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TOWARDS A CIRCULAR ECONOMY IN THE WINE INDUSTRY OF THE REPUBLIC OF MOLDOVA

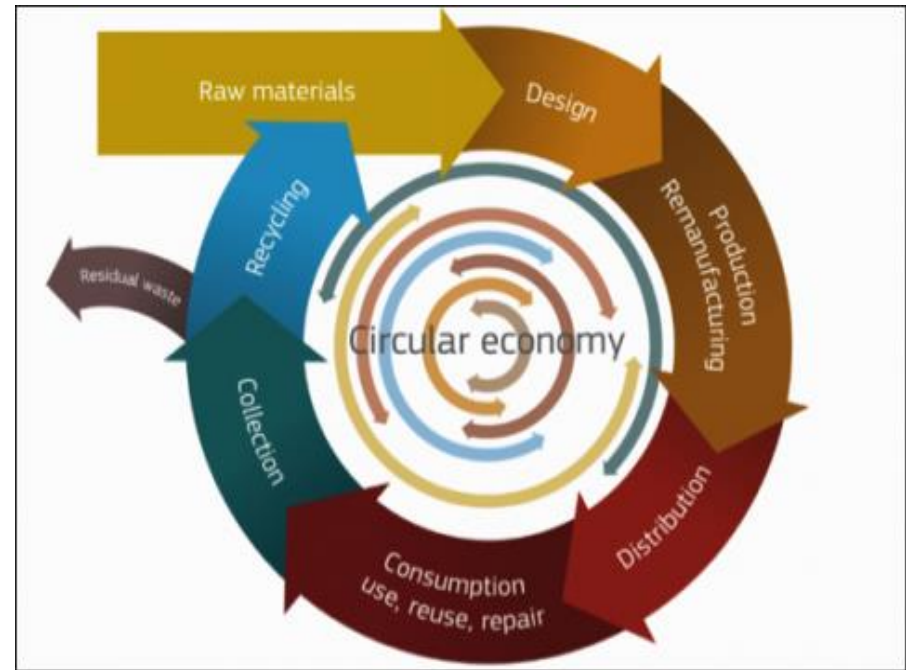
Authors: Larisa BUGAIAN, PhD, Prof. Univ.,
Technical University of Moldova

Cristina DIACONU, PhD student,
Technical University of Moldova

What does it mean the circular economy or circular business model?

”A circular economy aims to maintain the value of products, materials and resources for as long as possible by returning them into the product cycle at the end of their use, while minimizing the generation of waste. The fewer products we discard, the less materials we extract, the better for our environment. This process starts at the very beginning of a product’s lifecycle: smart product design and production processes can help save resources, avoid inefficient waste management and create new business opportunities.”

(EU definition)



Wine Industry, valuable waste - secondary raw material

Although the wine production process is considered to be "environmentally friendly, compared to other industrial processes there are researches that finds that the production of wine results in considerable amounts of waste.

