultured yeast are normally added to start the fermentation process. During fermentation, the grape skins float to the surface and are punched down several times a day to ensure that the skins have contact with the juice. The free-run wine is then transferred into settling tanks or barrels. The wine is aged 12 to 18 months in oak barrels. This wine requires infrequent racking (transferring into other containers) and it should be monitored and tasted frequently. Secondary fermentation usually occurs naturally in the barrel. The bottling process begins with bottles being placed onto a conveyor. An inert gas, often nitrogen, blows any dust out. Bottles are then filled with 750 millilitres of wine and corked seconds later. The winery labels meeting VQA standards are then applied, and the bottles are packed back into the cases by hand. The bottled wine can be released immediately or aged for six to 12 months before release to further enhance quality. A 750-millilitre bottle of wine contains the juice of 600 to 900 grapes.

If grape growers are able to share in the value-added process of winemaking, they may be more likely to profit financially.

Appendix II
Financial statements

Heartbreak Estates Vineyard & Winery Ltd.
Cash flow statement
For the year ended December 31

	Notes	2012	2013	2014	2015	2016	2017
Opening balance	1	$ 100	$ 364,580	$ 229,860	$ 199,858	$ 102,099	$ 46,694
Receipt of loan	2	750,000					
Loan payments							$ (75,000)
Plus: HST collected		293	293	293	293	16,055	47,584
Less: HST paid		(44,453)	(18,375)	(7,988)	(15,484)	(26,275)	(30,525)
Purchase of land	3	(307,000)					
+/– net income + depreciation		(34,360)	(116,638)	(22,307)	(82,568)	(45,185)	140,844
Ending cash		$ 364,580	$ 229,860	$ 199,858	$ 102,099	$ 46,694	$ 129,597

Heartbreak Estates Vineyard & Winery Ltd.
Balance sheet
As at December 31

	Notes	2012	2013	2014	2015	2016	2017
Assets							
Cash on hand		$ 364,580	$ 229,860	$ 199,858	$102,099	$ 46,694	$ 129,597
Accounts receivable (HST collected net of HST paid)	4	44,160	62,242	69,937	85,128	95,348	78,289
Total current assets		408,740	292,102	269,795	187,227	142,042	207,886
Land	3	307,000	307,000	307,000	307,000	307,000	307,000
Buildings, equipment and other		—	—	—	—	—	—
Total long-term assets		307,000	307,000	307,000	307,000	307,000	307,000
Total assets		$ 715,740	$ 599,102	$ 576,795	$494,227	$449,042	$ 514,886
Liabilities and equity							
Current portion of long-term debt		—	—	—	—	75,000	75,000
Total current liabilities		—	—	—	—	75,000	75,000
Long-term debt	2	750,000	750,000	750,000	750,000	675,000	600,000
Total liabilities		750,000	750,000	750,000	750,000	750,000	675,000
Equity	1	100	100	100	100	100	100
Retained earnings		(34,360)	(150,998)	(173,305)	(255,873)	(301,058)	(160,214)
Total liabilities and equity		$ 715,740	$ 599,102	$ 576,795	$494,227	$449,042	$ 514,886

Heartbreak Estates Vineyard & Winery Ltd.
Income statement
For the year ended December 31

	Notes	2012	2013	2014	2015	2016	2017
Net wine sales	5	$ —	$ —	$ —	$ —	$ 129,302	$ 387,925
Commissions paid to CW	6					(8,049)	(24,148)
Lease income	7	2,250	2,250	2,250	2,250	2,250	2,250
Consulting income	8	80,000	80,000	80,000	80,000	80,000	80,000
Total revenues		82,250	82,250	82,250	82,250	203,503	446,027
Vineyard establishment costs	9	(55,450)	(139,750)	(40,970)	(56,260)	(63,400)	—
Vineyard operating costs	9	(2,470)	(10,290)	(12,410)	(14,060)	(12,400)	(65,040)
Fixed land clearing	10	(10,000)	—	—	—	—	—
Fixed production costs — vineyard	11	(15,400)	(15,558)	(15,714)	(15,865)	(16,045)	(16,205)
Variable costs — winery	12	—	—	—	(30,456)	(91,374)	(121,831)
Total cost of goods sold		(83,320)	(165,598)	(69,094)	(116,641)	(183,219)	(203,076)
Gross margin		(1,070)	(83,348)	13,156	(34,391)	20,284	242,951
Expenses							
Principal/manager/ office salaries	13	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)
General administrative expenses	14	(3,290)	(3,290)	(3,701)	(4,277)	(12,617)	(31,222)
Selling and marketing expenses	15	—	—	(1,762)	(13,900)	(22,852)	(40,885)
Total expenses		(33,290)	(33,290)	(35,463)	(48,177)	(65,469)	(102,107)
Net income before taxes		**$ (34,360)**	**$ (116,638)**	**$(22,307)**	**$(82,568)**	**$ (45,185)**	**$ 140,844**

Note 1 Cash received in purchase of common shares by Jenny and Andrew.

Note 2 Loan from John Heartwood for purchase of land and development of initial 10 acres.

Note 3 Land purchase: 40 acres of developable land at $7,500/acre + $7,000 closing costs.

