reWINE

Reutilització d'ampolles de vidre al sector vitivinícola del sud d'Europa

HANDBOOK FOR PILOT PARTICIPANTS

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DELIVERABLE REPORT

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D.B3.1 Handbook for Pilot Participants

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Project no. LIFE15 ENV/ES/000437

reWINE

Glass bottles reuse in southern Europe wine sector

LIFE Environment and Resource Efficiency project application

Start date of project: 01/09/2016 Duration: 52 months

History Chart				
Issue	**Date**	**Changed page(s)**	**Cause of change**	**Implemented by**
0.1	04/06/2018	-	DRAFT	FPRC
1	23/06/2018	ALL	Version 1.0	ARC
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Validation			
No.	**Action**	**Beneficiary**	**Date**
1	Prepared	FPRC	09/01/2020
2	Approved	ARC	22/10/2020
3	Released	PRUAB	31/10/2020

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HANDBOOK FOR PILOT PARTICIPANTS

Description

This step will allow us to ensure a better functioning on the implementation of the action B4 Pilot project. Handbooks have been designed to guarantee the understanding of the B4 Pilot project for each party involved:

- Wineries (as Cooperativa Falset Marçà, Vins Pravi, Talcomraja, La Vinyeta….)
- Restaurants (Different location: Tarragona province, Barcelona, Maresme, Alt Empordà, Vins Pravi clients and Torres clients).
- Shops (Different location as Alt Empordà, Barcelona and wineries shops)
- Supermarket chain (Caprabo, Veritas and Ametller Origen situated in different regions of Catalonia)
- Washing plant (Situated in Villena).
- Wholesaler (Vicalis will distribute wine from Cooperativa Falset Marçà in Barcelona)
- Household waste recycling center

The action B3 has taken place in different locations of Catalonia from June 2017 to October 2019 and developed by FPRC.

Methodology

The following methods have been applied:

- Exploration of the different requirements for each part involved.
- Designing the structure of handbooks:
    - Common part explaining briefly the general functioning of the pilot test.
        - Brief project presentation (Framework, overall goal, specific goals, promoters, timetable, and benefits of pilot test participation).
        - General functioning of pilot test (stakeholders involved, bottle's flow, specific information).
    - Specific part explaining in detail the action they need to perform.
        - What are the changes for the specific participant (for example AFALMA, Vins Pravi, restaurant...)?
        - Communication tools and social network.
        - Contact in case of doubt.
        - Annex. Data requested.
- Performing a good design of handbooks. This action was made with the support of PRUAB (Parc de Recerca de la UAB). Some images were created and incorporated to improve the understanding of the handbooks.
- Printing and delivering handbooks for all participants.

The design of the handbooks needed to be simple to execute, but taking into account a good collection of data for further study.

Results

- A handbooks for each part have been designed, some of them with some modifications depending on the requirements of the pilot test:
    - **Handbook for wineries**. In the pilot test, two different models will be studied. Some wineries (La Cooperativa Falset Marçà, Torres, Talcomraja, La Vinyeta, Mas Argany and Albet I Noya) will send dirty bottles to an external washing plant whereas Vins Pravi will clean dirty bottles in the same winery. Two models of the handbook have been designed in each case.
        - Annex I show the handbook from the winery of La Cooperativa Falset Marçà. As one of the partners from the project, specific information will be required to ensure a good tracing of wine bottles. Others wineries will have a similar logistic but the information required may not be as specific because of the difficulty of recording data.
        - Annex II show the handbook from the winery of Vins Pravi. As Vins Pravi has a washing machine, it will be also required information about the facilities and washing plant conditions.
    - **Handbook for wholesaler (VICALIS):** VICALIS (Wholesaler) distribute wines from Cooperativa Falset Marça in the city of Barcelona. Annex III shows the information required.
    - **Handbook for washing plant (Infinity).** Annex IV, shows the handbook for Infinity (washing plant). The information required on this washing plant is similar from Vins Pravi installation as we want to compare the different models participating in the pilot test.
    - **Handbook for restaurants and shops**. To ensure a high collection of empty bottles from restaurants and shops, these establishments will receive a handbook explaining the requirements for a good pilot test functioning. (Annex V)
    - **Handbook for the supermarket chain**. As the logistics and the procedure of each supermarket chain are different, specific handbooks have been design for each supermarket chain.
    - **Handbook for House Hold Waste Recycling Center**. The logistic with House Hold Waste Recycling center is also different, that's why Rezero will design also a specific handbook for this HWRC

- In total, 134 handbooks were printed and delivered.

Annex

Annex I. Handbook Cooperativa Falset Marcà

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Handbook for the Falset Marçà Cooperative, winery participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles.

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Project Rewine

The reuse, despite being a priority in the European waste hierarchy, is clearly in decline in Catalonia. Currently, wine containers are not reused in their distribution channels, not even in hotels, restaurants and catering, as in other beverage sectors.
Different life cycle analysis has highlighted the environmental benefits of reusable bottles compared to recycling, as long as they are not transported over long distances and ensure their reuse. The reuse of glass bottles involves reductions in: greenhouse gas emissions, carbon monoxide emissions, waste generation, energy consumption and water consumption. Apart from the environmental benefits, there are also social and economic benefits. From an economic point of view, if the cost of purchasing the bottle is less, it can be economic savings for the winery and therefore a factor of competitiveness, as well as participating in a circular economy model with potential for creation of occupation.
In this sense, the Rewine project wants to **demonstrate the technical, environmental, social and economic viability of a sustainable system for the collection, cleaning and reuse of glass bottles in the wine sector of Catalonia.**
For this reason, it intends to involve consumers, cellars, bars, restaurants, distribution companies, shops and warehouses to take a pilot test of the reuse of wine bottles, from washing, labeling, bottling and distribution to the market to their combine harvester's collection.
The main promoters of the Rewine, with the collaboration of the European Union, are the UAB Research Park, Rezero-Foundation Prevention Waste and Responsible Consumption, Inédit Innovación, Waste Agency of Catalonia, the Falset- Marçà Cooperative and the Infinity Washing Plant.

The Pilot Test

The pilot test will take place for 18 months (from July 2018 to December 2019). On July 2018 the bottles that are part of the project will begin to be distributed and collected at the restaurant clients of the Falset-Marçà Cooperative.
Gradually, other points of return will be incorporated as other restaurants and shops offered by the participating wines. Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tons of glass packaging waste can be avoided.

How do you benefit from participating in the pilot test?

- You will participate in an innovative project that promotes responsible consumption and the circular economy and that contributes to sustainable environmental and socioeconmoic processes
- It will favor the capture of new customers and the loyalty of current customers
- You will contribute to the improvement of the environment by saving raw materials, reducing the generation of waste, greenhouse gas emissions, and the pollution generated by the process of producing new bottles
- It will help you quantify the economic savings that a reusable glass bottle system can generate

General Operation of the Pilot Test

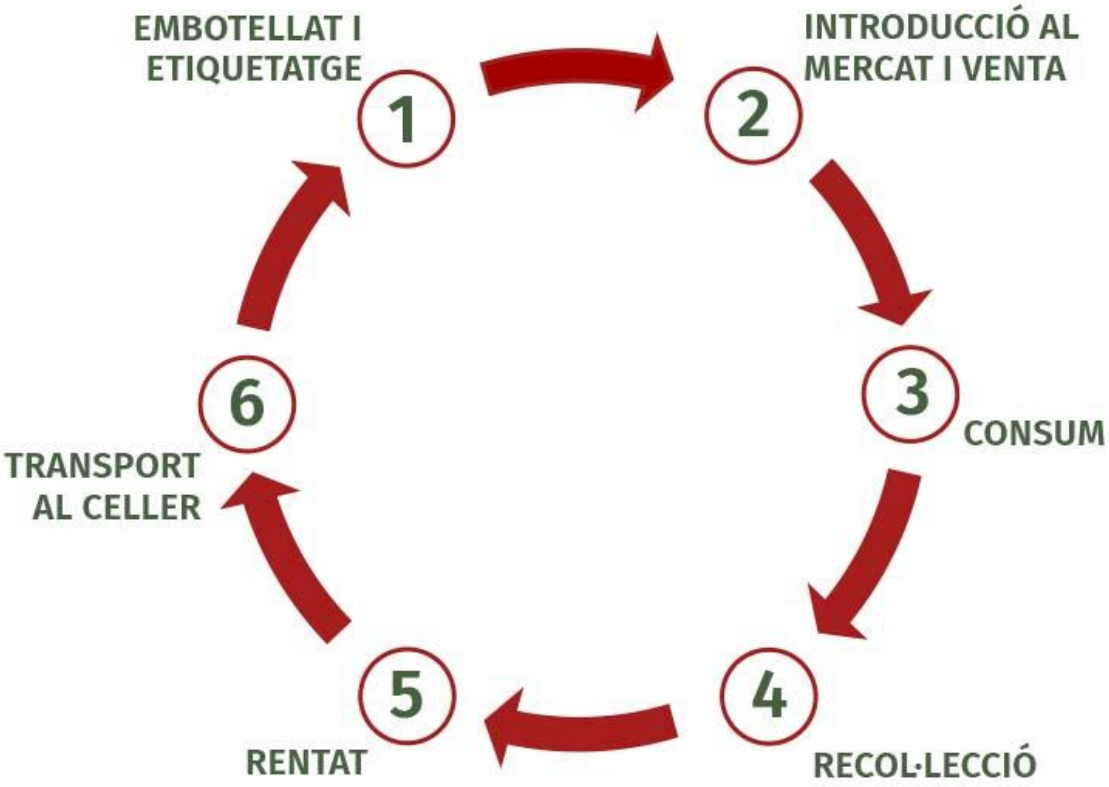
The system of reuse of wine bottles to be implemented during the pilot test takes into account the entire process of the bottle, from its labeling, washing, distribution to the market until the collection of empty bottles and it involves both wineries, warehouses, restaurants, shops, supermarkets and consumers.
The system can be described in the following steps:
1. **Bottling, labeling and introduction to the market:** The participating wineries bottle the wine and label the bottles. The bottles are putted on the market.
2. **Collection and storage:** Empty wine bottles are collected from different channels (shops, supermarkets, restaurants and wineries). Whenever possible, the collection of bottles is carried out by means of reverse logistics (the same distributor of restaurant drinks is responsible for collecting the bottles and transporting them to a storage center). Wineries that make direct sales to restaurants are responsible for the collection of empty bottles and their storage in their own facilities. Apart from the indicated return points, consumers can also return the bottles to municipal waste stores or green points.
3. **Transport**: Once the volume of bottles collected is sufficient so that its transport is optimal, efficient economically and environmentally, the empty bottles are transported until the washing plant.
4. **Washing and reuse:** The bottles are cleaned in the washing plant and returned to the wineries to start the new cycle.

