

Barbara Thomas Wines Greenhouse Gas Emissions Mitigation and Offset Program

Summary:

Barbara Thomas Wines is a Yamhill-Carlton district micro-winery producing wine under a custom crush agreement in a large facility in Dundee, Oregon. We are one of 30 Oregon wineries that have signed on to participate in Oregon's Carbon Neutral Challenge, which seeks to gain carbon neutrality among its members by 2010. The primary goal of the challenge is to mitigate and eliminate greenhouse gas emissions to the extent feasible. Remaining emissions are then to be quantified and carbon offset credits are to be purchased to achieve the goal of full carbon neutrality.

Because of the nature of our current business model, we are unable to measure or control emissions in the most emission-intensive aspect of our business—the winemaking portion. As a result, while we are mitigating emissions where possible in areas under our control, we have elected to use a tool developed by the American Association of Wine Economists to estimate our total greenhouse gas emissions, and we are purchasing commensurate offset credits to negate our carbon footprint.

Our 2009 Mitigation and Offset Program has us purchasing offset credits representing 35 MtCO₂e from www.Carbonfund.org. Additionally, we have proposed to match that with an equal financial contribution to the Carbon Neutral Challenge itself to help fund efforts of the broader partnership to reach our shared goal.

We are indebted to Sean and Chenin Carlton, Basket Case Wines (www.basketcasewines.com) for their concept, research, and advice. We have largely copied their model in estimating and offsetting our 2009 emissions.

History:

Barbara Thomas Wines is one of 30 voluntary participants in Oregon's Carbon Neutral Challenge, a unique and exciting partnership between Oregon's Wine Industry, state government, the Oregon Environmental Council, and ECOS Consulting, a consulting firm assisting the partnership in the effort to achieve carbon neutrality by its members by 2010.

About Barbara Thomas Wines:

From a GHG emissions standpoint, Barbara Thomas Wines is made up of three primary components: the vineyard, the winemaking, and the sales/distribution aspect including our tasting room.

The Vineyard: The highest percentage of our wine is made from fruit produced on our family vineyard (Vigna Giovanni), which was planted in 1983. We farm sustainably (organically and biodynamically), though we are not presently certified by any third party. The vineyard is dry-farmed. We have free-ranging livestock on our 10 acre farm, and we use compost made from manure and organic hay/straw in the vineyard. We till between vineyard rows about every third year. Approximately 6.4 acres are planted to winegrapes, while about 2 acres are in woodland. We presently mulch all healthy vineyard prunings.

We also source bulk wine for our table wine offerings. We source all of this bulk wine from within Oregon, (approximately 90% from within a 50 mile radius), and while we take care to choose a sustainably farmed product when possible, especially biodynamically farmed fruit, we do not at present have control over farming methods or attendant GHG emissions in this aspect of our program.

The Winemaking: We are a micro-winery, presently producing fewer than 1000 cases of wine per year. We are currently a custom crush client at the 12th and Maple Wine Company, a 70,000 square foot state of the art facility owned by out-of-state Corus Estates and Vineyards. It is important to note that this is not a small shared facility that is under our shared control; rather we are a very small client of a mega-facility under the proprietary control and management of a large corporation, and operations data including energy usage, water usage, mitigation efforts, etc. are unavailable to us. As a result, at present we are unable to assess our carbon footprint from the winemaking aspect of our operations.

Sales/Distribution: We operate a small (approx. 300sq.ft) tasting room in Carlton, Oregon, where we share space with two other businesses through a sub-lease. The bulk of our production is currently sold locally (within Oregon) either through our tasting room or from our home office, with an extremely small amount being shipped out of state, most of which is shipped via unrefrigerated truck.

Our Approach to Carbon Neutrality:

We agree with the partnership's approach to carbon neutrality, that the ultimate goal of this initiative is to reduce our carbon footprint by mitigating direct greenhouse gas emissions. Monetary payment to carbon offset programs is a secondary and less desirable approach toward neutrality.

We also feel strongly that while the initiative is currently focused on scope one and two emissions, and presently ignores such items as shipping, bottles, travel and other relatively large sources in a complete GHG emissions analysis, we wish to be as encompassing as possible in the pursuit of our business goal of reducing our net measureable carbon footprint to zero.

Mitigation:

As such, we have and are mitigating our contribution to greenhouse gas emissions by the following:

- Biodynamic dry farming (which by its nature eliminates petrochemical farming)
- Use of biodiesel in our two farm tractors
- Reducing off-farm inputs and increasing on-farm inputs
- Restricted and only cold water for farm use, when necessary
- Conversion to lighter weight bottles for our ultra-premium offerings
- When possible, choosing locally available farm, office, and winery products
- Intentional marketing focus on local and in-state sales of our products to the extent possible
- Continuous improvement of our reduction, re-use, and recycling program

However, mitigation of (and in fact even basic accounting for) GHG emissions in the largest, most emission-intensive aspect of our operation—the winemaking aspect—is at this point beyond our control.