Note 4 HST

HST collected on revenue (total revenue, excluding consulting income)		$ (293)	$ (293)	$ (293)	$ (293)	$(16,055)	$(47,584)
HST paid on expenses	Note 4a	9,480	18,375	7,988	15,484	26,275	30,525
HST paid on assets		34,973	—	—	—	—	—
HST (due) refund		44,160	18,082	7,695	15,191	10,220	(17,059)
Cumulative HST (due) refund		$ 44,160	$ 62,242	$ 69,937	$ 85,128	$ 95,348	$ 78,289

Note 4a

HST paid on expenses							
Vineyard establishment costs		$(55,450)	$(139,750)	$(40,970)	$ (56,260)	$ (63,400)	$ —
Vineyard operating costs		(2,470)	(10,290)	(12,410)	(14,060)	(12,400)	(65,040)
Total		(57,920)	(150,040)	(53,380)	(70,320)	(75,800)	(65,040)
Less labour component (15% 2012-2016, 54% 2017 per Appendix IV)		8,688	22,506	8,007	10,548	11,370	35,122
		(49,232)	(127,534)	(45,373)	(59,772)	(64,430)	(29,918)
Variable costs — winery		—	—	—	(30,456)	(91,374)	(121,831)
Fixed land clearing		(10,000)	—	—	—	—	—
Fixed production costs — vineyard		(15,400)	(15,558)	(15,714)	(15,865)	(16,045)	(16,205)
Less property taxes included in production costs — vineyard		5,000	5,039	5,101	5,160	5,203	5,257
General administrative expenses		(3,290)	(3,290)	(3,701)	(4,277)	(12,617)	(31,222)
Selling and marketing expenses		—	—	(1,762)	(13,900)	(22,852)	(40,885)
Expenses subject to HST		(72,922)	(141,343)	(61,449)	(119,110)	(202,115)	(234,804)
HST paid on expenses (13%)		$ 9,480	$ 18,375	$ 7,988	$ 15,484	$ 26,275	$ 30,525

Note 5

Net of fees, taxes and LCBO fees.

	2016	2017	2018
Bottles available for sale (prior year yield, Appendix IV)	6,439	19,318	25,757

	Mix	Net revenue per bottle (see pricing calculator)		
Winery retail (CW)	50%	20.30	$ 65,356	$196,078
Winery retail (wine club)	40%	20.30	52,285	156,862
Licensees (restaurants)	10%	18.11	11,661	34,985
			$129,302	$387,925

Note 6

		VQA retail		
Commission paid to CW:	10% of CW sales	$ 25.00	8,049	24,148

Note 7 Lease income of 30 acres at $75/acre per year = $2,250 annually.

Note 8 Consulting income is the fee Andrew charges County Winery for winemaking.

Note 9 Vineyard establishment and ongoing costs per acre (Appendix IV), multiplied by developed acres = 10.

Note 10 Land clearing: $1,000 per acre for 10 acres.

Note 11 Fixed production costs do not include any component of labour because Andrew provides all supervision. Fixed production costs include such items as property taxes, insurance, utilities, pest removal, and repairs and maintenance. They have increased approximately 1% per year since 2012.

Note 12 Variable costs — winery includes packaging and the bottling fee paid to CW.

	Per bottle		2015	2016	2017
			6,439	19,318	25,757
Glass bottle	0.80				
Cork/screw cap	0.20				
Capsule	0.05				
Labels (back + front)	0.35				
Packaging labour	0.33				
Total packaging cost		**$1.73**	$ 11,139	$ 33,420	$ 44,560
County Winery bottling service		**$3.00**	19,317	57,954	77,271
			$ 30,456	$ 91,374	$ 121,831

Note 13 Withdrawn by Jenny and Andrew to cover household expenses: $2,500 per month.

Note 14 General and administrative expenses include office expenses and professional fees. They are expected to total approximately 7% of revenues on an ongoing basis.

Note 15 Selling and marketing includes wine club operations and advertising. These costs are expected to total approximately 10% of revenues on an ongoing basis.

Appendix III
Industry metrics
Extracts from Deloitte study[28]

Profitability and financial position

Industry income statement 2015

	Winery size (2015 sales)				
	$0M–0.5M	**$0.5M–2M**	**$2M–5M**	**$5M–10M**	**$10M+**
Net VQA wine sales	73.0%	70.2%	80.2%	73.4%	35.0%
Net non-VQA wine sales	9.5%	7.2%	0.5%	0.8%	60.6%
Grape sales	3.1%	1.7%	2.3%	3.5%	0.1%
Merchandise sales	2.6%	2.7%	2.8%	2.6%	0.9%
Hospitality sales	1.6%	3.0%	1.7%	2.2%	0.5%
On-site food and wine service sales	2.3%	5.9%	4.9%	11.4%	1.5%
Other sales	5.5%	3.9%	1.9%	2.8%	0.6%
Grants and programs	2.4%	5.5%	5.7%	3.2%	0.8%
Total sales	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Raw materials	-21.4%	-18.7%	-26.3%	-18.8%	-25.6%
Labour and packaging	-41.8%	-28.7%	-21.4%	-21.1%	-14.8%
Other direct manufacturing expenses	-13.1%	-9.7%	-8.8%	-13.9%	-11.6%
Total cost of goods sold	**-76.3%**	**-57.1%**	**-56.6%**	**-53.8%**	**-52.0%**
Gross margin	**23.7%**	**42.9%**	**43.4%**	**46.2%**	**48.0%**
Sales and marketing expenses	-12.4%	-12.7%	-14.7%	-19.8%	-21.4%
Contribution after sales and marketing	**11.3%**	**30.2%**	**28.7%**	**26.3%**	**26.6%**
General and administration expenses	-29.9%	-22.5%	-18.4%	-15.6%	-8.6%
EBITDA	**-18.6%**	**7.7%**	**10.3%**	**10.7%**	**18.0%**
Depreciation and amortization	-15.1%	-8.5%	-6.2%	-4.2%	-1.6%
EBIT	**-33.8%**	**-0.8%**	**4.1%**	**6.5%**	**16.4%**
Interest expense	-7.0%	-3.9%	-3.2%	-2.0%	-1.3%
Interest income	0.0%	0.1%	0.0%	0.9%	0.0%
Other non-operating income	1.3%	0.9%	1.4%	-0.3%	-0.1%
Foreign exchange gain/(loss)	0.0%	0.0%	0.0%	0.0%	0.0%
Inventory write-downs	-1.6%	-1.6%	-2.6%	-0.1%	-0.6%
Profit/(loss) before tax	**-41.1%**	**-5.4%**	**-0.30%**	**5.0%**	**14.5%**