The specific characteristics of this logistics are:

1. The wines of the cooperative of Falset-Marçà participants in the pilot test are **Imus, Falset Negre, Ètim El Joc, Ètim destí, Ètim pausa and Ètim viatge**. These are Catalan wines of medium-low range. The logo of the participating bottles appears on the Rewine logo for easy identification.

2. The participating bottles have been labeled with water-soluble glues that facilitate the washing and subsequent reuse of the container. **To avoid damage to the labels, it is recommended that the bottles are stored in ambient conditions of 20-25ºC and 40-50% relative humidity**, for a maximum of two years. These should not be exposed to direct sunlight.

3. Wine bottled in reusable bottles will be distributed in cardboard boxes, and **collaborating restaurants will be asked to use the same cardboard boxes to store the bottles once they are empty.** The carton box model of 6 bottles of wine will be the same for transporting the Imus than for the Black Falset. Likewise, the carton box model of 12 bottles of wine to transport the Imus will be identical to that of the Black Falset. This factor is important for the correct logistical operation.



What are the changes for AFALMA?

To demonstrate the technical, environmental, social and economic feasibility of a sustainable system for the reuse of glass bottles in the wine sector of Catalonia, a follow-up of the wine bottles involved in the project (hereinafter "bottles of Rewine wine ") in its transport, washing and bottling. AFALMA participates in the transport and bottling of these bottles. The procedure is detailed below for each case:

Transports realized by AFALMA

To be able to make a good analysis of the transport of the Rewine wine bottles, AFALMA will be asked to send generic data of the transport used habitually (Annex A). In the event that there is an external company in charge of transporting the bottles, this information must also be obtained. All bottles participating in the Rewine project must be collected. Wine bottles consumed in the same winery, for example, from tasting with customers, must also be taken to the store for washing and bottling.

The information that will be requested in the different transports carried out by AFALMA will depend on its destination. Below is the information that will be requested for the different routes:

Procedure for the delivery and collection of wine bottles

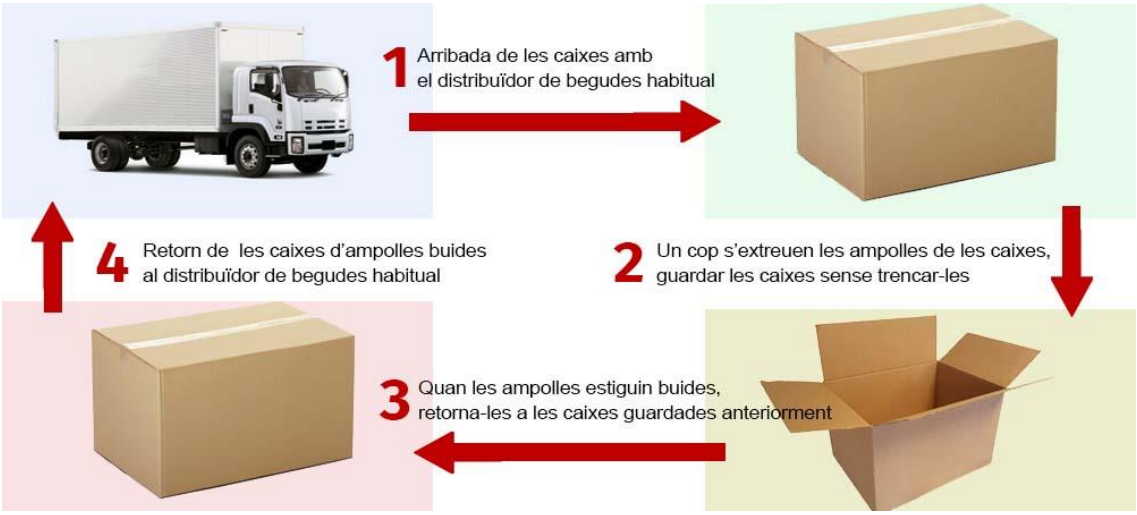
The collection of Rewine wine bottles in the different restaurants in Tarragona will be carried out by reverse logistics, empty boxes of Rewine wine will be collected when full new bottles are delivered.

When the wine bottles are distributed to the different restaurants in the province of Tarragona, each transport provider must complete a file before leaving the warehouse and, when it arrives, finish completing. The tab detailed in Annex B will be used to calculate the costs in the design of reusable bottles and you will have to scan and send REZERO monthly to the email: rezero@rewine.cat.

In addition, to control the Rewine wine bottles that are given and collected at the participating restaurants, a delivery note must be completed in each establishment (Annex C). In this booklet there will be a copy that will remain the restaurant and the original that will remain the carrier (this way we make sure that you do not lose any). These delivery notes, which will remain in the hands of AFALMA, will have to scan and send REZERO monthly to the email: rezero@rewine.cat.

In these logistics, you should keep in mind:

- The boxes with empty bottles of wine will always be collected taking advantage of the arrival of a new product. **A transport of empty bottles will not be programmed exclusively**.
- **No incomplete boxes of empty bottles will be returned**
- If the restaurant has different brands of Rewine wine bottle, **it will not mix different brands of wines in the same box**. The brand of the empty wine bottle must match the mark of the box that is stored.



Transport of empty bottles collected in Vicalis

AFALMA will collect empty bottles accumulated in the Vicalis warehouse located in Granada del Penedès. To reduce costs, every time there is a full pallet, it will be collected. In that transport, you must complete a receipt, detailed in Annex D, with the following information: Date, registration of the transport, place of collection of the bottles, place of arrival of the bottles, kilometers realized, no. of transported boxes (number of boxes of 6 transported and number of boxes of 12 transported), no. of transported pallets and total time. Every time a transport is carried out, you will have to scan and send this document to REZERO at: rezero@rewine.cat.

Transport of empty bottles sent to the washing plant.

As in the previous case, the transport to be carried out at the washing plant will also be accompanied by a receipt (Annex D) with the following information: Date, registration of the transport, place of collection of the bottles, place of arrival of the bottles, kilometers made, no. of boxes transported (number of boxes of 6 transported and number of boxes of 12 transported), no. of transported pallets and total time.

This transport will be made with europalets. The following table shows the characteristics of these, which vary depending on whether they are boxes of 6 or 12 bottles.

Bottle	Units (Box)	Floors	Boxes per Floor	Boxes per Pallets	Units per Pallet	Height (cm)
Falset Negre/Imus	12	5	12	60	720	170
Falset Negre/Imus	6	4	25	100	600	147

To optimize the transportation of empty Rewine bottles to the washing plant, it will take control of the data of accumulated bottles in the AFALMA store with an Excel (Annex E), which must be filed whenever Rewine wine bottles arrive or send. In the box of not filled, there is a formula that will tell us the number of pallets that can be completed thanks to the information that the worker will fill in the other boxes. The first week of each month, you must send this registration document to REZERO at: rezero@rewine.cat

Bottled Line

The washing plant will return the clean bottles to AFALMA with American pallets. When AFALMA returns to fill these bottles, the number of bottles ready to fill and the number of bottles finally filled will be controlled and recorded. In the case of incidents that occurred during the process, they should be communicated. This registration will be done with an Excel sheet, detailed in Annex F, and must be sent to REZERO: rezero@rewine.cat.

Surcharges in the design of reusable bottles

A design of reusable bottles implies an operating surcharge in, for example, the handling. These surcharges must also be identified and calculated for the subsequent study. Provide the relevant information to INÈDIT: carles@ineditinnova.com

Annex

Annex A: Table detailing the information on transport used.

Model of truck/van	Registration of truck/van	Type of Fuel	Consumption (L/100km)	Capacity of truck/van

Annex B. Carrier File (Restaurants).

Date	Registration of Truck/Van	Kilometers at the Beginning	Kilometers at the End	Total Time (h)

Annex C. Shipment for restaurants

Deliver of **Rewine bottles**

Data	
Enrollment	
Local Name	

Brand	Boxes of 6 Delivered	Boxes of 12 Delivered	Boxes of 6 Collected	Boxes of 12 Collected
IMUS				
Falset Negre				
Others Rewine				

Signature Cooperativa

Signature of Person in Charge

Postage Stamp

Observations:
(Only complete boxes of Rewine bottles will be collected)

Annex D. Checking carrier for Rewine bottles

AFALMA: Checking carrier for Rewine bottles

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Data

Enrollment

Place of Collection of the bottles

- AFALMA ☐
- VICALIS ☐

Place of
of th

- AFALMA ☐
- VICALIS ☐
- Washing plant ☐

Kilometers of the truck / van at the beginning of the trip

Kilometers of the truck / van at the end of the trip

Box Type	No. of Total Boxes	No. Of Pallets
Boxes of 6 Bottles		
Boxes of 12 Bottles		

Total time taken *(Total transport time, round trip)*

hours minutes

Observations:

Annex E. Excel to be filled by AFALMA (July 2018).

			* **NO** bottles of empty bottles of 6 can be mixed with boxes of empty bottles of 12 in a same pallet		**DO NOT FILL				
Date	Number of boxes of 6 empty bottles in the store	Number of boxes of 12 empty bottles in the store	Number of prepared pallets to send (Boxes of 6 empty bottles) *	Number of prepared pallets to send (Boxes of 12 empty bottles) *	Number of pallets that can be made with boxes of 6 bottles **	Number of pallets that can be made with boxes of 12 bottles **	Total number of pallets **	Date	Number of Pallets Sent
01/07/2018					0	0	0	01/07/2018	
02/07/2018					0	0	0	02/07/2018	
03/07/2018					0	0	0	03/07/2018	
04/07/2018					0	0	0	04/07/2018	
05/07/2018					0	0	0	05/07/2018	
06/07/2018					0	0	0	06/07/2018	
07/07/2018					0	0	0	07/07/2018	
08/07/2018					0	0	0	08/07/2018	
09/07/2018					0	0	0	09/07/2018	
10/07/2018					0	0	0	10/07/2018	
11/07/2018					0	0	0	11/07/2018	
12/07/2018					0	0	0	12/07/2018	
13/07/2018					0	0	0	13/07/2018	
14/07/2018					0	0	0	14/07/2018	
15/07/2018					0	0	0	15/07/2018	
16/07/2018					0	0	0	16/07/2018	
17/07/2018					0	0	0	17/07/2018	
18/07/2018					0	0	0	18/07/2018	
19/07/2018					0	0	0	19/07/2018	
20/07/2018					0	0	0	20/07/2018	
21/07/2018					0	0	0	21/07/2018	
22/07/2018					0	0	0	22/07/2018	
23/07/2018					0	0	0	23/07/2018	
24/07/2018					0	0	0	24/07/2018	
25/07/2018					0	0	0	25/07/2018	
26/07/2018					0	0	0	26/07/2018	
27/07/2018					0	0	0	27/07/2018	
28/07/2018					0	0	0	28/07/2018	
29/07/2018					0	0	0	29/07/2018	
30/07/2018					0	0	0	30/07/2018	
31/07/2018					0	0	0	31/07/2018	
								Total number of pallets sent	0

Annex F. Bottling line: Number of bottles ready to be washed and number of bottles washed.