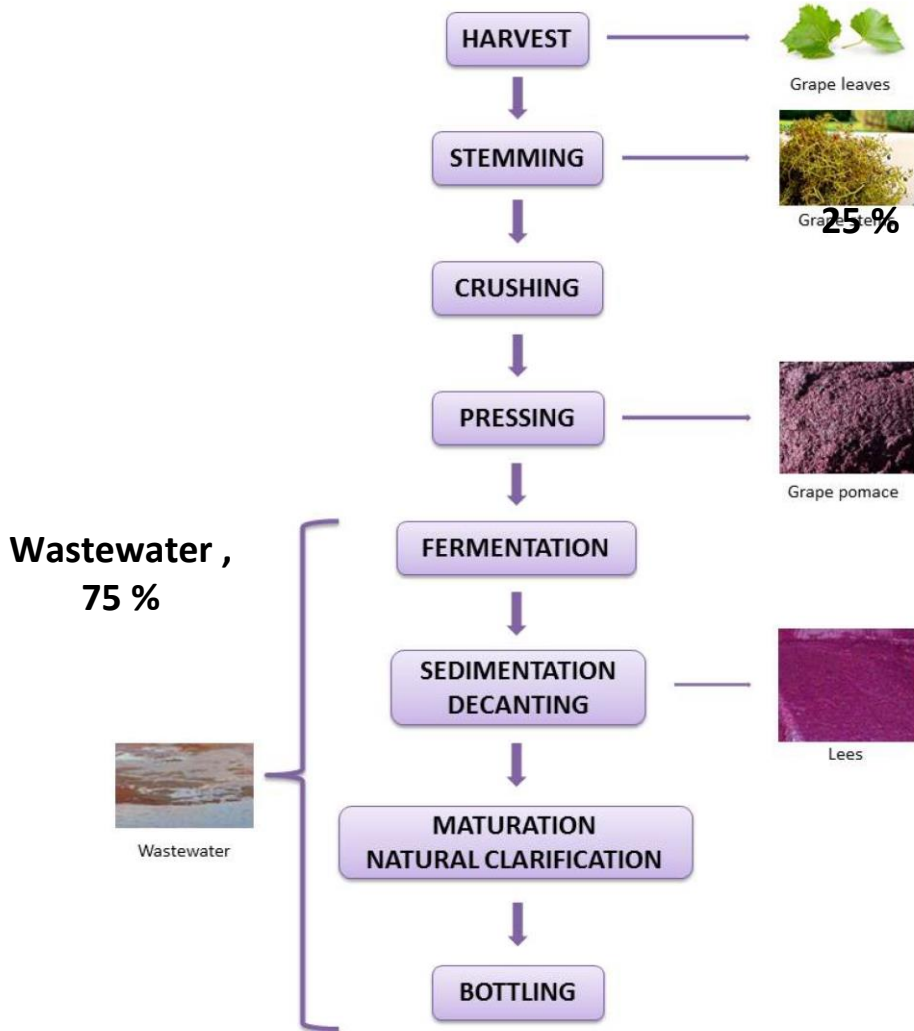
1 liter of wine



1,3-1,5 kg waste



Wine Industry, valuable waste - secondary raw material



75% is wastewater, and 25% - represented by seeds, grape pomace, pulp, gas emissions, volatile organic compounds, yeast sediment, and inorganic waste such as bentonite clay, diatomaceous earth and perlite.

Wine Industry of R.Moldova

According to the World Statistical Report on Vinification, the Republic of Moldova ranks 13th place by the area of grape plantations, 20th - by the world by the amount of wine produced, and 12th - by the export of wine, which in 2018 achieved a value of 1.9 million hl.

Country	Place	Volume, ml hl
Italy	1	54,8
France	2	48,6
Spain	3	44,4
România	13	5,1
Moldova	20	1,9

Wine of Moldova

- Shaped as a bunch of grapes, Moldova is situated in the South-East of Europe, located between Ukraine and Romania, in the Black Sea basin, where the vine originates.
- There are 3 historical wine regions: Valul lui Traian (south west), Stefan Voda (south east) and Codru (center), destined for the production of wines with protected geographic indication.
- The history of Wine of Moldova starts in 3000 BC, while the first wines were recorded here 7000 years BC. Wine used to be a exchange source and a trophy awarded after fights, which has made the wine a national product of Moldova.
- Currently wine production is a strategic sector in the Republic of Moldova , with a special importance from an economic point of view but also from a social and cultural one.

The figures in the table below confirm its importance.

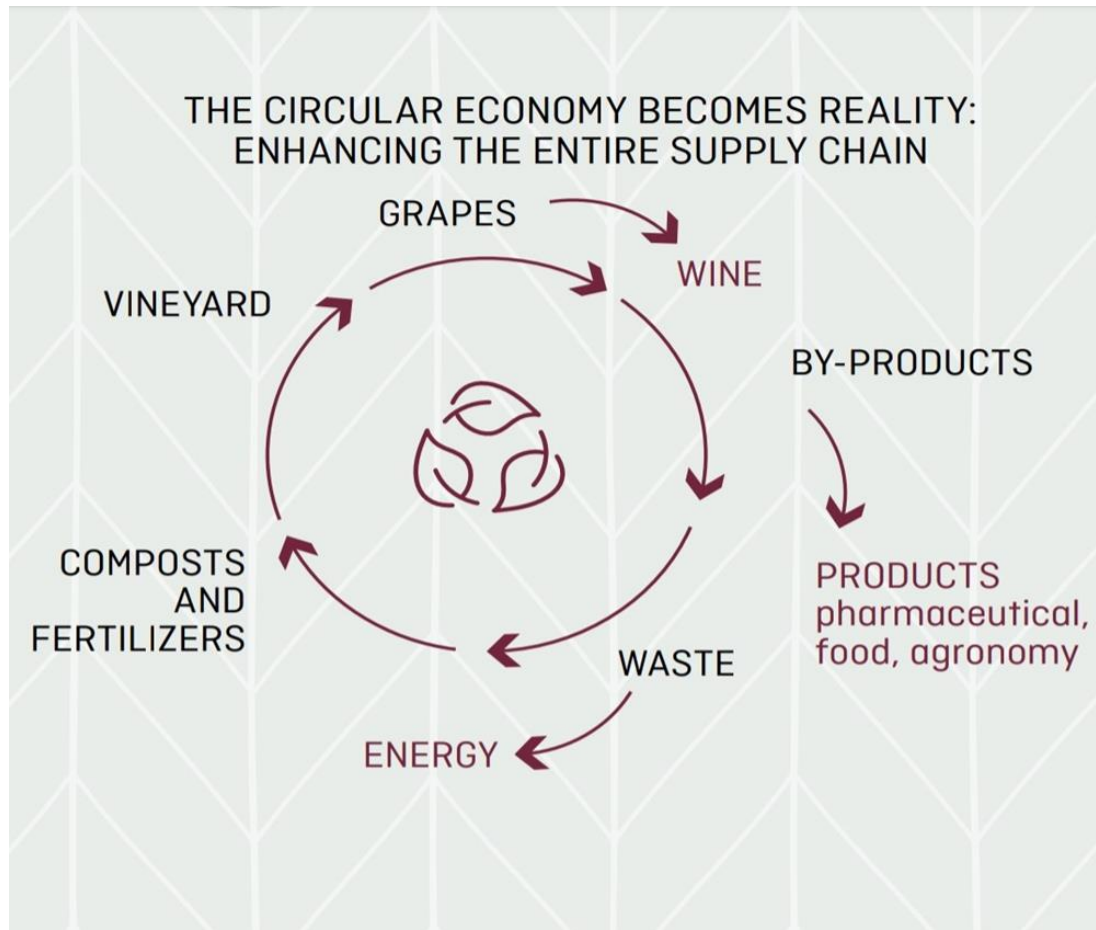
More than that, the added value of the wine sector is 9% in the manufacturing industry, it employs over 9000 people in the work field and contributes to the formation of GDP with over 2%.