Note: Amounts in the above table represent relative percentages of “Total sales”. Amounts may not sum to subtotals due to rounding.

[28] Ontario Wine and Grape Industry Performance Study 2015. VQA Ontario and Deloitte on behalf of the Ontario wine and grape industry March 2016. http://www.vqaontario.ca/Library/Documents/2015_Ontario_Wine_and_Grape_Industry_Performance_Study_FINAL_03232016.pdf

Industry balance sheet 2015

	Winery size (2015 sales)				
	$0M–0.5M	**$0.5M–2M**	**$2M–5M**	**$5M–10M**	**$10M+**
Cash	1.7%	1.9%	0.9%	1.4%	1.4%
Accounts receivable	1.4%	3.6%	6.0%	7.4%	5.7%
Inventory	28.7%	36.3%	31.5%	36.5%	40.5%
Other current assets	1.4%	1.1%	3.1%	2.5%	0.6%
Total current assets	**33.2%**	**42.9%**	**41.5%**	**47.8%**	**48.2%**
Land and land improvements	18.4%	13.9%	8.7%	11.5%	5.2%
Vineyards	7.2%	7.2%	8.8%	2.3%	5.1%
Buildings and improvements	25.5%	18.2%	27.5%	26.9%	13.9%
Equipment	12.7%	9.0%	5.9%	7.0%	10.3%
Other fixed assets	1.2%	3.3%	3.9%	1.6%	8.8%
Total net fixed assets	**64.9%**	**51.6%**	**54.8%**	**49.3%**	**43.2%**
Purchased goodwill and other intangible assets	0.2%	0.3%	0.2%	0.0%	8.2%
Investments	0.0%	4.6%	0.3%	2.7%	0.1%
Other assets	1.7%	0.7%	3.2%	0.2%	0.3%
Total assets	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Bank indebtedness	5.8%	5.3%	5.1%	10.8%	11.8%
Accounts payable and accrued liabilities	6.1%	5.9%	7.3%	4.2%	6.2%
Other current liabilities	2.8%	16.9%	17.5%	1.8%	2.0%
Total current liabilities	**14.8%**	**28.0%**	**29.8%**	**16.8%**	**20.1%**
Long term liabilities	102.8%	64.4%	59.3%	52.6%	32.6%
Total liabilities	**117.6%**	**92.4%**	**89.1%**	**69.3%**	**52.7%**
Capital stock	13.9%	24.1%	22.6%	3.3%	21.5%
Retained earnings	-31.5%	-16.4%	-11.7%	27.4%	25.8%
Total equity	**-17.6%**	**7.6%**	**10.9%**	**30.7%**	**47.3%**
Total liabilities plus equity	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Note: Amounts in the above table represent relative percentages of "Total assets." Amounts may not sum to subtotals due to rounding.

Industry key financial ratios 2015

	Winery size (2015 sales)				
	$0M–0.5M	**$0.5M–2M**	**$2M–5M**	**$5M–10M**	**$10M+**
Solvency ratios					
Current ratio	2.2	1.5	1.4	2.9	2.4
Debt to equity ratio	-6.7	12.1	8.1	2.3	1.1
Debt to tangible assets	1.2	0.9	0.9	0.7	0.6
Efficiency ratios					
Inventory turnover	0.6	0.5	0.7	0.9	1.1
Fixed asset turnover	0.3	0.6	0.7	1.2	1.9

Appendix IV
Vineyard expansion
Per discussion with Andrew Heartwood

Vineyard plans

HEVW would like to develop its remaining land using organic viticulture practices — as was done for the current 10 acres of Pinot Noir — and Andrew continues to research new ways to recycle agricultural nutrients. As an estate winery, HEVW must grow its own grapes to produce wine. HEVW intends to plant 25 acres of vineyards and to set aside the remaining five acres to build an on-site winery and tasting room with room for future expansion.

HEVW must decide whether to plant all 25 acres immediately or plant over a longer period of time. HEVW would like to plant additional *Vitis vinifera* vines, or possibly hybrid vines to complement the Pinot Noir in terms of harvest timing, being mindful of what would grow well in Prince Edward County. Andrew would like to continue to meet VQA standards and also establish HEVW as a premium wine producer. BR's recommendation should include what portion of the land should be devoted to each grape variety.

Andrew has narrowed the selection of possible grape varieties that are most suitable for HEVW's land. Options include four red varieties: Cabernet Franc, Cabernet Sauvignon, Pinot Noir and Sirah (also referred to as Shiraz or Syrah), and four white varieties: Sauvignon Blanc, Pinot Gris, Riesling, and/or Chardonnay. Andrew provided the following document that contains some useful information on these varieties: Grape Varieties in Ontario Wine Regions[29].