Bottling Line			
Date	Number of bottles ready to fill	Number of bottles finally filled	Incidents

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Handbook for Vins Pravi, winery participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles.

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Project Rewine

The reuse, despite being a priority in the European waste hierarchy, is clearly in decline in Catalonia. Currently, wine containers are not reused in their distribution channels, not even in hotels, restaurants and catering, as in other beverage sectors.
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In this sense, the Rewine project wants to **demonstrate the technical, environmental, social and economic viability of a sustainable system for the collection, cleaning and reuse of glass bottles in the wine sector of Catalonia.**
For this reason, it intends to involve consumers, cellars, bars, restaurants, distribution companies, shops and warehouses to take a pilot test of the reuse of wine bottles, from washing, labeling, bottling and distribution to the market to their combine harvesters Collection.
The main promoters of the Rewine, with the collaboration of the European Union, are the UAB Research Park, Rezero- Fundación Prevención de Residuos y Consumo Responsable, Inédit Innovación, Agencia de Residuos de Cataluña, la Cooperativa de Falset- Marçà and the Infinity Washing Plant.

The Pilot Test

The pilot test will take place for **18 months** (from July 2018 to December 2019). In July 2018 the bottles that are part of the project will begin to be distributed and collected at the restaurants clients of the Vins Pravi.
Gradually, other points of return will be incorporated as other restaurants and shops offered by the participating wines. Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tonnes of glass packaging waste can be avoided.

How do you benefit from participating in the pilot test?

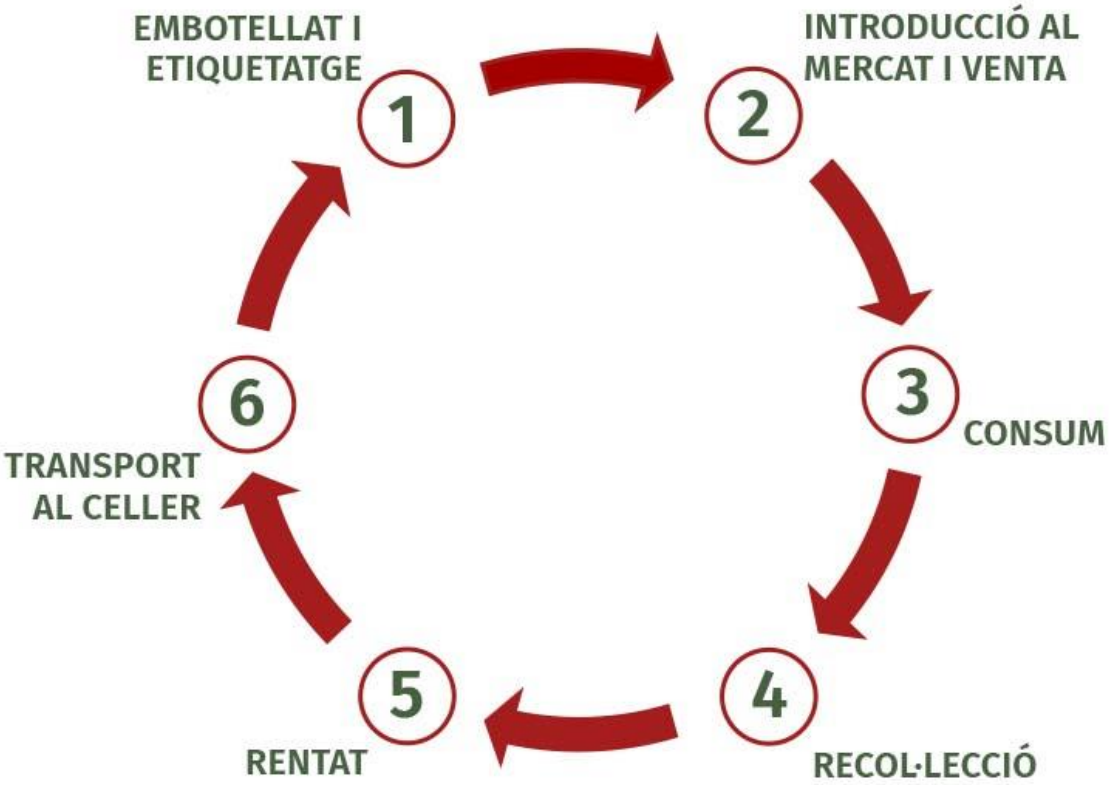
- You will participate in an innovative project that promotes responsible consumption and the circular economy and that contributes to sustainable environmental and socioeconmoic processes.
- You will improve the environmental profile of the brand.
- It will favour the acquisition of new customers and the loyalty of current customers.
- You will contribute to the improvement of the environment by saving raw materials, reducing the generation of waste, greenhouse gas emissions and the pollution generated by the process of producing new bottles.
- You will help qualify the economic savings that a glass reuse system can generate

General Operation of the Pilot Test

The system of reuse of wine bottles to be implemented during the pilot test takes into account the entire process of the bottle, from its labeling, washing, distribution to the market until the collection of empty bottles and it involves both wineries, warehouses, restaurants, shops, supermarkets and consumers.
The system can be described in the following steps:
1. **Bottling, labeling and introduction to the market:** The participating wineries bottle the wine and label the bottles. The bottles leave the wineries and they are put on the market.
2. **Collection and storage:** Empty wine bottles are collected from different channels (shops, supermarkets, restaurants and wineries). Whenever possible, the collection of bottles is carried out by means of reverse logistics (the same distributor of restaurant drinks is responsible for collecting the bottles and transporting them to a storage center). Wineries that make direct sales to restaurants are responsible for the collection of empty bottles and their storage in their own facilities. Apart from the indicated return points, consumers can also return the bottles to municipal waste stores or green points.
3. **Transport**: Once the volume of bottles collected is sufficient so that its transport is optimal and efficient economically and environmentally, the empty bottles are transported until the washing plant.
4. **Washing and reuse:** The bottles are cleaned in the washing plant and returned to the wineries to start the new cycle.

The specific characteristics of this logistics are:
1. The wines of the Vins Pravi participants in the pilot test are Vinya del Pont, Gran Pravi and Pravi Jove.
2. The participating bottles have been labeled with water-soluble glues that facilitate the washing and subsequent reuse of the container.

3. Wine bottled in reusable bottles will be distributed in plastic boxes, and **collaborating restaurants will be asked to use the same cardboard boxes to store the bottles once they are empty.**



What are the changes for Vins Pravi?

To demonstrate the technical, environmental, social and economic feasibility of a sustainable system for the reuse of glass bottles in the wine sector of Catalonia, a follow-up of the wine bottles involved in the project (hereinafter "bottles of Rewine wine ") in its transport, washing and bottling.

Transports made by Pravi Wines

All bottles participating in the Rewine project must be collected. Wine bottles consumed in the same winery, for example, from tasting with customers, must also be taken to the store for washing and bottling.

Vins pravi may modify the invoice of Rewine bottles. For legal aspects, the invoice need to specify the number of litters sold instead of the bottles sold. Vins Pravi can specify the liter of wine sold in 75cl bottles (for example 3 liters of wine in 4 bottles of 75cl).

Delivery and collection of the Rewine wine bottles

The collection of the Rewine wine bottles will be carried out with reverse logistics. Bottles sold in the store and bottles consumed in the same winery (for example, from tastings with customers) must also be collected for reuse.
During the pilot test, the registration of sales of the participating brands in the pilot test, the return, as well as the deposits of the bottle returned to the store and the different restaurants will be sent periodically. This record must be sent to REZERO every month: rezero@rewine.cat

Wash line: Record of number of washed bottles and incidents.
Each time the washing of wine bottles is carried out, the number of bottles prepared for washing and the number of bottles finally washed will be controlled. In the case of incidents that occurred during the process, they should be communicated. This control will be carried out with an Excel (Annex A), where it must be filled each time a cleaning is carried out and must be sent to REZERO every month: rezero@rewine.cat.
In addition, the plant will provide information to Inèdit to calculate the consumption of water, chemicals, energy and record the volume of waste generated through a document detailed in Annex B. fill out and send Inédit to the email: carles@ineditinnova.com.

Bottling line: Record number of bottled bottles and incidents.
As in the case of the washing of the bottles, when Vins Pravi refills the clean bottles, the number of bottles ready to fill and the number of bottles finally filled will be controlled and recorded. In the case of incidents that occurred during the process, they should be communicated. This registration, which will be done with an Excel sheet (Annex C), must be sent to REZERO every month: rezero@rewine.cat.

Guide to follow in the collection of bottles to send to analyze (PRAVI-LABORATORY WINE) *

A total of 6 samples of bottles will be sent to the CICA laboratory in Barcelona. 3 of which will be empty washed bottles and the other 3 will be full wine bottles.
For **this procedimient** it is important:
- Cover the bottle with a cork stopper as fast as possible after it is washed.
- The cork stopper must be sterilized, used directly from the bag / box where they come, without having been exposed to the outside.
- Use latex gloves when handling objects, whether bottles or cork stoppers.
- Do not expose the bottles after the procedure of collecting samples (bottles) at high temperatures or sudden changes in temperature. In other words, do not store them next to heat sources or refrigerate them.
For the **shipment of bottles**, it is important:
- Place the 6 bottles in a rigid container (carton box, wood, plastic ...)
- Protect the bottles correctly. The ideal material would be the "bubble" packaging but it can be adapted. Protect between the box and the bottles. If they dance in the box, it will also be necessary to place protection between bottles so that they do not touch between them.
During the pilot test three analytical tests will be carried out::

- **July / September 2018:** At the start of the pilot test.
- **April 2019:** In the middle of the pilot test.
- **November / December 2019:** End of the pilot test.

Annex A: Wash line: Record of number of washed bottles and incidents.

Date	Number of bottles ready to be washed	Number of bottles finally washed	Incidents

Annex B. Data washing plant

1.- Process time.

Process stage	Units	Quantity (value / does not apply)
Pre-treatment of the bottle	Minutes	
Immersion baths	Minutes	
Washed	Minutes	
Injection of detergent	Minutes	
Water injection	Minutes	
Total time	Minutes	

2.- Chemical Inputs.

