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Solutions Assessment

TEMPLATE

NAME OF THE COMPANY:

Alpha Omega

COUNTRY:

USA

NAME OF THE SOLUTION:

Lyve System (wastewater)

REVIEWED BY:

LJ Johnson-Bell

AREA OF APPLICATION:

Vineyard;Bottling & Packaging; Winery;Business
& Education;Logistics, Supply Chain &
Distribution;Other industries;

ENVIRONMENTAL BENEFIT:

Energy ;Water Use and Pollution ;Waste
and Circularity ;

1. ALIGNMENT:

Is this solution/best practice contributing to adapt to or mitigate the effects of climate change within the wine value chain?

YES

Why?

This bio-digesting system, with its wastewater reservoir, produces water that is clean enough for the winery to use as irrigation water - that is a high benchmark. Water treatment systems as a whole, are having to adapt to the increased vulnerabilities due to extreme weather events such as flooding - which is of particular concern to water treatment systems. There is an ongoing need to assess their resilience and to adapt accordingly. This system is well-suited to this as it is flexible in its design: fully modular, pre-made or bespoke, and scalable for future expansion.

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If **yes**, please continue with assessment

ADAPTATION

MITIGATION

2. DEPTH

Is the quality, quantity and depth of the information shared, robust and sufficient to fully understand its concept, scope, benefits, challenges and strategy in place?

YES

Why?

Wastewater treatment systems are already a well-known and well-understood technology. Lyve's unique adaptations to the technology are equally comprehensible and user-friendly. Further, they have an informative website with ample detailed info. A bit of digging reveals that they have fully engaged with the academic community and experts in the conception and design of this system, such as Tracy Finnegan, and, are committed to improving their technologies (ex: reconfiguring their "LS10-BG", for wineries that 'produce less than or equal to 13,000 cases per year or 2,000 gallons per day of winery wastewater'.

3. SCALABILITY (if applicable)

Are the activities and processes required to produce / operate / implement / and/or deliver this solution feasible at its intended scale? If the Solution is already fully implemented, can this scale be increased or maintained in the future?

YES

Why?

Scalability is one of the tenets of their business model: the choice between a pre-made or a personalised, custom-built modular system that can be increased as needed. Their system is attractive because it builds the business

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case for climate change adaptation - their products and systems 'build in' resilience and showcase this as an opportunity and not an obligation.

4. REPLICABILITY

Within similar contexts, can this solution be executed again with identical environmental benefits?

YES

Why?

The inherent nature of the system allows it to conserve its environmental benefits - and Alpha Omega have already shown that they have demonstrated strong leadership by example in adopting this system and becoming a reference point in the Napa Valley.

5. ENVIRONMENTAL BENEFIT

Is this solution contributing to its identified environmental benefits?

YES

How?

The raison d'être of water reuse is to lessen the impact on freshwater consumption for non-essential use (consumption). This system contributes substantially to that goal. Water reuse/ water treatment is already a process with few adverse environmental impacts when compared with desalination and offers considerable economic and social benefits. Lyve uses UV (as opposed to chlorine) - also a bonus. It would be interesting to see how their system could complement other methods, such as treating wastewater with 'green' filters.

Does it consider the entire lifecycle (production, distribution, use and disposal stages)?

YES

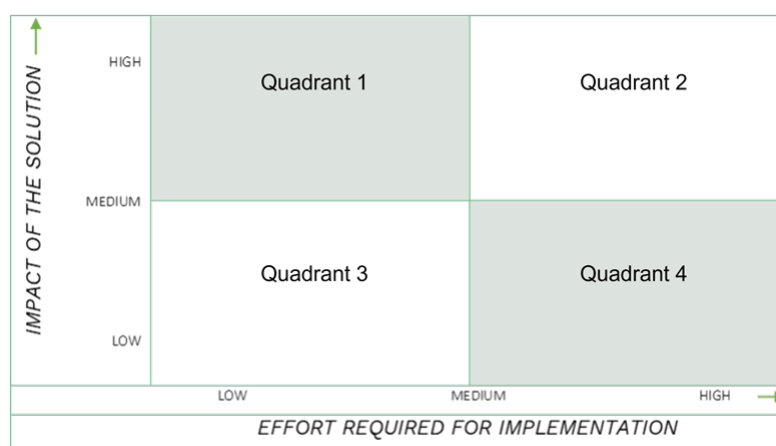
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6. IMPLEMENTATION EFFORT

How would you rate this solution regarding its complexity, effort, cost and environmental benefit?

To answer this question please look at the table bellow, and rate it according to quadrant/square you feel represents best the balance between environmental impact and effort (in terms of time and cost).

quadrant 2 - the answer to this is subjective: dependent upon a winery's existing infrastructure, budget, and needs.



EFFORT REQUIRED (1 to 10)

5

IMPACT OF THE SOLUTION (1 to 10)

9

Why?

This solution is what I would categorise as a 'no regret' action, meaning that is a cost-effective measure (although I have no information regarding costs, so am basing this on what I know of the water treatment sector) to implement under current climate conditions. But when placed in the context of increasingly erratic climate change events, it is also a 'win-win' action in that it contributes to adaptation whilst also having other social, economic and environmental policy benefits, including those related to mitigation.

7. FURTHER COMMENTS

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We would like to hear more about your opinion on the questions below, thus adding value to the evaluation and understanding of the solution.

What are the weaknesses of the Solution, and how could these be overcome?

The solution is robust. I would however suggest that in its implementation, drip irrigation could be replaced by dry farming so to further increase soil and environmental health and wine quality.

What are the strengths of the Solution that could be exploited to maximize its impact?

It was powerful, and useful, that Alpha Omega correlated the system and their use of it, to the UN SDGs (was this their initiative, or part of the form they had to fill in?). The main strength of the solution is its malleability - any size winery can adopt it and begin their water conservation journey. Very inspiring. This has to be the new default position in water management.

Do you have any advice in regards to the implementation of the Solution?

The system deals with the end-use of water. If they could expand their product range (Lyve) to include rainwater harvesting tanks - or systems that wineries can use in conjunction with rainwater harvesting - then freshwater would be taken out of the equation entirely. Just a thought. . .

Do you have any other recommendations for the author to explore in more detail?

They have provided a very full snapshot of how they are implementing the system. 'Lessons learned' response could have been expanded perhaps with some personal advice to those getting started - there were surely some basic start-up hiccups that would be useful to share.

FINAL STATUS

Is this solution ready to be published and be a part of our resource library?

PUBLISH

If rejected, why?

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