It is a costly undertaking to establish a vineyard to full production because it often takes five years of negative cash flow. Growers will invest approximately $40,000 to $50,000 per acre, not including the purchase of the land, before the vineyard reaches full production (see the vineyard establishment costs and ongoing costs below). After planting the vines, it is not until the third season that the vines yield the first fruit and even then it is about 25% of what is expected at full production. In the fourth year, production will be at 75%, and the next year, the vineyard will be at 100% production. The vineyard will produce at that level for about the next 20 years and then will begin to decline, so most growers begin to replace the vines after the 20th year.

Andrew predicts that, given HEVW's growing and harvesting methods, HEVW could obtain a premium price on its Pinot Noir grapes if HEVW sold them through processors rather than using them to produce wine. Andrew would prefer to bottle all of the grapes HEVW grows.

[29] http://www.grapegrowersofontario.com/sites/default/files/OVIP%20Varietal%20Plan%20Handbook.pdf

Andrew and Jenny can manage the establishment labour for the new vines by hiring part-time labour, and this will account for 15% of the establishment costs. Vineyard operations will also be met by hiring part-time labour, and this will account for 15% of the variable operating costs while the vines are being established, and 54% of variable operating costs once the vines reach 100% production.

Conversion of acres of grapes to cases bottled

	2015	2016	2017	
Acres of Pinot Noir	10	10	10	A
% yield	25%	75%	100%	B
Tons/acre	3	3	3	C
Yield per acre (B × C)	0.75	2.25	3.00	D
Total tons (A × D)	7.50	22.50	30.00	E
Litres (E × 650 litres per tonne of grapes)	4,875	14,625	19,500	F
Litres to bottles (with spillage allowance) (F / 0.75708)	6,439	19,318	25,757	G
Bottles to cases (G / 12)	537	1,610	2,146	

Vineyard establishment costs and ongoing costs for Pinot Noir

	Notes	2012	2013	2014	2015	2016	2017	
		Pre-plant (1/2 year)	Year 1 planting	Year 2	Year 3 (25%)	Year 4 (75%)	Year 5 (100%)	Total
Annual costs (excluding land and clearing)								
Pinot Noir — variable establishment costs/acre	1	5,278	13,360	3,431	4,923	5,637	—	32,629
Pinot Noir — fixed establishment costs/acre	2	267	615	666	703	703	—	2,954
Total establishment costs		5,545	13,975	4,097	5,626	6,340	—	35,583
Pinot Noir — variable operating costs/acre	3	247	1,029	1,241	1,406	1,240	6,504	11,667
Pinot Noir total per acre		**5,792**	**15,004**	**5,338**	**7,032**	**7,580**	**6,504**	**47,250**

Note 1 Variable establishment costs include trellis installation, land preparation and initial purchase of the vines. 15% relates to extra labour hired in addition to the labour provided by Andrew and Jenny.

Note 2 Fixed establishment costs include permits, soil testing and land preparation, aside from site clearing. 15% relates to extra labour hired in addition to the

labour provided by Andrew and Jenny.

Note 3 Variable operating costs include ongoing pruning, tying, suckering, harvesting, vine replacement, organic fertilizers, pest control, ground cover, equipment fuel and maintenance. For 2012 to 2016, 15% relates to labour hired in addition to the labour provided by Andrew and Jenny. The Pinot Noir requires significant hand labour compared to machine time. Once 100% yield was achieved, Andrew and Jenny had to hire more part-time labour to tend to the vines and during harvest. In 2017, 54% of the operating cost relates to extra labour in addition to the labour provided by Andrew and Jenny.

Grape Growers of Ontario prices and grape yield statistics by varietal

	Red varietals				White varietals				
	Cabernet Franc	**Cabernet Sauvignon**	**Pinot Noir**	**Sirah/Shiraz/ Syrah**	**Sauvignon Blanc**	**Pinot Gris**	**Riesling**	**Chardonnay**	Note 1
2019 price obtained/tonne	$1,866.53	$2,088.14	$2,272.50	$2,421.09	$1,829.05	$1,856.61	$1,625.09	$ 1,657.06	Note 2
2018 price obtained/tonne	$1,866.53	$2,088.14	$2,164.28	$2,421.09	$1,829.05	$1,856.61	$1,625.09	$ 1,657.06	
2017 price	$1,777.65	$1,988.70	$2,081.04	$2,305.80	$1,741.95	$1,768.20	$1,547.70	$ 1,578.15	

Yield statistics	**Cabernet Franc**	**Cabernet Sauvignon**	**Pinot Noir**	**Sirah/Shiraz/ Syrah**	**Sauvignon Blanc**	**Pinot Gris**	**Riesling**	**Chardonnay**	
Harvest timing in Prince Edward County	Late	Mid	Early	Late	Mid	Very early	Mid	Mid	
Industry average tonnage yield per acre	4 to 5	3.5 to 5	3 to 4	3.5 to 5	7 to 10	7 to 10	7 to 10	7 to 10	Note 3
HEVW expected tonnage yield per acre	4	3.5	3	3.5	7	7	7	7	Note 4

Note 1 This is the negotiated price established by the Grape Growers of Ontario. These prices are base prices exclusive of sugar premiums or discounts. While growers contract their grape sales directly with processors, prices must be no less than the minimum set through negotiations between the Grape Growers of Ontario and Ontario's grape processors.