Chemical Agents	Process stage	Units	Quantity (value / does not apply)
Detergent	Injection of detergent	l	
Polyethylene wax	Wax treatment	kg	
NaCl	Decalcify	kg	
Resin	Decalcify	kg	
Active Carbon	Decalcify	kg	
Cl_2	Purification of water	kg	
Anti-foam	Wastewater	kg	
Altres			

3.- Water consumption

Process stage	Units	Quantity (value / does not apply)
Injection (3 tanks)	Liters	
Rinsing bath (2 tanks)	Liters	
Pre-treatment bath	Liters	
Daily cleaning	Liters	
Weekly cleaning	Liters	
Basic Bath (NaOH)	Liters	
Network water	Liters	
Total water consumption	Liters	

4.- Power Consumption

Process stage	Units	Quantity (value / does not apply)
Energy consumption of washing plant	kWh	

5.- Generation of waste

Process stage	Units	Quantity (value / does not apply)
Generation of waste	Kg	

Annex C: Bottling line: Record of number of washed bottles and incidents.

Date	Number of bottles ready to fill	Number of bottles finally filled	Incidents

Annex D. Guidelines to follow in the collection of bottles to send to analyze

A total of 6 samples of bottles will be sent to the CICA laboratory in Barcelona. 3 of which will be empty washed bottles and the other 3 will be full wine bottles.
For **this procedimient** it is important:
- Cover the bottle with a cork stopper as fast as possible after it is washed.
- The cork stopper must be sterilized, used directly from the bag / box where they come, without having been exposed to the outside.
- Use latex gloves when handling objects, whether bottles or cork stoppers.
- Do not expose the bottles after the procedure of collecting samples (bottles) at high temperatures or sudden changes in temperature. In other words, do not store them next to heat sources or refrigerate them.
For the **shipment of bottles**, it is important:
- Place the 6 bottles in a rigid container (carton box, wood, plastic ...)
- Protect the bottles correctly. The ideal material would be the "bubble" packaging but it can be adapted. Protect between the box and the bottles. If they dance in the box, it will also be necessary to place protection between bottles so that they do not touch between them.
During the pilot test three analytical tests will be carried out::

- **July / September 2018:** At the start of the pilot test.
- **April 2019:** In the middle of the pilot test.
- **November / December 2019:** End of the pilot test.

Annex III: Handbook Vicalis.

reWINE

Handbook for VICALIS, distributor participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles.

#Rewine
#CadaAmpollaImporta

www.Rewine.cat

Project Rewine

The reuse, despite being a priority in the European waste hierarchy, is clearly in decline in Catalonia. Currently, wine containers are not reused in their distribution channels, not even in hotels, restaurants and catering, as in other beverage sectors.
Different life cycle analysis have highlighted the environmental benefits of reusable bottles compared to recycling, as long as they are not transported over long distances and ensure their reuse. The reuse of glass bottles involves reductions in: greenhouse gas emissions, carbon monoxide emissions, waste generation, energy consumption and water consumption. Apart from the environmental benefits, there are also social and economic benefits. From an economic point of view, if the cost of purchasing the bottle is less, it can be economic savings for the winery and therefore a factor of competitiveness, as well as participating in a circular economy model with potential for creation of occupation.
In this sense, the Rewine project wants to **demonstrate the technical, environmental, social and economic viability of a sustainable system for the collection, cleaning and reuse of glass bottles in the wine sector of Catalonia.**
For this reason, it intends to involve consumers, cellars, bars, restaurants, distribution companies, shops and warehouses to take a pilot test of the reuse of wine bottles, from washing, labeling, bottling and distribution to the market to their combine harvesters Collection.
The main promoters of the Rewine, with the collaboration of the European Union, are the UAB Research Park, Rezero- Fundación Prevención de Residuos y Consumo Responsable, Inédit Innovación, Agencia de Residuos de Cataluña, la Cooperativa de Falset- Marçà and the Infinity Washing Plant.

The Pilot Test

The pilot test will take place for **18 months** (from July 2018 to December 2019). In July 2018 the bottles that are part of the project will begin to be distributed and collected at the restaurants clients of the Falset-Marçà cooperative.
Gradually, other points of return will be incorporated as other restaurants and shops offered by the participating wines. Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tons of glass packaging waste can be avoided.

How do you benefit from participating in the pilot test?

- You will participate in an innovative project that promotes responsible consumption and th circular economy and that contributes to sustainable environmental and socioeconomic processes.
- You will improve the environmental profile of the brand.
- It will favour the acquisition of new customers and the loyalty of current customers.
- You will contribute to the improvement of the environment by saving raw materials, reducin the generation of waste, greenhouse gas emissions and the pollution generated by the process of producing new bottles.
- You will help quantify the economic savings that a glass reuse system can generate.

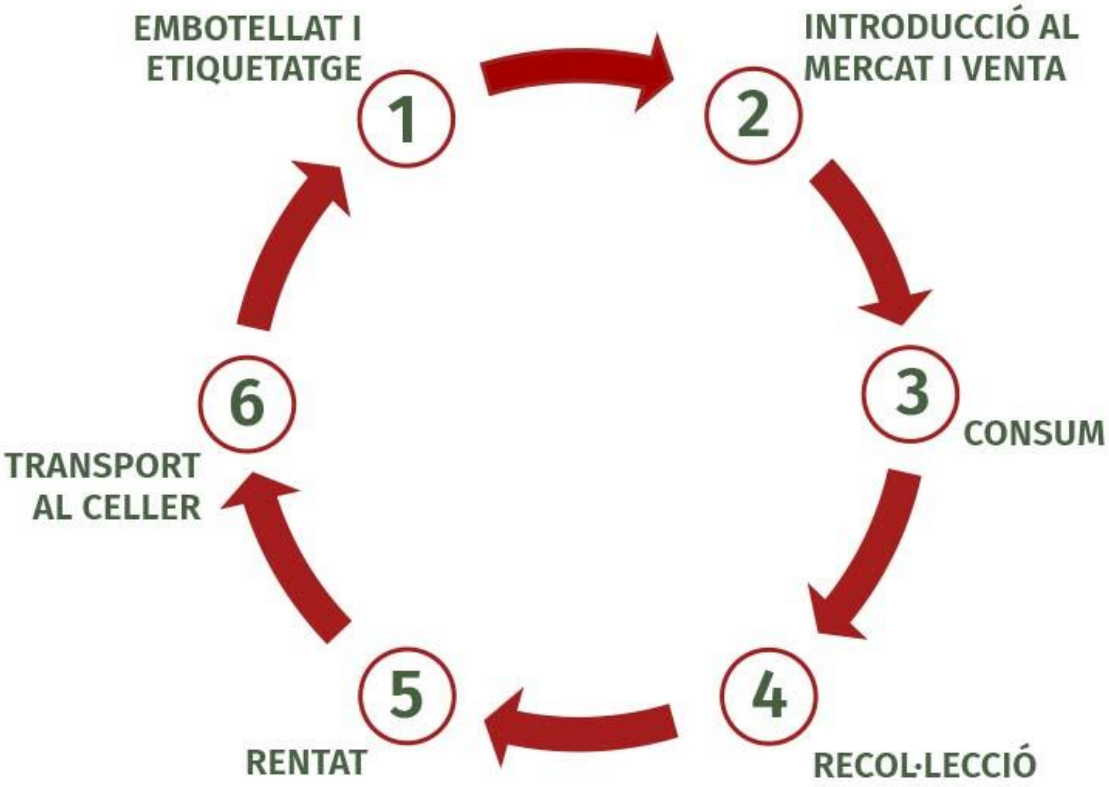
General Operation of the Pilot Test

The system of reuse of wine bottles to be implemented during the pilot test takes into account the entire process of the bottle, from its labeling, washing, distribution to the market until the collection of empty bottles and it involves both wineries, warehouses, restaurants, shops, supermarkets and consumers.
The system can be described in the following steps:
1. **Bottling, labeling and introduction to the market:** The participating wineries bottle the wine and label the bottles. The bottles leave the wineries and they are put on the market.
2. **Collection and storage:** Empty wine bottles are collected from different channels (shops, supermarkets, restaurants and wineries). Whenever possible, the collection of bottles is carried out by means of reverse logistics (the same distributor of restaurant drinks is responsible for collecting the bottles and transporting them to a storage center). Wineries that make direct sales to restaurants are responsible for the collection of empty bottles and their storage in their own facilities. Apart from the indicated return points, consumers can also return the bottles to municipal waste stores or green points.
3. **Transport**: Once the volume of bottles collected is sufficient so that its transport is optimal and efficient economically and environmentally, the empty bottles are transported until the washing plant.
4. **Washing and reuse:** The bottles are cleaned in the washing plant and returned to the wineries to start the new cycle.

The specific characteristics of this logistics are:
1. The wines of the cooperative of Falset-Marçà participants in the pilot test are **Imus and Falset Negre**. These are Catalan wines of proximity of medium-low range. The logo of the participating bottles appears on the Rewine logo for easy identification.
2. The participating bottles have been labeled with water-soluble glues that facilitate the washing and subsequent reuse of the container. **To avoid damage to the labels, it is recommended that the bottles are stored in ambient conditions of 20-25ºC and 40-**

50% relative humidity, for a maximum of two years. These should not be exposed to direct sunlight.

3. Wine bottled in reusable bottles will be distributed in cardboard boxes, and **collaborating restaurants will be asked to use the same cardboard boxes to store the bottles once they are empty.** The carton box model of 6 bottles of wine will be the same for transporting the Imus than for the Black Falset. Likewise, the carton box model of 12 bottles of wine to transport the Imus will be identical to that of the Black Falset. This factor is important for the correct logistical operation.



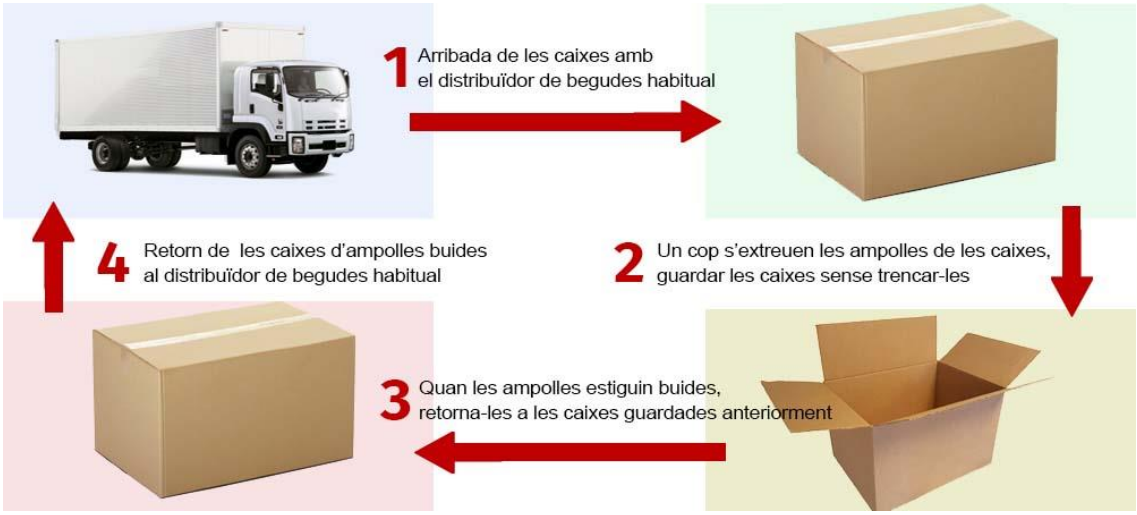
What are the changes for VICALIS?