Wine sector of R.Moldova

Indicatori	2015	2016	2017	2018
Number of enterprises :				
C00 Manufacturing industry	4 482	4 535	4 686	4 860
C11 Manufacture of beverages	226	229	239	237
<i>%, C11: C00</i>	5,04	5,05	5,1	4,9
Revenue from sales current prices , millions lei:				
C00 Manufacturing industry	43 130,34	45 944,26	50 024,37	52960,72
C11 Manufacture of beverages	5 406,97	5 739,58	5 768,58	5 642,33
<i>%, C11: C00</i>	12,5	12,5	11,5	10,7
Added value current prices , millions lei:				
C00 Manufacturing industry	37 706, 6	39 654, 3	43 931, 5	46 486, 9
C11 Manufacture of beverages excluding the manufacture of beer and non-alcoholic beverages	3549.7	3379.9	3853.1	4134.3
<i>%, C11: C00</i>	9,4	8,5	8,8	8,9
<i>%, C11: C00</i>	2,9	2,5	2,6	2,2
Contribution to GDP formation(Manufacture of beverages excluding the manufacture of beer and non-alcoholic beverages)				
Number of people employed, pers.				
C00 Manufacturing industry	92 518	95 097	103 531	107 962
C11 Manufacture of beverages	9 166	8 934	8 864	9 080
<i>%, C11: C00</i>	9,9	9,4	8,6	8,4

Wine sector-Circular Economy



The total yielding area of wine grapes in the Republic of Moldova

Indicatori	2015	2016	2017	2018
Total yielding area of wine grapes, of which it belongs, thousands hectares:				
	112	111	104	110
Agricultural enterprises	19	18	18	19
<i>% in total</i>	17	16,2	17,3	17,3
Total production of wine grapes , of which it belongs, thousands tonnes:				
	514	529	566	604
Agricultural enterprises	109	122	147	169
<i>% in total</i>	21,2	23	26	28

In the Republic of Moldova, the total yielding area of wine grapes is around 110 thousand hectares, of which over 19 thousand hectares belong to agricultural enterprises, meaning 17%.

In 2018 the total production of wine grapes was about 604 thousand tons, of which 28% belong to agricultural enterprises.

Wine sector-Circular Economy



Conclusions

The activities of enterprises in the wine industry are closely linked not only to the agro- but also to the biotechnological cycle. In parallel with the basic products are obtained by-products and if they are not processed, they bring major damage to the environment.

Many wineries around the world, aware of the negative impact on the environment, have already reconsidered their business models to move to the circular ones. The circular business model guarantees a sustainable, sustainable winemaking, which covers both economic, social, cultural and environmental aspects.

In this context, in many countries the waste from winemaking is processed by obtaining various valuable products for the pharmaceutical industry, cosmetology, food and more. Agricultural Cooperative in Vinification "Caviro Extra" in Italy, the wine province Castilla y León in Spain, Sonoma in California, Les Baux-de-Provence in France.

Conclusions

As for the wine sector of the Republic of Moldova, which is a priority and strategic of the country, it still operates based on the linear production model "take-make-dispose", where thousands of tons of wine waste instead of being recovered, are not used and cause major damage to the environment.

We consider it necessary and emerging that companies in the wine sector in the Republic of Moldova also reconsider their current business model and transition to the circular business model.

In addition to the undeniable benefits on the environment and society, the circular model would also generate important economic benefits.

Thank you for attention!