Note 2 The training and pruning practices adopted by HEVW will result in a higher brix (sugar content), which will yield a 10% premium on the price shown in this chart on each varietal that HEVW plants.

Note 3 These yields, obtained from the Ontario Ministry of Agriculture, Food and Rural Affairs, reflect the current management practices presently used by growers today. However, there are many different grower practices (such as vine density, training systems, pest management programs and fertilizer rates) because of soil conditions, variety selections, personal grower management decisions and the unique micro climates in Ontario, and these different practices will all impact individual grower yields. See note 2 for HEVW premium pricing.

Note 4 HEVW will control production to the low end of the yield range to ensure the highest concentration of fruit/flavour. As well, the sustainable farm practices also result in lower yields.

Appendix V
Winery development
Per discussion with Andrew Heartwood

HEVW outsources its bottling to CW at a price of $3 per bottle plus variable packaging costs. This was planned as a temporary measure until HEVW's on-site winery is established. Andrew and Jenny would like advice supported by analysis as to whether they should build the winery now or in a few years, considering the planned vineyard yields and CW's capacity. If HEVW begins planning immediately, the winery can be operating at the beginning of 2020.

The winery will also seek VQA approval for all wines produced. A summary of VQA requirements is provided in Appendix X. HEVW wants to label its wine as "organic" wine, which is wine produced from organically grown grapes. HEVW also wants to be known as a premium winery, which, in part, involves offering a mix of both red and white wines.

Because much of the land is located on a hill, the plan is to place the proposed winery at the top of the hill with four different levels so it can be gravity-fed.[30] This will lower utilities and equipment costs as well as reduce the impact on the environment through reduced carbon emissions. Some advantages of a gravity-flow winemaking facility are that it improves the quality of the wine because it is gentler on the grapes and allows the fermentation process to start with whole grapes. A gravity-fed facility also minimizes the environmental impact of the winemaking activities by reducing the use of pumps, motors and fuel in order to move wine between tanks, barrels and bottles.

Andrew and Jenny would like to know how much it would cost to build the winery given the recommendations regarding the vineyards. Jenny envisions a retail space and tasting room to sell their wines, and possibly an additional space for potential events to attract tourists to their location. In order to evaluate funding options, HEVW requires a summary of the amount of funding required each year to establish the proposed premium winery.

Andrew has gathered information on operating costs based on other wineries in the area and through industry studies. He is confident that HEVW can achieve the following cost structure:

- Winery variable costs will approximate 19% of the following year's sales.
- Winery variable costs will include 25% for hired labour.
- Winery fixed production costs will approximate 8% of current-year sales. Andrew's supervision salary will be the only labour component of this cost.

[30] http://blog.winecollective.ca/wp-content/uploads/2013/07/GravityFlowProcess.jpg

Total investment costs by equipment category and winery size

Andrew has gathered the following industry data on investment costs based on vineyard and winery size:

	Vineyard size (acres)				
	5	10	35	50	70
	Winery size (cases)				
	2,000-4,999	5,000-9,999	10,000-14,999	15,000-19,999	20,000+
	Winery size (square feet)				
Square feet	2,400	6,000	12,000	30,000	40,000
Cost category					
Receiving equipment	10%	11%	9%	7%	6%
Cellar equipment	3%	2%	1%	1%	1%
Material handling equipment	9%	6%	4%	3%	2%
Refrigeration system	6%	6%	7%	7%	7%
Fermentation and storage	9%	9%	7%	8%	8%
Cooperage	9%	17%	22%	23%	22%
Plant, bottling equipment, office and tasting room	53%	49%	50%	52%	54%
Total investment	100%	100%	100%	100%	100%
$/square foot	**$230**	**$135**	**$100**	**$60**	**$60**

Appendix VI
Distribution channels and pricing
Prepared by Jenny Heartwood

Along with my full time job in Picton, I assume primary responsibility for the business side of HEVW. This can sometimes be challenging as I don't have a degree in business and English is not my first language. My role encompasses financial and regulatory reporting, paying vendors and employees, marketing and selling the wines we produce, and risk management.

HEVW became of a member of the Wine Council of Ontario to gain access to marketing resources and to better understand the regulatory process with the LCBO. I need assistance in determining the distribution mix and pricing alternatives to establish our wine as a premium brand. Various distribution channels are available to HEVW: selling through the winery and wine club (winery retail), selling to licensees (restaurants) and distributing through the LCBO. Specifically, I would like to see an analysis of profitability by distribution channel and a recommendation of volumes to be marketed by channel. I have determined that the Pinot Noir can be sold for as much as $32 per bottle, compared to the current price of $25. I expect that most other white or red varietal wines will sell for about 75% to 80% of the Pinot Noir price, respectively.

In June 2016, the Government of Ontario announced a series of tax increases, or markups, on wine sold at LCBO stores per the following schedule:

	Domestic	International	Differential
June 2015	65.5%	71.5%	6%
June 2016	67.5%	73.5%	6%
June 2017	69.5%	75.5%	6%
June 2018	71.5%	77.5%	6%
June 2019	72.5%	78.5%	6%

The LCBO holds a monopoly on the sale and distribution of liquor in the province and is considered critical for gaining access to the Ontario market. With a few exceptions, the LCBO's large production quotas usually mean only the larger wineries can occupy shelf space, as estate wineries cannot produce in sufficient quantity to qualify. Smaller producers' wines are predominantly found in the smaller vintages section at the LCBO retail outlets.[31] In addition, to sell wine in the quantities required by the LCBO, wineries typically need to have extensive marketing programs, which can be quite costly.