To demonstrate the technical, environmental, social and economic feasibility of a sustainable system for the reuse of glass bottles in the wine sector of Catalonia, a follow-up of the wine bottles involved in the project (hereinafter "bottles of Rewine wine ") in its transport, washing and bottling.
VICALIS will participate in the delivery and collection of Rewine wine bottles. Empty wine boxes will be stored in the store until a carrier subcontracted by AFALMA collects them. The procedure below is detailed below for each case:

Procedure for the delivery and collection of wine bottles
The Rewine wine bottles will be provided directly to the establishments by the regular beverage distributor in cardboard boxes of 6 or 12 units. Once the boxes are delivered, it is important not to break them and save them (these boxes will also be identified with the Rewine logo to avoid confusion). When the bottles are consumed by the customers, they will be placed again in the corresponding cardboard boxes and will be stored until the distributor, by means of reverse logistics, collects the empty bottles and transport them to the storage point (same installations of the Warehouse / centralized logistics warehouse) for its subsequent transfer to the washing plant.

In these logistics, you should keep in mind:

- The boxes with empty bottles of wine will always be collected taking advantage of the arrival of a new product. **A transport of empty bottles will not be programmed exclusively**.
- **No incomplete boxes of empty bottles will be returned**



Transport of empty bottles collected in Vicalis

AFALMA will collect empty bottles accumulated in the Vicalis plant located in Granada del Penedès. To reduce costs, every time there is a full pallet, it will be collected. The billing will be carried out every time a pallet is complete and ready to collect. The pallets that must be used to palletize the bottles will be europallets. The following shows the characteristics of these, which vary depending on whether they are boxes of 6 or 12 bottles.

Bottle	Units (Box)	Floors	Boxes per Floor	Boxes per Pallets	Units per Pallet	Height (cm)
Falset Negre/Imus	12	5	12	60	720	170
Falset Negre/Imus	6	4	25	100	600	147

VICALIS will take control of empty boxes accumulated in the store and will be informed when a pallet is complete so that REZERO can schedule its collection.

Record of sold bottles / bottles collected.

During the pilot test, the number of Rewine bottles sold in the different restaurants participating in the pilot test must be recorded. This record will be sent to REZERO each month in the email: rezero@rewine.cat.

The collection of collected bottles will be controlled through the collected pallets. It is important that VICALIS quickly informs when a pallet is complete.

Annex IV: Hanbook Washing Plant

reWINE

Handbook for the washing plant Infinity participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles

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Project Rewine

The reuse, despite being a priority in the European waste hierarchy, is clearly in decline in Catalonia. Currently, wine containers are not reused in their distribution channels, not even in hotels, restaurants and catering, as in other beverage sectors.
Different life cycle analysis have highlighted the environmental benefits of reusable bottles compared to recycling, as long as they are not transported over long distances and ensure their reuse. The reuse of glass bottles involves reductions in: greenhouse gas emissions, carbon monoxide emissions, waste generation, energy consumption and water consumption. Apart from the environmental benefits, there are also social and economic benefits. From an economic point of view, if the cost of purchasing the bottle is less, it can be economic savings for the winery and therefore a factor of competitiveness, as well as participating in a circular economy model with potential for creation of occupation.

In this sense, the Rewine project wants to **demonstrate the technical, environmental, social and economic viability of a sustainable system for the collection, cleaning and reuse of glass bottles in the wine sector of Catalonia.**

For this reason, it intends to involve consumers, cellars, bars, restaurants, distribution companies, shops and warehouses to take a pilot test of the reuse of wine bottles, from washing, labeling, bottling and distribution to the market to their combine harvesters Collection.

The main promoters of the Rewine, with the collaboration of the European Union, are the UAB Research Park, Rezero- Fundación Prevención de Residuos y Consumo Responsable, Inédit Innovación, Agencia de Residuos de Cataluña, la Cooperativa de Falset- Marçà and the Infinity Washing Plant.

The Pilot Test

The pilot test will take place for **18 months** (from July 2018 to December 2019). In July 2018 the bottles that are part of the project will begin to be distributed and collected at the wineries warehouse
Gradually, other points of return will be incorporated as other restaurants and shops offered by the participating wines. Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tonnes of glass packaging waste can be avoided.

How do you benefit from participating in the pilot test?

- You will participate in an innovative project that promotes responsible consumption and the circular economy and that contributes to sustainable environmental and socioeconomic processes.
- You will improve the environmental profile of the brand.
- It will favour the acquisition of new customers and the loyalty of current customers.
- You will contribute to the improvement of the environment by saving raw materials, reducing the generation of waste, greenhouse gas emissions and the pollution generated by the process of producing new bottles.
- You will help quantify the economic savings that a glass reuse system can generate.

General Operation of the Pilot Test

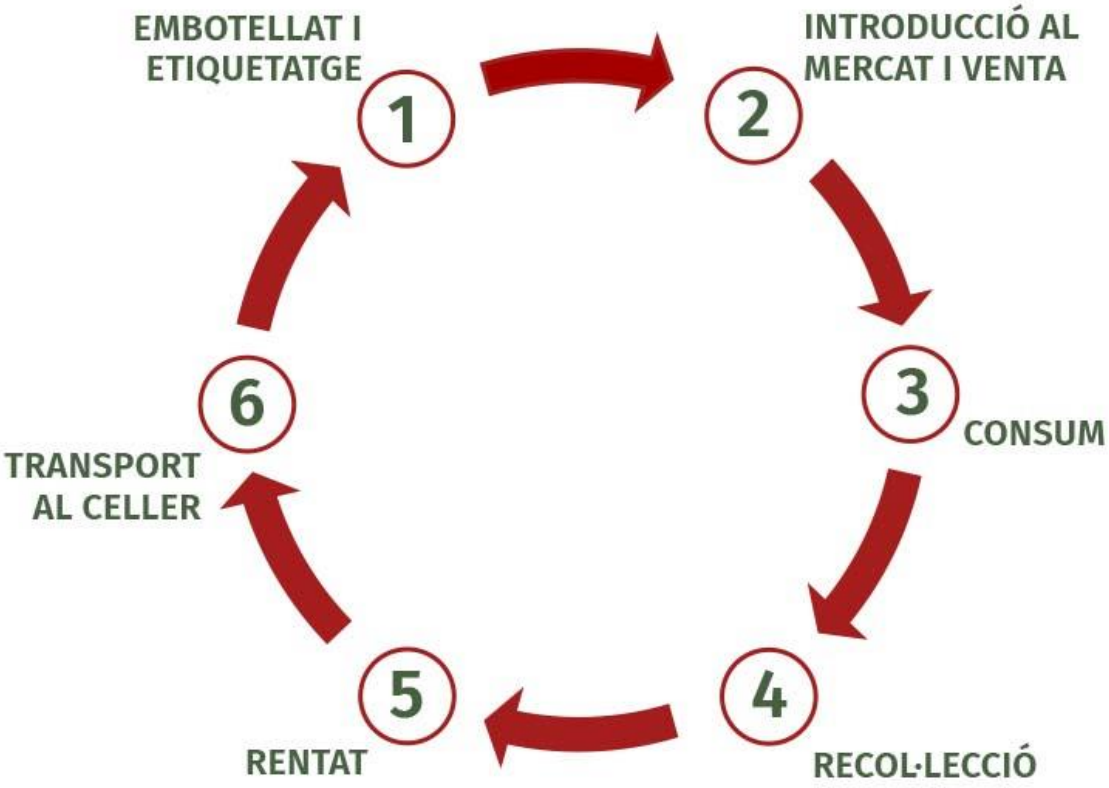
The system of reuse of wine bottles to be implemented during the pilot test takes into account the entire process of the bottle, from its labeling, washing, distribution to the market until the collection of empty bottles and it involves both wineries, warehouses, restaurants, shops, supermarkets and consumers.
The system can be described in the following steps:
1. **Bottling, labeling and introduction to the market:** The participating wineries bottle the wine and label the bottles. The bottles leave the wineries and they are put on the market.
2. **Collection and storage:** Empty wine bottles are collected from different channels (shops, supermarkets, restaurants and wineries). Whenever possible, the collection of bottles is carried out by means of reverse logistics (the same distributor of restaurant drinks is responsible for collecting the bottles and transporting them to a storage center). Wineries that make direct sales to restaurants are responsible for the collection of empty bottles and their storage in their own facilities. Apart from the indicated return points, consumers can also return the bottles to municipal waste stores or green points.
3. **Transport**: Once the volume of bottles collected is sufficient so that its transport is optimal and efficient economically and environmentally, the empty bottles are transported to the washing plant.
4. **Washing and reuse:** The bottles are cleaned in the washing plant and returned to the wineries to start the new cycle.

The specific characteristics of this logistics are:
1. The wines participating in the different wineries are:

- **Cooperativa Falset Cooperative:** Imus, Falset Negre, Ètim El Joc, Ètim destí, Ètim pausa and Ètim viatge
- **Torres:** Viña Sol

- **La Vinyeta:** Heus white*, Heus * pink, Heus * Black, Seeds *, Seeds * White, Puntiapart *
- **Talcomraja**: Sang de Sauló Mica, Sang de Sauló Quars, Sang de Sauló Feldspat, Rial Blanc, Rial Negre, 6 Vincles, Simbiosi, Rose and White.
- **Albet i Noya**: Albet blanc and albet negre
- **Mas Argany**: Mas Argany Black, white and rose.

2. The participating bottles have been labeled with tags that facilitate the washing and subsequent reuse of the container.



What are the changes for the washing plant?

To demonstrate the technical, environmental, social and economic feasibility of a sustainable system for the reuse of glass bottles in the wine sector of Catalonia, it is

important a follow-up of the wine bottles involved in the project (hereinafter "Rewine bottles ") in its transport, washing and bottling.
The washing plant will be responsible for the washing of the Rewine bottles and for its transport to the store of the winery. The procedure is detailed below:

Washing Line

Each time the washing of Rewine bottles is carried out, the number of bottles ready to be washed and the number of bottles finally washed will be controlled. In the case of incidents that occurred during the process, they should be communicated. This control will be carried out with an Excel, detailed in Annex A. The Excel will have to be filled each time a cleaning of Rewine wine bottles is carried out and periodically send to REZERO to the e-mail: rezero@rewine.cat.
In addition, the plant will provide information to Inèdit to calculate the consumption of water, chemicals, energy and record the volume of waste generated through a document detailed in Annex B:: carles@ineditinnova.com.

