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GLASSIA

Social franchising for Upstream innovation in Vietnam

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TABLE OF CONTENTS

03

Executive summary

04

The necessary shift towards sustainability for the bottled water industry

06

The case for the Glassia model in Vietnam

07 The return of glass as a circular packaging alternative to plastic

09 Social franchising as the emergent model for Refill and Return on-the-go

10

Creative partnerships for more sustainable consumption

Executive summary

In 2021, the Ida C. & Morris Falk Foundation funded a feasibility study for the expansion of Glassia, a Vietnam-based social enterprise tackling plastic waste at the source through the use of refillable glass water bottles. The study captured the potential impact of scaling an upstream, circularity-focused, social/impact franchising model to effectively "turn off the plastic tap" such that plastic could be eliminated at the source within Ho Chi Minh City (HCMC) and the neighbouring areas.

Topics of investigation included the viability of market demand, competitive landscape, and partnership evaluations for implementing a new Glassia facility in HCMC. The study resulted in the key learnings below:

Upstream solutions for water consumption are in high demand, particularly for bottled water. However, there are currently no pre-consumer plastics alternatives and circularity-based solutions for water consumption in the HCMC water supplier market

Sustainability is becoming increasingly important within particular sectors and businesses are looking for solutions to meet global commitments for their conscious customers' demand

Due to HCMC's dense population and its complex supply chain system, **upstream solutions, particularly those involving reverse logistics** [2]**, need to become creative** with their implementation and funding strategies in order to achieve sustainable business models

Specifically, **innovation within upstream solutions requires creative private-sector partnerships** that align incentives, reduce risk and provide increased upfront investment costs.

The necessary shift towards sustainability for the bottled water industry

Look at the water bottle in your hand. What is it made of? Is it a lightweight single-use plastic (SUP) bottle? What was its supply chain? How long will you use it for? What happens to it when you toss it? What impact does it have at the city level, or globally?

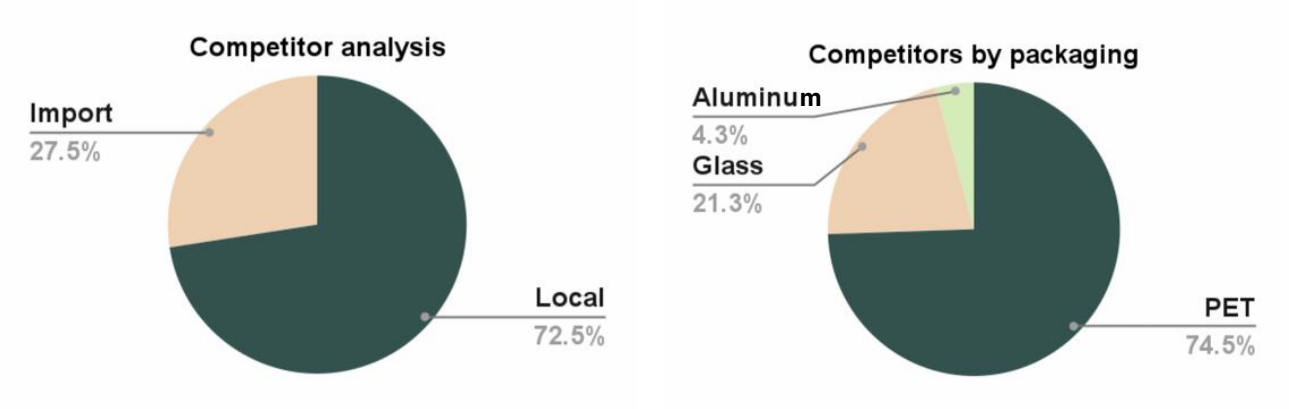


Figure 1. Competitive landscape of water bottlers in HCMC

Within the bottled water sector, specifically within the bottling stage, the importing of PET[3] is common practice. According to the ICM Falk/Glassia feasibility study, approximately 75% of the current bottled water companies within HCMC continue to use these inputs and distribute PET water bottles. Imported water bottles also account for over 25% of the market share of the HCMC water market, with brands mostly imported from Europe through an aggregated distributor, rendering the end price less competitive. The long supply chain for imported bottled water, combined with highly congested urban traffic scenarios for last mile delivery in HCMC, requires suppliers to rethink the current model towards a more hyper-local, circular distribution model that would eliminate the need for lengthy supply

chains, its associated transportation costs and environmental impact.