Grandfathered privileges enable larger wineries to sell wines at more than 300 licensed off-site locations. This originated before the Canada-U.S. Free Trade Agreement (CUFTA) when the LCBO granted licences for independent sale of alcohol at non-LCBO locations. These licences were allowed to remain with the original owners, many of which have grown in size or have purchased the licenses or the wineries from who originally owned them. With the inception of CUFTA, no further off-site retailing licences

[31] Pelling, Matt and Hira, Andy. *The Ontario Wine Industry: Provincial Policy at a Crossroads* (2012), pp. 14-15.

were granted. The result is that a very few well-established wineries benefit from this grandfathering privilege and, as a result, the marketplace is not a level playing field, impacting competition.[32]

Sales through licensees (restaurants) and on-site retail stores enhance winery brands and stimulate sales through the LCBO. Most medium-sized and large wineries strive for sales across all channels. To drive higher LCBO store sales, wineries spend marketing dollars to get priority placement of their products (end aisles, shelf extenders, pods, fridges) or have their wines featured in promotional materials. Such expenditures are at the discretion of individual wineries.

The LCBO has a variety of programs available to aid Canadian wineries in promoting themselves as quality producers. However, most of the associated marketing costs are not provided in the LCBO markups; the LCBO charges extra for this service. In any event, wine sales of Ontario products continue to show higher growth than import wines.

[32] Ibid.

Appendix VII
Pricing calculator

Pricing calculator for Heartwood Estates Vineyard & Winery

Change to recalculate net revenue to winery based on new prices

Pinot Noir		**VQA**		
		Winery retail	**Licensees**	**LCBO stores**
Bottle size in litres	**0.750**	**0.750**	**0.750**	**0.750**
VQA retail selling price (same for all channels)	**$25.00**	**$25.00**	**$25.00**	**$25.00**
+ Bottle deposit	$0.20	$0.20	$0.20	$0.20
+ HST 13%	13%	$2.85	$2.85	$2.85
Basic price		$21.95	$21.95	$21.95
Basic price *net* of 10% licensee discount	10% discount		$19.75	
Less Alcohol and Gaming Commission of Ontario fees				
- Basic tax: 6.1%	6.1%	$1.339	$1.339	
- Environmental tax: $0.0893 per unit	$0.0893	$0.089	$0.089	$0.089
- Volume tax: $0.29 per litre	$0.2175/bottle	$0.2175	$0.2175	$0.2175
Less LCBO markups				
- LCBO wine levy: $1.62 per litre				$1.215
- LCBO markup	71.5%			$8.52
Net revenue to winery		Net retail per bottle **$20.30**	Net license per bottle **$18.11**	FOB per bottle **$11.91**
		Net retail case **$243.62**	Net license per case **$217.28**	FOB per case **$142.92**

Appendix VIII
Strategic partnership with Niagara College
Per discussion with Andrew Heartwood

Niagara College (NC) was established in 1967 and is a leader in applied education and training. NC has several campuses in the Niagara region. NC has intentionally made strategic partnerships with businesses in a variety of forms to provide students with the opportunity for hands-on learning in agriculture, culinary, health services, manufacturing and tourism.

NC commits to sustainable development with the goal of reducing electricity consumption, greenhouse gas emissions, waste generation, water consumption and paper consumption. NC has undertaken several infrastructure projects on its campuses toward these goals including: carbon-neutral buildings following Leadership in Environmental and Energy Design (LEED) building standards, habitat structures for birds and bees, geothermal heat pumps, solar panels and wind turbines.

The Canadian Food and Wine Institute (CFWI) at NC includes a teaching winery, teaching brewery and teaching restaurant. It also offers food and beverage seminars and team-building events as part of its community engagement programs. Significant financial and human resource investment has been made in various applied research and innovation projects that partner with business, industry and communities to provide support for new products. CFWI is able to draw upon all resources at NC including: agriculture and environmental technologies, advanced manufacturing, business and commercialization as well as digital media and web design. Students who complete the two-year winery and viticulture technician program at NC are granted transfer credit to Brock University's viticulture program.

NC's chair of visualization sciences and Brock University have received media recognition for a co-operative VineAlert program. Vineyards have allowed installation of monitors that send weather data to NC. Vineyards also input data on the stage of the grapevine buds and management practices weekly during the dormant season (October to April). The hardiness of the grapevine buds will change throughout the dormant period and varies according to the variety of grapes, site conditions and management practices. Data is analyzed by NC and alerts are sent out to the various wine regions based on the aggregate data. The alerts allow vineyards to take protective measures such as utilizing wind machines or other freeze-avoidance methods to protect the vines. There has been limited information to date on the Prince Edward County wine region because of a lack of broadband Internet. New developments by NC's agricultural technology faculty have adapted the monitors to record soil properties such as moisture and mineral content. Information is transmitted through the Internet to the vineyard owner's computer system or portable device.

Proposal

NC and HEVW will form a strategic partnership to offer on-site courses in viticulture and winemaking. Students will initially be provided with the opportunity for classroom and hands-on learning in the field of viticulture. Further instruction is expected in the areas of winemaking and winery management, as the campus develops. HEVW will become a satellite campus of NC and a second teaching winery. The initiative is supported by donors to the university interested in continued development of the wine regions of Ontario.