Evaluation of risks related to exposure to biological agents

A sample of three empty bottles will be analyzed after the washing process.
With these bottles, the detection and quantification of viable Brettanomyces, Saccharomyces, lactic bacteria and total acetones will be carried out through the filtration of 1 to 100 ml of sample with a sterile membrane of 0.45 microns incubated at different temperatures. Next it will be carried out:
- Growth in culture plate with a specific medium for dairy bacteria (MRS) and acetic bacteria (Glu-CaCO3). UFC Recovery of UFC (Recovery of Colony Forming Units), Recovery of total bacteria (Recovery of Colony Forming Units (UFC)) by optical microscope.
- Growth in culture plate with a specific medium for Brettanomyces (DBM-Dekkera / Brettanomyces Differential Medium). Recapture of UFC (Reconta de Unidades Formadoras de Colonias) by Brettanomces by optical microscope.
- Growth in culture plate with a specific yeast medium (YPDA - Yeast Peptone Dextrose Agar) and differential medium for non-Saccharomyces yeast (Lysine). Recalculation of UFC (Recovery of Colony Training Units) of Sacharomyces and non-Saccharomyces by means of an optical microscope.

The data of the analytical control carried out at each wash should also be sent to REZERO, in the email: rezero@rewine.cat.

Transport of clean bottles to winery

To be able to make a good analysis of the transport of the Rewine wine bottles, the washing plant will be asked to send generic data of the transport used habitually (Annex C)
The transport of clean bottles that is made to the warehouse will be done in American pallets and will be accompanied by a receipt, detailed in Annex D, with the following information: Date, registration of the transport, place of collection of the bottles,

arrival point of the bottles, kilometers completed, no. of transported bottles, no. of transported pallets and total time.
This proof will be scanned and sent to REZERO in the email: rezero@rewine.cat.

Annex A. Wash line: Record of number of washed bottles and incidents.

Date	Bottles of the winery	Number of bottles ready to be washed	Number of bottles finally washed	Incidents

Annex B. Data washing plant

1.- Process time.

Process stage	Units	Quantity (value / does not apply)
Pre-treatment of the bottle	Minutes	
Immersion baths	Minutes	
Washed	Minutes	
Injection of detergent	Minutes	
Water injection	Minutes	
Total time	Minutes	

2.- Chemical Inputs.

Chemical Agents	Process stage	Units	Quantity (value / does not apply)
NaOH	Basic Bath	kg	
Detergent	Injection of detergent	l	
Polyethylene wax	Wax treatment	kg	
NaCl	Decalcify	kg	
Resin	Decalcify	kg	
Active Carbon	Decalcify	kg	
Cl_2	Purification of water	kg	
Amine Sulfate	Wastewater	kg	
Anti-foam	Wastewater	kg	
Altres			

3.- Water consumption

Process stage	Units	Quantity (value / does not apply)
Injection (3 tanks)	Liters	
Rinsing bath (2 tanks)	Liters	
Pre-treatment bath	Liters	
Daily cleaning	Liters	
Weekly cleaning	Liters	
Basic Bath (NaOH)	Liters	
Network wáter	Liters	
Total water consumption	Liters	

4.- Power Consumption

Process stage	Units	Quantity (value / does not apply)
Energy consumption of washing plant	kWh	

5.- Generation of waste

Process stage	Units	Quantity (value / does not apply)
Generation of waste	Kg	

Annex C: Table detailing the information on transport used.

Model of truck/van	Registration of truck/van	Type of Fuel	Consumption (L/100km)	Capacity of Truck/Van

Annex D. Checking carrier for Rewine bottles.

Washing plant: Checking carrier for Rewine bottles

Data	
Enrollment	

Collection site of the bottles: Washing plant ☐

Arrival of the bo

Kilometers of the truck / van
end of the trip
at the beginning of the trip
round trip)

Kilometer of the truck / van at the

(Total kilometers of transport,

No. of total bottles	No. of pallets

Total time taken *(Total transport time, round trip)*

hours minutes

Observations:

Annex V. Example of handbook for Restaurants.

reWINE

Handbook for restaurants participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles.

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Project Rewine

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The Pilot Test

The pilot test will take place for **18 months** (from July 2018 to December 2019). In July 2018 the bottles that are part of the project will begin to be distributed and collected at the restaurants clients of the Falset-Marçà cooperative.
Gradually, other points of return will be incorporated as other restaurants and shops offered by the participating wines. Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tonnes of glass packaging waste can be avoided.

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- You will help qualify the economic savings that a glass reuse system can generate

General Operation of the Pilot Test

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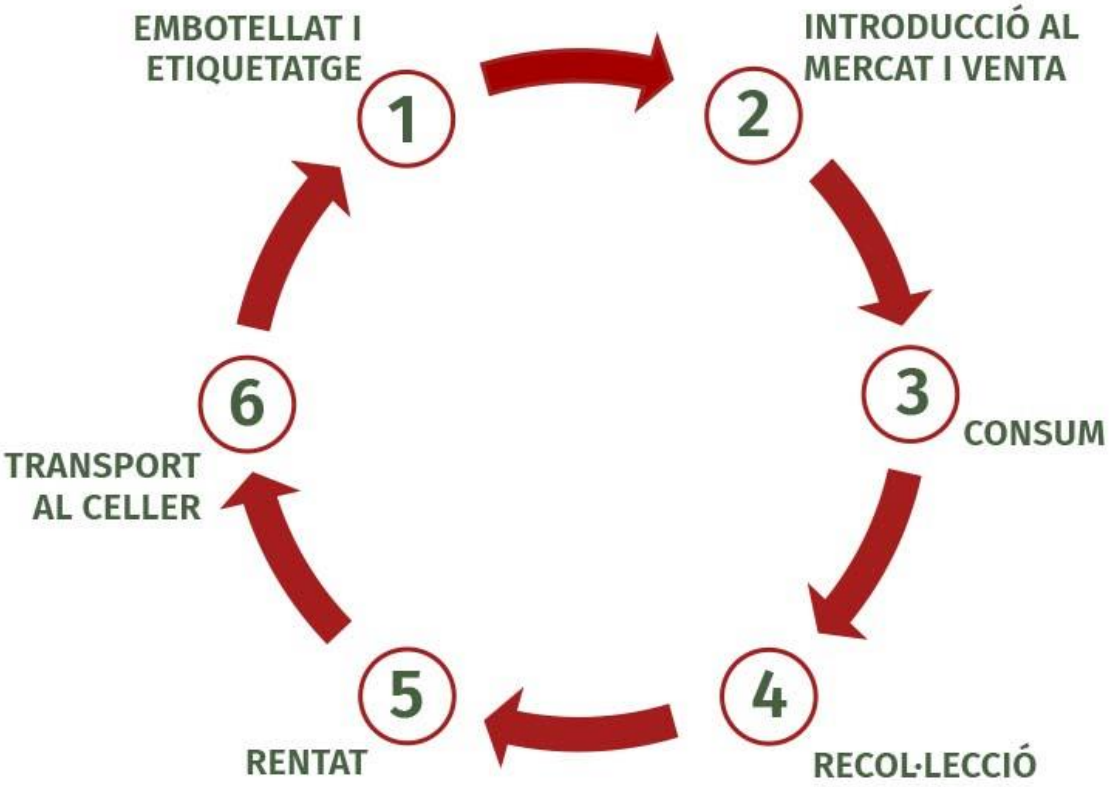
2. The participating bottles have been labeled with water-soluble glues that facilitate the washing and subsequent reuse of the container. **To avoid damage to the labels, it is recommended that the bottles are stored in ambient conditions of 20-25ºC and 40-**

50% relative humidity, for a maximum of two years. These should not be exposed to direct sunlight.

3. Wine bottled in reusable bottles will be distributed in cardboard boxes, and **collaborating restaurants will be asked to use the same cardboard boxes to store the bottles once they are empty.** The carton box model of 6 bottles of wine will be the same for transporting the Imus than for the Black Falset. Likewise, the carton box model of 12 bottles of wine to transport the Imus will be identical to that of the Black Falset. This factor is important for the correct logistical operation.



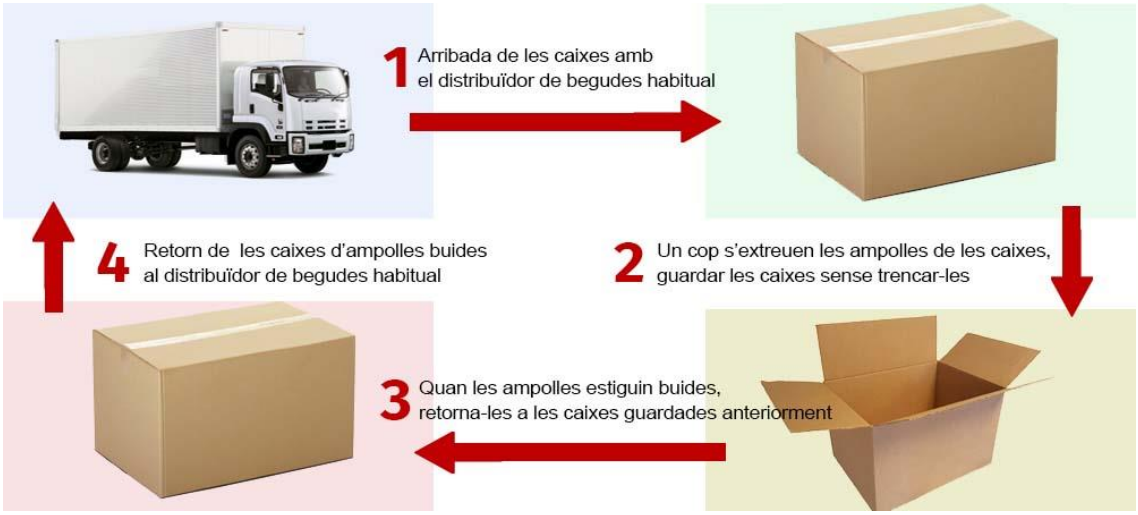
What are the changes for restaurants?

Procedure for the delivery and collection of wine bottles

The Rewine wine bottles will be provided directly to the establishments by the regular beverage distributor in cardboard boxes of 6 or 12 units. Once the boxes are delivered, it is important not to break them and save them (these boxes will also be identified with the Rewine logo to avoid confusion). When the bottles are consumed by the customers, they will be placed again in the corresponding cardboard boxes and will be stored until the distributor, by means of reverse logistics, collects the empty bottles and transport them to the storage point (same installations of the Warehouse / centralized logistics warehouse) for its subsequent transfer to the washing plant.

In these logistics, you should keep in mind:

- The boxes with empty bottles of wine will always be collected taking advantage of the arrival of a new product. **A transport of empty bottles will not be programmed exclusively**.
- **No incomplete boxes of empty bottles will be returned**
- If the restaurant has different brands of Rewine wine bottle, **it is important not mix different brands of wines in the same box**. The brand of the empty wine bottle must match the mark of the box that is stored.