Local water distributors also remain opaque in their reporting of the quality of the water being bottled for the HCMC market. The feasibility study uncovered the fact that most water distributors were unable to provide information on the sourcing and treatment processes of their bottled water. Adding to these distribution challenges remains the core issue of the mismanagement of plastic waste: specifically that the PET plastic bottles are not sufficiently recollected at their end-of-life stage. Current plastic collection rates in Vietnam remain low at 27%,[4] leaving the remainder of the uncollected plastic waste (including PET bottles) to pollute our environments via landfilling,[5] incineration[6] or leakage.[7]

Given this physically apparent crisis and the requisite call for action by their consumer base, businesses are now catching on to the need for change by removing both plastic pollution at the source through better packaging choices, as well as ensuring the quality of water provided for their own customers. In phasing out the use of SUP of bottles in their respective industry and replacing them with alternatives from a local and more compliant source, businesses would both cut operating costs and improve their brand value. Approximately 70% of surveyed businesses in the ICM Falk/Glassia's feasibility study[8] expressed an urgent need for more transparent, certified and sustainable local water bottle products in HCMC.

The case for the Glassia model in Vietnam

In leveraging the opportunity to phase out SUP, Glassia designed a hyper-local and decentralized water bottling factory model that would provide reusable and refillable water to local businesses, thereby eliminating the need for SUP water bottles altogether. The first Glassia facility was piloted in Danang, Vietnam through a program enabled by IDH-Sustainable Trade Initiative and a partnership with O-I glass manufacturing. This facility began its operations in March 2021, attained HACCP and ISO certifications in April 2021 and has a production capacity of 1,000,000 bottles per year. With reverse logistics in place, this model is capable of collecting its empty bottles, disinfecting, cleaning, and refilling for a fully circular process. Glassia is currently providing its services to various restaurant chains and hospitality groups in the Da Nang and Hoi An area including the Radisson, Hyatt, Hoiana and Pizza 4Ps.

The return of glass as a circular packaging alternative to plastic

Glass is a packaging alternative material that allows for multiple uses, yet only accounts for 21% of the packaging used currently by bottled water companies (both for domestic production and imports). However, this heavy material remains underutilised, and commonly used as a single-lifecycle product requiring important logistical adaptations.[9] To offset the adverse effects of glass (ie., weight of transport[10], recycling energy consumption), a glass bottle must be reused as often as possible, and processed as physically close to the end consumer as possible.

The ICM Falk/Glassia feasibility study identified only one local company currently selling and recollecting water bottles upon use within HCMC. However, within this model, glass bottles are not directly reused, but rather, remelted to make new bottles in a centralized facility - an overall costlier and environmentally-unsound process in terms of carbon footprint.[11] Compared to a SUP bottle which releases 0.25 kg of carbon per container, a reused and refilled glass bottle becomes more carbon-efficient after the 5th refill, emitting only 0.05 kg of carbon per container and use.[12]

The argument for the return of glass is also an economic one. Glassia is three times cheaper than a locally produced glass bottle and only remains $0.07 more expensive than its PET local alternative. The economic advantage is even more significant if we compare Glassia side by side with imported glass bottles, which are 9 times costlier; and with imported PET bottles, which are 5 times costlier.