As a result, we have sought to accompany our mitigation efforts in those areas under our control with estimates of our total CO₂e, with an eye toward purchasing carbon offsets until such time as we have a higher degree of control over a broader spectrum of mitigation.

Estimation of MtCO₂e:

There are a number of models to estimate carbon pollution, most however are ineffective in assessing emissions in a winery environment without having measurable data by which to make these estimates. Two sources, though, have given us a means by which to make a useable and we think defensible estimate

of our annual GHG emissions. Importantly, they also pass our “gut check” for producing a figure we can feel both comfortable with and good about.

“Red, White, and Green”

In October, 2007, the American Association of Wine Economists issued Working Paper No. 9, “Red, White and ‘Green’: The Cost of Carbon in the Global Wine Trade”. In this paper, the authors calculate the carbon cost of delivering three disparate bottles of wine to Chicago, Illinois--a bottle of OZ Yellowtail, a biodynamic wine from a top vineyard in France, and a heavy-bottled boutique offering from Napa, California.

While our production has something in common with at least two of the sample bottles (the biodynamic farming aspect of the French wine, and the west coast production aspect of the Napa wine), there are also substantial elements that don’t currently apply to our model. A good example of this is that the carbon calculation includes shipping of the finished product as by far the largest contributor to the carbon footprint, approaching perhaps 65-70%. In stark contrast to this impact, our post-production shipping is negligible.

The Yellowtail bottle was estimated to produce 3.44kg of carbon emissions, the French bottle was pegged at 2.12kg, and the California bottle was estimated at a whopping 4.5kg, in large part due to the use of a heavy bottle, and the reliance of the faux winery on air shipping to their clientele.

Considering our farming method and our use of bottles imported from France (although we import them empty, of course, rather than shipping them full under refrigeration), we feel our operation is probably closest to the model of the French bottle (2.12kg). It’s important to note that while at present Oregon’s Carbon Neutral Challenge discounts scope three carbon emissions (including purchased power and such things as bottles, product transportation, and office costs), these factors are largely included in the 2.12kg estimate we have elected. We believe that this aggressive calculation will accommodate our carbon footprint with ample room to spare, and it passes our “gut check” for being generously real about our impact on GHG emissions.

If we then again over-estimate and base our MtCO_{2e} figure on an annual production of 1000 cases of wine (a level we are still below), we provide yet another cushion against under-estimation. A 2.12kg/bottle assessment with a production of 1000 cases equates to an annual carbon footprint of 25.44 MtCO_{2e}.

The First 13

We are very fortunate that thirteen Oregon wineries have completed very complicated and intensive GHG inventories. Because of their hard work, we have data to draw upon to identify areas of potential mitigation, and a sense of

the current level of emissions from these 13 wineries. All of these players have a larger production than ours, with most having a substantially larger production. These figures, though, give us a “straw figure” against which to monitor our earlier estimations.

We feel very comfortable, by these standards, in using an overly conservative figure of 25.44 MtCO₂e as an estimate of our annual output.

Carbon Offsets

There are many companies offering carbon offset credits, some legitimate and many not. After much exploration and investigation, the company we have chosen for our 2009 program is the Carbon Fund (www.carbonfund.org) This organization offers a business program which supports contributions for various business sizes. Our employee count is a grand total of two (each a spouse and co-owner of our modest enterprise), we have chosen the CarbonFree Partner level for 1-5 employees, which equates to a carbon offset of 35 MtCO₂e, easily accommodating our already inflated estimate of 25 MtCO₂e, and providing yet a further conservative cushion to our approach.

In addition to our purchase of carbon offsets for the 2009 calendar year, we are proposing to make a matching cash contribution to the Oregon Carbon Neutral Challenge partnership to assist us and other wineries in identifying areas of mitigation, and in meeting the challenge of achieving carbon neutrality by the year 2010.

2009 Mitigation and Offset Program: Summary

Mitigation:

Our goals for 2009 include:

Continue to work toward our ability to identify and mitigate direct sources of greenhouse gas emissions in those areas under our control, including those areas listed above

Work with the Carbon Neutral Challenge partnership to identify *local* carbon offset projects to invest in for our offset program

Offset:

Purchase offset credits representing 35 MtCO₂e from carbonfund.org

Contribute a matching amount to the Oregon Carbon Neutral Challenge