Structure

Joint venture or a general partnership. Exact structure and details to be agreed upon by both parties.

Term

The initial term of the agreement will be 10 years, with an additional 10-year renewal option at the agreement of both parties. The first intake of students will be in January 2019.

Niagara College contributions

A. Academic

- NC will supply the curriculum for each course offered at the HEVW campus. The viticulture technician program will include five courses that may run concurrently: Introduction to Grapes and Wines, Introduction to Grape Growing, Vineyard Management, Sustainable Agricultural practices, and Operation and Safety of Vineyard Equipment.
- NC will provide all student administrative support for admission, registration, housing and graduation.
- NC will provide ongoing training to all instructors on innovative teaching methods.
- NC will include HEVW as a member in research and industry initiatives relating to viticulture or winemaking.
- NC will allow HEVW to operating under its LCBO licence.

B. Capital

- Engineering specifications related to classroom space, a greenhouse, an analysis lab and a wastewater treatment system will be provided from the existing teaching vineyard, along with current engineering estimates and suggested construction timelines. Estimates are all based on LEED building standards and certification.

	Estimate	Timing
Classroom space	$230,000	Now
Greenhouse	$55,000	Year 2
Analysis lab	$368,000	Year 3
Wastewater treatment system*	$160,000	Year 5

*Federal and provincial grants available to reduce cost; exact amount uncertain.

C. Financing

- During 2018, HEVW could issue a five-year, $3,500,000 face-value unsecured debenture of 6% to NC. The debenture would be priced at issuance to achieve a yield to maturity of 10%. Coupon payments would be made semi-annually on June 30 and December 31, with the first payment due on June 30, 2018. The final payment would be made on December 31, 2022.
- NC will supply letters of support for grant proposals made by HEVW to granting agencies for ongoing operating costs, research and innovation improvements over the term of the agreement.

D. Operations

- An instructional salary of $32,000 per annum will be paid to Andrew Heartwood for instruction of the one-year Viticulture Technician Program.
- Once the winery is established, an instructional and supervisory salary increased to $72,000 per annum will be paid to Andrew Heartwood for instruction of the two-year Winery and Viticulture Technician Program.
- NC will compensate an additional instructor to teach the one-year Viticulture Technician Program if there is sufficient enrolment once the winery is established.
- NC will provide additional compensation for instruction and/or facility rental on an event-by-event basis for food and beverage seminars and team-building events as part of its community engagement programs. NC will reimburse all additional costs, such as catering and supplies. These events run after school hours and on the weekends. A sample of these events and their compensation rates from the existing teaching vineyard is detailed below:

Event	Annual number	Instructional rate per event	Rental rate
Food and beverage seminar	10	$500	$350
Team-building event	24	$200	$350

- Students will complete their practicum by working in the vineyard without compensation. HEVW will hire students for the winery or obtain placements for the students at other local wineries.
- CFWI advertising will include HEVW on the college website and in advertising related to the applicable programs.

- NC will make available a winery facility in an old fruit-packing plant located 35 kilometres from HEVW for wine aging, bottling and storage of finished bottles, until HEVW's winery is operational. The fruit-packing plant is located on the edge of a small town. While the doors lock, there are no security systems in the building.

E. Other

- NC will use its influence to lobby its Internet service provider to bring broadband service to Prince Edward County.
- NC will provide regular communications on provincial and federal government innovation and research grants. NC will also provide support for grant applications on a cost-recovery basis.
- NC will provide access to its commercialization services on a cost-recovery basis: advertising and marketing, international marketing and e-commerce.

Heartbreak Estates Vineyard & Winery contributions

HEVW will:

- provide NC students with access to vineyard and winery operations as specified in the course curriculums
- recognize itself in all promotional material and labels as an "NC teaching winery"
- provide Andrew Heartwood as an instructor in all NC winery and viticulture technician courses for the term of the agreement; instruction will include inputting final grades into the NC registration system
- allow on-site visits and program reviews to ensure academic standards are met
- build classroom space to accommodate up to 60 students, complying with existing NC specifications
- make an ongoing commitment to investment in innovation and technology
- comply with sustainability objectives of NC, which include LEED buildings, no use of herbicides, and a wastewater treatment system
- complete sustainability reports (water usage, for example) as requested by NC
- provide CFWI's research and industry liaison a seat on HEVW's Board of Directors over the term of the agreement
- complete a business plan for the vineyard and winery that includes a mission, vision, background on HEVW, a plan of operations, an industry analysis, a regulatory and competitive analysis, a marketing plan and pro forma financial statements
- allow installation of VineAlert monitors by CFWI's research division, and consent to the regular collection, transmission and publication of data from the monitors via the Internet to NC and to HEVW's computer system or portable devices

- allow access to its vineyard and winery for additional collaborative research with other faculties at NC
- submit annual financial statements following Canadian generally accepted accounting principles (GAAP), with a review engagement report, to NC within 90 days of HEVW's year end

Appendix IX
Alternative financing option for expansion

Per discussion with Jenny Heartwood

HEVW's bank could not offer financing for the winery expansion. Through industry associations, Jenny made contact with Farm Plus Financial (Farm Plus). The company has a long history of winery and vineyard financing in Oregon and California, and has recently partnered with a Canadian financial institution to offer innovative financing solutions to vineyards, orchards and farms in southern Ontario.