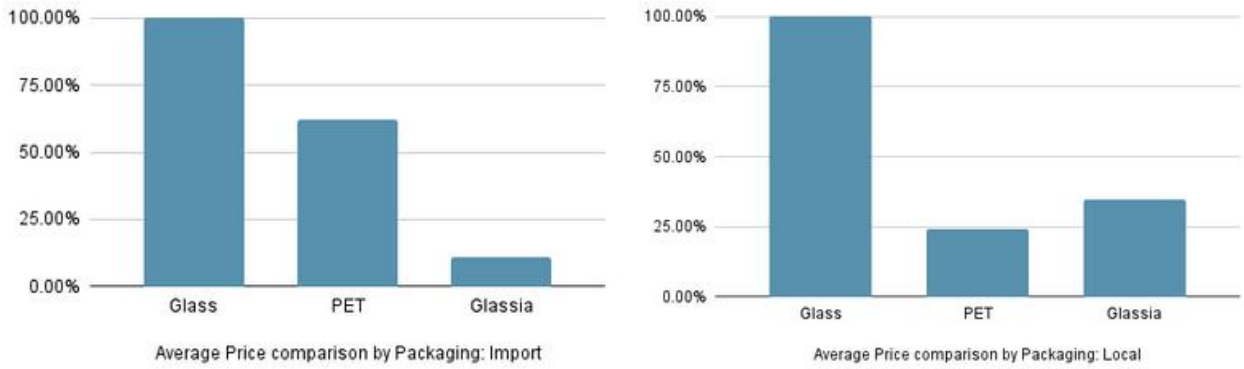
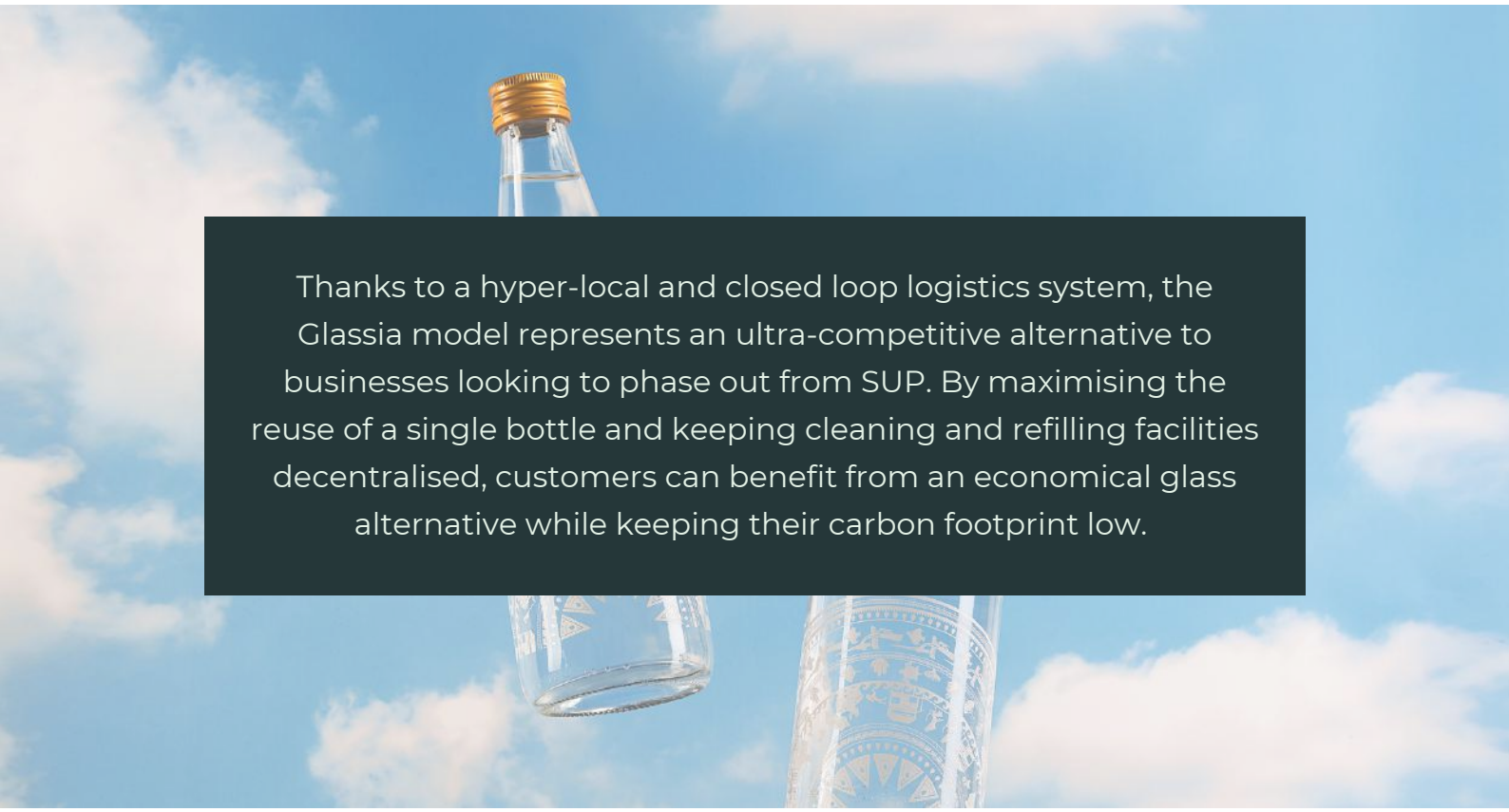