The Shipment

The control, registration and monitoring of the number of bottles and boxes delivered and collected will be made through a delivery note (which you will find at the end of this document). **The transport provider will fill the delivery note and the restaurant manager must verify that it is correct and sign it.** The transport provider will leave a copy in the restaurant that he will have to store until it is collected.

Communication Materials

All restaurants participating in the pilot test will provide you with a series of communication materials to make your contribution visible.

- Display: Ideal to put it on the counter of your establishment.
- Adhesives: You have the option to place a sticker on the door of your establishment.

- To reinforce the visualization of the participation of the different restaurants in the pilot test, the **Rewine website includes a map** with the participating establishments.

Annex VI. Exemple of Handbook for supermarket chain. The case of Ametller Origen

Handbook for Ametller Origen, supermerkaret chain participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles.

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The Pilot Test

The pilot test will take place for 18 months (from July 2018 to December 2019). HWRC will participate from November 2019 to January 2020. On November the bottles that are part of the project will begin to be distributed and collected at the shops participating on the pilot.
Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tons of glass packaging waste can be avoided.

How do you benefit from participating in the pilot test?

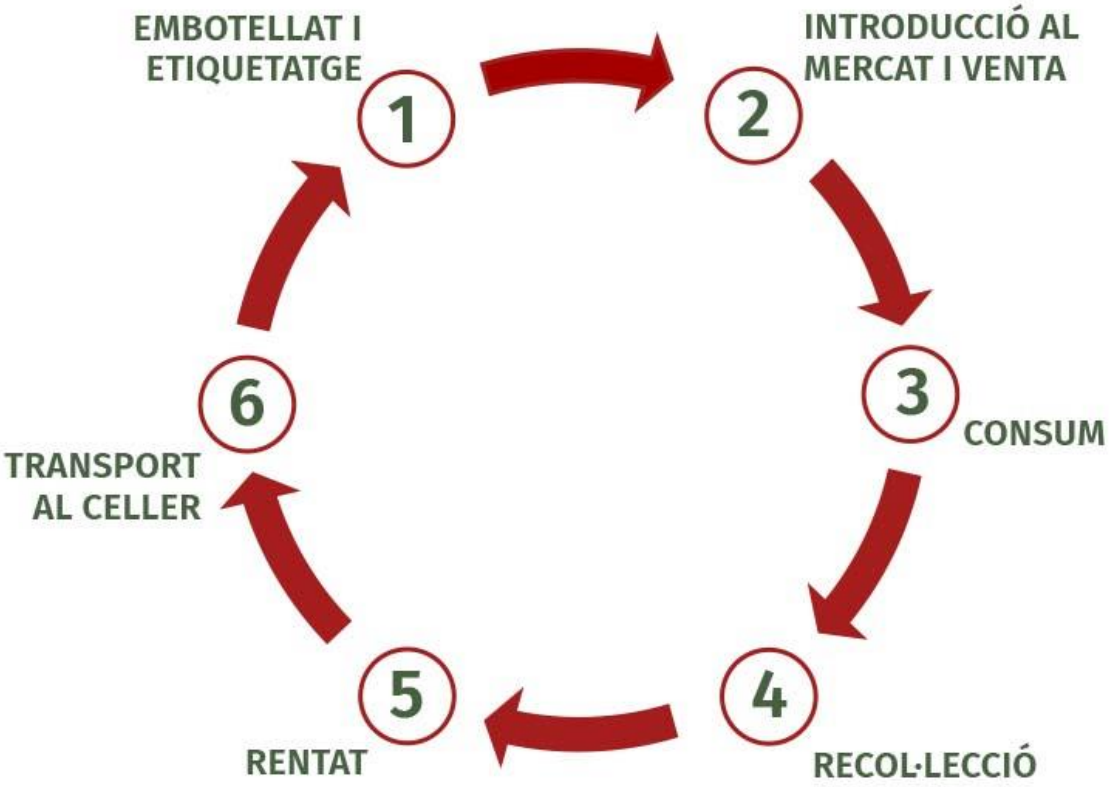
- You will participate in an innovative project that promotes responsible consumption and the circular economy and that contributes to sustainable environmental and socioeconmoic processes
- It will favor the capture of new customers and the loyalty of current customers
- You will contribute to the improvement of the environment by saving raw materials, reducing the generation of waste, greenhouse gas emissions, and the pollution generated by the process of producing new bottles
- It will help you quantify the economic savings that a reusable glass bottle system can generate

General Operation of the Pilot Test

The system of reuse of wine bottles to be implemented during the pilot test takes into account the entire process of the bottle, from its labeling, washing, distribution to the market until the collection of empty bottles and it involves both wineries, warehouses, restaurants, shops, supermarkets and consumers.
The system can be described in the following steps:
1. **Bottling, labeling and introduction to the market:** The participating wineries bottle the wine and label the bottles. The bottles are putted on the market.
2. **Collection and storage:** Empty wine bottles are collected from different channels (shops, supermarkets, restaurants and wineries). Whenever possible, the collection of bottles is carried out by means of reverse logistics (the same distributor of restaurant drinks is responsible for collecting the bottles and transporting them to a storage center). Wineries that make direct sales to restaurants are responsible for the collection of empty bottles and their storage in their own facilities. Apart from the indicated return points, consumers can also return the bottles to municipal waste stores or green points.
3. **Transport**: Once the volume of bottles collected is sufficient so that its transport is optimal, efficient economically and environmentally, the empty bottles are transported until the washing plant.
4. **Washing and reuse:** The bottles are cleaned in the washing plant and returned to the wineries to start the new cycle.

The specific characteristics of this logistics are:

1. The wines participating in the pilot test are: Mas Argany black, white and rose. The logo of the participating bottles appears on the Rewine logo for easy identification.
2. The participating bottles have been labeled that facilitate the washing and subsequent reuse of the container. **To avoid damage to the labels, it is recommended that the bottles are stored in ambient conditions of 20-25ºC and 40-50% relative humidity**, for a maximum of two years. These should not be exposed to direct sunlight.
3. Wine bottled in reusable bottles will be distributed in cardboard boxes, and **collaborating shops will be asked to use the same cardboard boxes to store the bottles once they are empty.**



What are the changes for Ametller Origen?

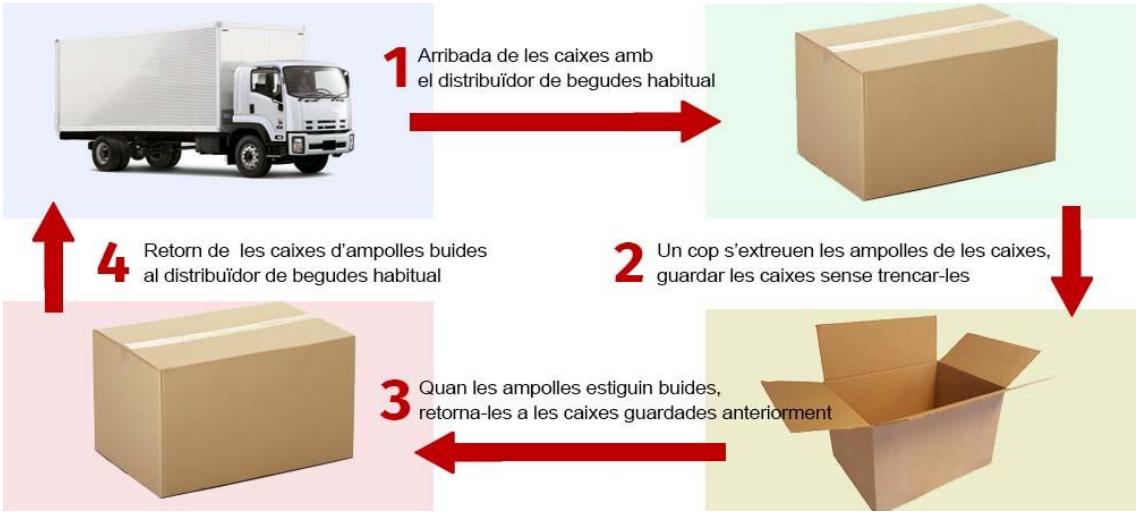
To demonstrate the technical, environmental, social and economic feasibility of a sustainable system for the reuse of glass bottles in the wine sector of Catalonia, a follow-up of the wine bottles involved in the project (hereinafter "Rewine bottles ") in its transport, washing and bottling. Ametller Origen participates in the transport and collection of these bottles. The procedure is detailed below for each case:

Procedure for the delivery and collection of wine bottles

The Rewine bottles will be provided directly to the establishments by the regular beverage distributor in cardboard boxes of 12 units. Once the boxes are delivered, it is important not to break them and save them. Empty bottles will be placed again in the corresponding cardboard boxes and will be stored until the distributor, by reverse logistics, collects the empty bottles and transport them to the storage point (Ametller Origen warehouse) for its subsequent transfer to the washing plant.

In these logistics, you should keep in mind:

- The boxes with empty bottles of wine will always be collected taking advantage of the arrival of a new product. **A transport of empty bottles will not be programmed exclusively**.
- **No incomplete boxes of empty bottles will be returned**
- If the restaurant has different brands of Rewine wine bottle, **it is important not mix different brands of wines in the same box**. The brand of the empty wine bottle must match the mark of the box that is stored.



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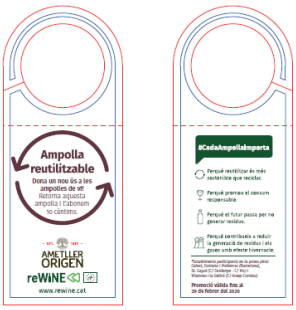
Communication Materials

All shops participating in the pilot test will be provided with a series of communication materials to make your contribution visible.

- Adhesives: You have the option to place a sticker on the door of your establishment.
- Poster
- Neck-hander



- To reinforce the visualization of the participation of the different shops in the pilot test, the **Rewine website includes a map** with the participating establishments.

Pilot test procedure:

1

Ametller Origen stores will incorpórate the neck-hander and Rewine tag to bottles of Mas Argany (Black, White adn Rose)

2

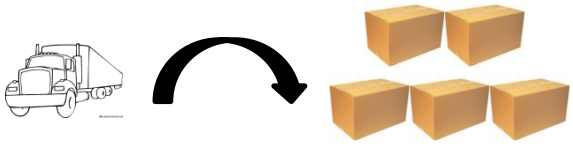
When the customer returns the empty bottle to the store, the worker will return 10 cents of euro to the costumer. The worker will mark the butoon TPV code 45955 “Retorn envàs Rewine”.

3

The shops must collect the bottles returned by the consumers and send them in boxesto the warehouse U2 in Olèrdola (Av. Barcelona nº27 Pol. Ind Sant Pere Molanta 08799 Olèrdola). In the boxes workers must put the Rewine identification.