Proposal from Farm Plus: Term loan

Farm Plus will grant HEVW term-loan financing to a maximum of $3,000,000, repayable over a 15-year period, with interest charged and payable annually at a rate of 8%. HEVW has the option to postpone principal payments for a five-year period at the start of the loan. HEVW may make a 15% annual prepayment at any time without penalty.

Terms and conditions:

- first charge against all vineyard and winery assets
- personal guarantee of owners
- annual financial statements complying with Canadian GAAP provided to Farm Plus within 90 days of HEVW's year end

Requirements for financing:

- provide a business plan
- demonstrate market and sales potential
- demonstrate competent management team
- owner must have a financial investment in the winery
- appraisal of the vineyard property

Appendix X
Summary of VQA regulations
Prepared by Andrew Heartwood

The VQA is responsible for setting the standards by which wine is produced from the grapes of respective provinces. The VQA identifies criteria for VQA wine and regulates the use of specified terms, descriptions and designations. Some of the key winemaking standards are as follows:[33]

- The VQA limits eligible grape types to *Vitis vinifera* varieties and a few premium hybrids, such as Vidal. Vidal is the raw material for most ice wines.
- The grapes must attain a minimum ripeness level measured by sugar or brix level when harvested. Different categories of wine have different requisite brix levels.
- A wine must contain 85% of a particular grape in order for it to be named for its varietal (grape type), but blending a small amount of a complementary grape variety can increase a wine's complexity without detracting from the principal grape's characteristics.[34]
- A wine must be 85% from a particular designated viticultural area (DVA) in order for it to carry that DVA's designation. The other 15% can be made from grapes grown elsewhere in Ontario.
- A wine must be 100% from a particular vineyard in order for it to carry that vineyard's designation. The vineyard itself must be within the boundaries of a recognized DVA. On the label, the VQA designation includes both the DVA where the grapes were grown and the name of the vineyard where the wine was made.
- A wine must be 100% from land owned or controlled by a particular winery (which must also be located in the DVA) in order for it to be designated estate-bottled at that winery.
- Wineries must submit their wine to an independent tasting panel for evaluation in order to obtain a VQA designation.

[33] Aspler, Tony and Leslie, Barbara. Canadian Wine for Dummies (2000), Wiley p. 14.
[34] http://www.vqaontario.ca/Regulations/Standards

Appendix XI
Vineyard and winery terminology definitions[35]
Prepared by Andrew Heartwood

Designated viticultural area (DVA): An area in which quality vinifera grapes can be consistently grown. There are three DVAs in Ontario as defined in the VQA regulations: Niagara Peninsula, Lake Erie North Shore and Prince Edward County.

Estate winery: A winery that sells wine produced from the same owner's vineyard.

Grape Growers of Ontario (GGO): A non-profit corporation regulated by the Ontario government through the Ontario Farm Products Marketing Act to represent over 500 registered grape growers and to advocate on their behalf. Wine grape prices are negotiated between the GGO and the Wine Council of Ontario. Prior to 2002, the GGO was called the Ontario Grape Growers' Marketing Board.

Hybrid grapes: Varieties that are the product of crossing two or more *Vitis* species. Hybrid grapes are also referred to as inter-specific crossings or "modern varieties." Some examples are Pinotage, Vidal and Seyval Blanc.

Oenology: The study of wines.

Rootstock: The part of a plant, often an underground part, from which new above-ground growth can be produced. A healthy root or part of a root can be used as a basis in grafting hybrid plants. A hybrid grape vine plant is made up of a graft between the rootstock plant and the budwood plant, known as the scion.[36]

Terroir: From the French word *terre*, meaning "land," a terms that is used to explain how a particular region's climate, soils and aspect (terrain) affect the taste of the wine. Terroir is loosely translated as "as sense of place." The assumption is that the land from which the grapes are grown imparts a unique quality that is specific to that growing site.

Varietal: A wine made from or belonging to a single specified variety of grape.

Vintners Quality Alliance Ontario: Ontario's wine authority, responsible for regulating and setting standards for the production of wine made from Ontario-grown grapes. It establishes and maintains an appellation of origin system that allows consumers to identify wines based on the origin of the grapes they are made from and procedures followed in the winemaking process.

Virtual Winery: A winemaker that purchase grapes from growers and then blends, bottles and sells wine under its own name. A virtual winery uses someone else's facilities to make and label its own wine.

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[35] http://www.omafra.gov.on.ca/english/busdev/facts/startingawinery.pdf
[36] https://www.winefrog.com/definition/171/rootstock

Viticulture: The study and cultivation of grapevines.

***Vitis*:** A genus of 70 accepted species of vining plants in the flowering plant family *Vitaceae*. It is economically important as the source of grapes, both for direct consumption of the fruit and for fermentation to produce wine.

***Vitis vinifera*:** A species of grape vine native to the Mediterranean region, Europe and southwestern Asia. There are currently between 5,000 and 10,000 varieties of *Vitis vinifera* grapes. Only a few of these grape varieties are used in wine production, including Chardonnay, Riesling, Cabernet, Pinot Noir, Pinot Grigio, Shiraz, Merlot and Gamay.

Wine Council of Ontario: A non-profit trade association that represents wineries from across the three DVAs of the province. The Council's role is to promote Ontario VQA wines and vintners, and to grow the economic benefits that the VQA wine industry brings to the province of Ontario. Wine grape prices are negotiated between the Wine Council of Ontario and the Grape Growers of Ontario.

Winery retail store: A store operated by the wine manufacturer for sale of its wine. Winery retail stores can be on-site or off-site.