Figure 2. Price comparison (VND) of Glassia prices vs. the market average of PET & Glassia water



Thanks to a hyper-local and closed loop logistics system, the Glassia model represents an ultra-competitive alternative to businesses looking to phase out from SUP. By maximising the reuse of a single bottle and keeping cleaning and refilling facilities decentralised, customers can benefit from an economical glass alternative while keeping their carbon footprint low.

Social franchising as the emergent model for Refill and Return

As a social franchise, Glassia is a fairly new model in Vietnam. The model combines typical franchising tactics and the goal of an environmentally-sound consumption model without having to compromise its financial bottom line. The ability to scale up gradually through local franchisees reduces investment risk to initial investors by adhering to a predefined and tested implementation process. This allows the product to gradually be popularized to customers through multiple hyper-local locations and networks, while maintaining a low carbon footprint.

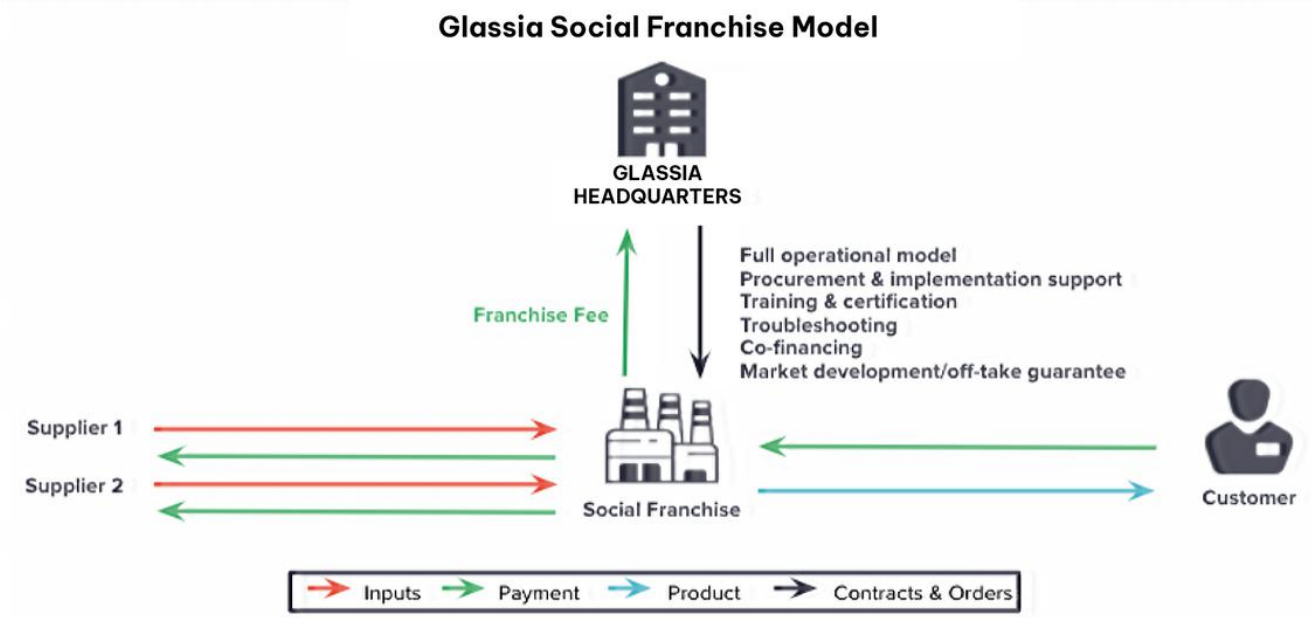


Figure 3. Explanation of the Glassia business model

Glassia focuses on the refill and return model with businesses providing Glassia bottles (or the business' own branded/ white labelled glass bottles) would recollect the packaging and send them back to the Glassia facility where bottles are cleaned, refilled and reused. With this process, Glassia effectively minimizes the amount of waste generated, while keeping the bottles return-and-delivery's carbon footprint minimal within hyper-local delivery loops.

Creative partnerships for more sustainable consumption

As a pioneering business model in Vietnam, both through its innovative supply chain structure and its low-cost franchising model, Glassia represents a novel type of investment opportunity for investors in Vietnam. New, up-and-coming upstream ventures such as Glassia usually fall into the Missing Middle [13] where much-needed capital is necessary for scaling. Yet, these ventures do not meet the minimal investment range required by investors. In order to reach the next level of investment capacity, early-stage impact startups usually need the extra long-term, smaller-ticket funding support through innovation development/ testing and R&D-based grants - thereby incrementally reducing investment risk until they are investment-ready.

Through the ICM Falk Foundation's small grant program[14] and its flexible funding model, Glassia was able to assess the replication of its Da Nang model within the HCMC market. The research team was able to meet with various B2B partners, particularly those within the hospitality industry, as potential investors and customers of the future Glassia facility. As a result of this creative partnership, the Glassia team is now exploring investment and distribution opportunities with, amongst others, a leading international hospitality group in HCMC for a launch at the end of 2022.