4

5



Ametller Origen will pick up the empty boxes taking advantages of the reverse logistics. Ametller Origen will accumulate empty boxes in the centralized warehouse before sending them to the washing plant.

Annex VI. Exemple of Handbook for HWRC

reWINE

Handbook for HWRC participating in the pilot test of a system for the collection, cleaning and reuse of glass bottles.

#Rewine

#CadaAmpollaImporta

www.Rewine.cat

Project Rewine

The reuse, despite being a priority in the European waste hierarchy, is clearly in decline in Catalonia. Currently, wine containers are not reused in their distribution channels, not even in hotels, restaurants and catering, as in other beverage sectors.
Different life cycle analysis has highlighted the environmental benefits of reusable bottles compared to recycling, as long as they are not transported over long distances and ensure their reuse. The reuse of glass bottles involves reductions in: greenhouse gas emissions, carbon monoxide emissions, waste generation, energy consumption and water consumption. Apart from the environmental benefits, there are also social and economic benefits. From an economic point of view, if the cost of purchasing the bottle is less, it can be economic savings for the winery and therefore a factor of competitiveness, as well as participating in a circular economy model with potential for creation of occupation.
In this sense, the Rewine project wants to **demonstrate the technical, environmental, social and economic viability of a sustainable system for the collection, cleaning and reuse of glass bottles in the wine sector of Catalonia.**
For this reason, it intends to involve consumers, cellars, bars, restaurants, distribution companies, shops and warehouses to take a pilot test of the reuse of wine bottles, from washing, labeling, bottling and distribution to the market to their combine harvester's collection.
The main promoters of the Rewine, with the collaboration of the European Union, are the UAB Research Park, Rezero-Foundation Prevention Waste and Responsible Consumption, Inédit Innovación, Waste Agency of Catalonia, the Falset- Marçà Cooperative and the Infinity Washing Plant.

The Pilot Test

The pilot test will take place for 18 months (from July 2018 to December 2019). Ametller Origen will participate from November 2019 to February 2020. On November the bottles that are part of the project will begin to be distributed and collected at the shops participating on the pilot test.
Throughout its development, the environmental and socioeconomic impacts of the project will be monitored through various monitoring indicators.
The project plans to **recover about 100,000 bottles**, which will be taken to the washing plant and will start the cycle again. In this way, it is estimated that approximately 45 tons of glass packaging waste can be avoided.

How do you benefit from participating in the pilot test?

- You will participate in an innovative project that promotes responsible consumption and the circular economy and that contributes to sustainable environmental and socioeconmoic processes
- It will favor the capture of new customers and the loyalty of current customers
- You will contribute to the improvement of the environment by saving raw materials, reducing the generation of waste, greenhouse gas emissions, and the pollution generated by the process of producing new bottles
- It will help you quantify the economic savings that a reusable glass bottle system can generate

General Operation of the Pilot Test

The system of reuse of wine bottles to be implemented during the pilot test takes into account the entire process of the bottle, from its labeling, washing, distribution to the market until the collection of empty bottles and it involves both wineries, warehouses, restaurants, shops, supermarkets and consumers.
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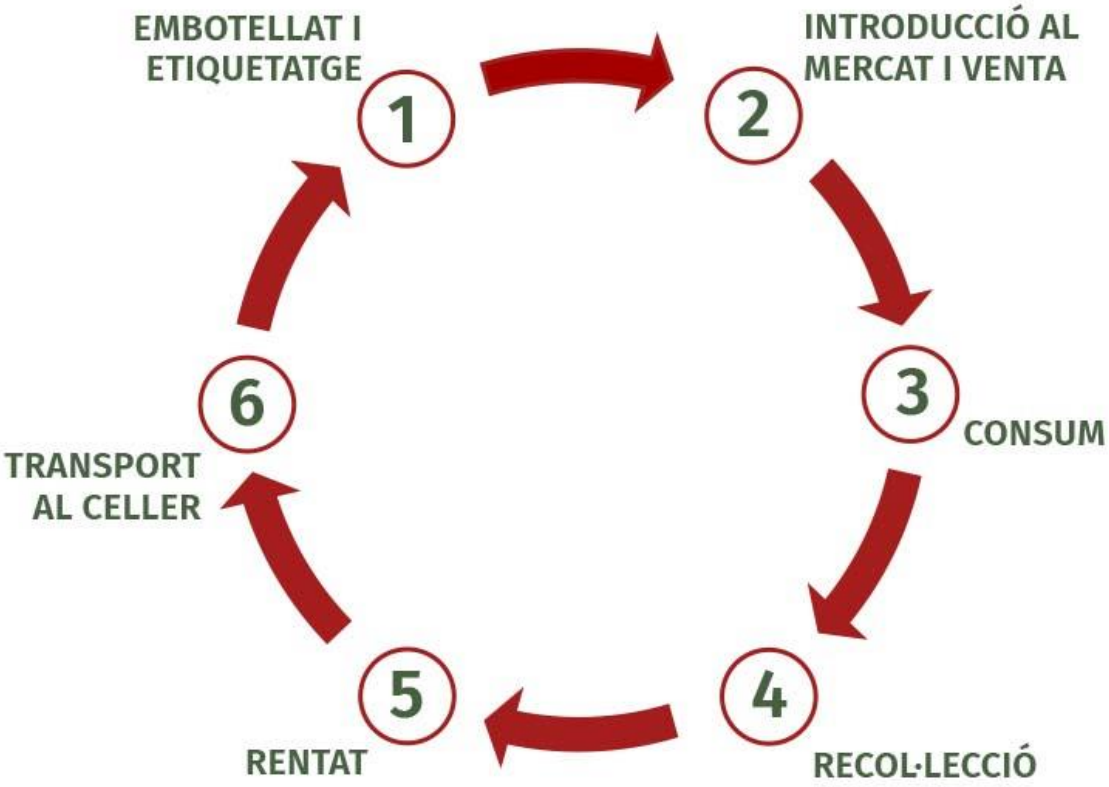
3. **Transport**: Once the volume of bottles collected is sufficient so that its transport is optimal, efficient economically and environmentally, the empty bottles are transported until the washing plant.
4. **Washing and reuse:** The bottles are cleaned in the washing plant and returned to the wineries to start the new cycle.

The specific characteristics of this logistics are:

1. The wines participants in the pilot test are: Etim el viatge from Cooperativa Falset Marçà and Viña Sol from Torres, wines sold in Caprabo supermarket chain.

2. The participating bottles have been labeled to facilitate the washing and subsequent reuse of the container. **To avoid damage to the labels, it is recommended that the bottles are stored in ambient conditions of 20-25ºC and 40-50% relative humidity**, for a maximum of two years. These should not be exposed to direct sunlight.

3. Wine bottled in reusable bottles will be distributed in cardboard boxes, and **collaborating HWRC will be asked to save them in cardboard boxes.**



What are the changes for HWRC?

To demonstrate the technical, environmental, social and economic feasibility of a sustainable system for the reuse of glass bottles in the wine sector of Catalonia, a follow-up of the wine bottles involved in the project (hereinafter "Rewine bottles ") in its transport, washing and bottling. HWRC participates in the recovery of these bottles.

Procedure for the delivery and collection of wine bottles

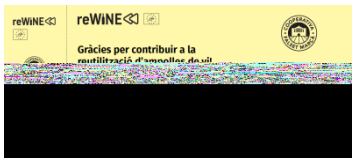
The Rewine bottles will be provided directly to the shops by the regular beverage distributor in cardboard boxes of 6 units. Once the bottle is empty, costumers will return bottles to the HWRC

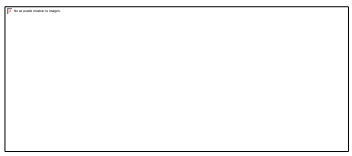
In these logistics, you should keep in mind:

- Bottles will be on sale at **Caprabo stores as usual.**
- Costumers will **return the empty bottles** to the the HWRC.
- The worker from the HWRC will **give a ticket** with a Rewine code to participate in a draw.
- The worker will **store the bottles in carboard boxes** previously provided by Rezero The boxes with empty bottles of wine will always be collected taking advantage of the arrival of a new product.

Procedure for the raffle

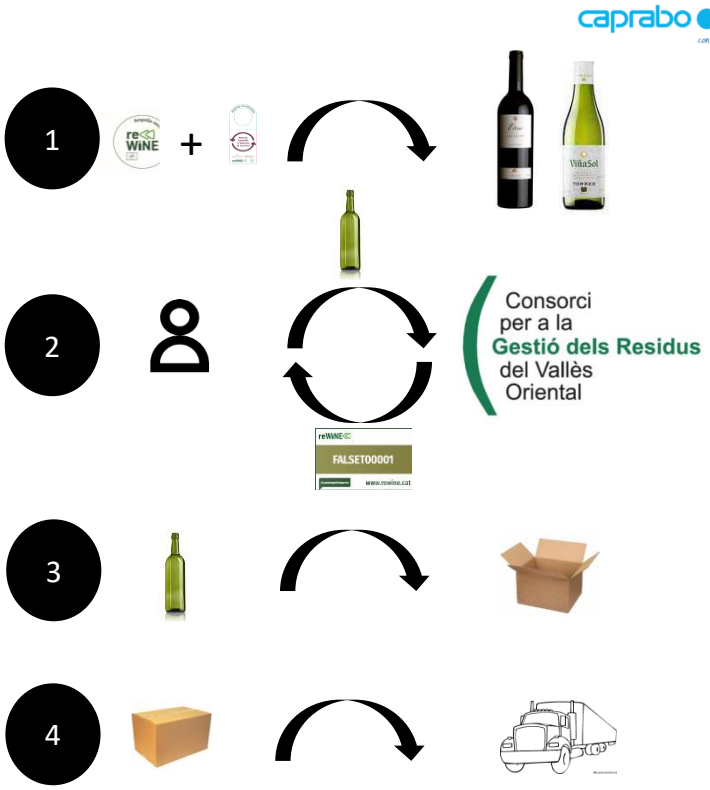
Customers who return Rewine bottles must visit the Rewine website: http://www.rewine.cat/sorteig, fill in the information requested (Name, telephone number, email...) and enter the Rewine Code.
During the pilot test will be at least one draw. Some material communication will be provided to workers from HWRC.





To reinforce the visualization of the participation of the different shops in the pilot test, the **Rewine website includes a map** with the participating establishments.

Pilot test procedure:



Caprabo will incorporate the Rewine tag and the neck-handers into Rewine bottles (Etim red wine from the Cooperativa Falset Marçà and Viña Sol white from Torres)

When the customer return the empty bottle to the collection point, the worker must verify that the bottle has the Rewine tag and give a ticket with a Rewine Code.

Empty bottles will be accumulated in carboard boxes and stored in a covered place

An external transport will collect the boxes with empty bottles of Etim and Viña Sol).