Grant programs in particular, and flexible, equity-free, early-stage funding in general, provide growing startups such as Glassia with the room to explore new opportunities, partnerships and markets with relative flexibility over traditional funding pathways. For funders, ranging from venture philanthropists to development organizations, feasibility studies such as the one funded by the ICM Falk Foundation provide a risk-free starting point for further diligence and buy-in, particularly within nascent sectors such as circularity and upstream innovation. Glassia proves itself to be both a sound investment opportunity while showcasing the necessity of rethinking funding methods for environmental impact and innovation in Vietnam.

The ICM Falk Foundation commits to funding, facilitating and fostering more budding entrepreneurs and young startups to contribute to Vietnam's circular transition.

Read our latest report on the state of Plastic Upstream Innovation in collaboration with Evergreen Labs here.

NOTES

1 Social franchising is the use of a commercial franchising approach to replicate and to share a proven model to achieve greater social impact. Link

2 Reverse logistics is a set of activities that recapture value and end the product's lifecycle, typically through the recollection of products for reuse after the sale of the product. Link

3 Polyethylene terephthalate, also called PET, is a type of clear, strong, lightweight plastic that remain the most common type of recyclable plastic for a limited amount of time. - American Beverage, 2020. Link

4 Vnexpress, "Vietnam breaks plastic stranglehold in 2019". Minh Nga, 2019. Link

5 Process of getting rid of large amounts of rubbish by burying it. Link

6 Type of waste treatment using high temperature processing; burning garbage. Link

7 Plastic leakage is the potential amount of macro and microplastics that are not kept in a circular loop or properly managed at their end-of-life, and thus leak into the environment. Link

8 70% of surveyed consumers operated in the F&B and Hospitality industries with 88% of them were in search of alternatives to SUP and expensive glass water bottles

9 Ecochain, "Glass vs. Plastic – What's the more climate-friendly packaging material?" Toby Liebsch, 2020. Link

10 Based on Evergreen Labs' research, within Vietnam, glass is not recollected for recycling and goes directly to landfills

11 A carbon footprint is the total amount of greenhouse gas emissions that come from the production, use and end-of-life of a product or service. Link

12 Based on Evergreen Labs' internal calculation for ICM's grant proposal

13 Investment range between US$10,000 and US$500,000

14 The ICM Falk Foundation's Circular Innovation Grant program provides small grants to researchers and entrepreneurs in Vietnam and ASEAN, up to US$5,000 per grant project.