

BRIEF NOTIONS ON RECYCLING AND THE BENEFITS OF THE INTEGRATED SYSTEM FOR PACKAGING IN PORTUGAL

TOPICS



- The pressure on resources
- End markets Vs. Circular Economy
- EPR systems and contribution for a better Environment
- Performance of SPV and Outlook

THE PRESSURE ON RESOURCES

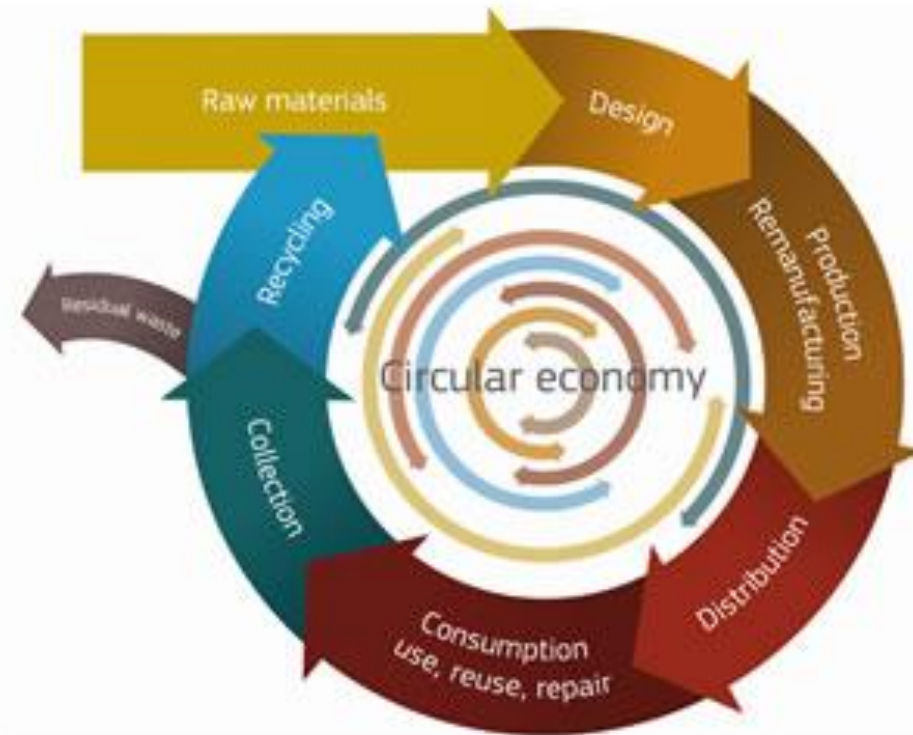


The Pressure on Resources

The need to reduce the intensity of extraction / consumption

- The pressure on earth's finite resources:
 - The rhythm of consumption societies;
 - The increase in product obsolescence;
 - Smaller families;
 - Convenience (i.e. single serving portions, in the case of packaging)
- The solution is consumer awareness for rational / sustainable consumption but also lies with prevention, reuse and recycling;
- Recycling is important as it can help close the loop, but:
 - Only makes sense when there is both an economic and environmental gain;
 - Ultimately, anything can be recycled it's all a matter of cost.
- Given the intrinsic heterogeneous nature of waste, separation at source is key for recycling as are minimum quality criteria that can ensure stable constant quality.

END MARKETS VS. CIRCULAR ECONOMY



End Markets Vs. Circular Economy

How to promote a sustainable closing of the cycle?

- The greater the recycled amounts, the greater the pressure on the economy for proper outputs for recyclates;
- To foster a circular economy, one needs:
 - Green procurement policies (both public and private);
 - Fiscal policies that encourage the consumption of products incorporating recycled materials over others that don't;
 - Communication campaigns promoting sustainable consumption habits.
- In certain instances recyclates should decouple from virgin raw materials to avoid the volatility of these commodities, setting foot in their own (new) markets. This will allow greater price independence for recyclates.

EXTENDED PRODUCER
RESPONSABILITY SYSTEMS AND
CONTRIBUTION TO A BETTER
ENVIRONMENT



Extended Producer Responsibility Systems

Contribution to a better Environment/ Turning Waste into Resources!

- The OECD defines Extended Producer Responsibility as “an environmental policy approach in which a producer’s responsibility for a product is extended to the post-consumer stage of a product’s life cycle. An EPR policy is characterized by:
 - 1) the shifting of responsibility (physically and/or economically; fully or partially) upstream toward the producer and away from municipalities and;
 - 2) the provision of incentives to producers to take into account environmental considerations when designing their products”;
- The concept of EPR for packaging is well present in Europe in *Green Dot* Schemes. In the case of Portugal it is Sociedade Ponto Verde.

Extended Producer Responsibility Systems

2013 Independent Study commissioned to 3Drivers environmental consultants

Examples of Environmental Benefits of Packaging Waste Management through recovery/recycling

GHG Emissions
- 116 kt CO₂eq



○ Electricity consumption of 124.302 portuguese families



○ Carbon saving equivalent to 198 km² of Pines



○ 15.750 around the world airplane rides

Energy Consumption (inc. feedstock energy)
- 12.689 TJ of primary energy



○ 1,32% of national annual primary energy consumption



○ 303 kt equivalent of oil

Water Consumption
- 688.716 m³



○ The annual consumption of 10.812 inhabitants in Portugal



○ 275 olympic pools

Extended Producer Responsibility Systems

2013 Independent Study commissioned to 3Drivers environmental consultants

- Collection, sorting, take-back and recycling companies have a combined sales volume of 1.600 M€ representing 34% of all environmental services in Portugal;
- Taking the combined economic activity code indicator for all Integrated System partners and their performance, it would rank 28th in a list of 88 sectors generating a positive gross added value of 2,25 (€/€).



**SIGRE for GDP
+ 71 M€**

sociedade
pontoverde



○ 80% of sales and services of SPV in 2011



○ 0,04% of Portugal's GDP






○ Average GDP of 4.400 inhabitants



Extended Producer Responsibility Systems

2013 Independent Study commissioned to 3Drivers environmental consultants

Estimation of jobs based on 2008

-  7.100 jobs in SPV's partner companies
-  0.23% of jobs in non-financial companies of Portugal
-  Added jobs:

	SPV	Municipal Systems			Logistics		Recyclers	Waste Managers	Total
		Selective Collection	Sorting	Treatment, Incineration, Landfil and other activities	MSW	T&I	MSW	T&I	
Workers Directly related to the Integrated System	46	713	613	306	98	72	243	276	~2.400

- ~2.400 jobs directly caused by packaging waste management in Integrated System
- Majority of added jobs is in the municipal waste flow (83%)
- ~0.08% of jobs for non-financial companies
- Impact of social responsibility projects

SPV's PERFORMANCE AND OUTLOOK



MAIN FACTS

10,000 companies are Licensees of SPV

Over 1,000 K tons contribute financially with the green dot fee

730 K tons sent to recycling in 2014 (74% take back rate)

System covers **100% of the population**

100% of municipalities are in the System through 33 Municipal Systems

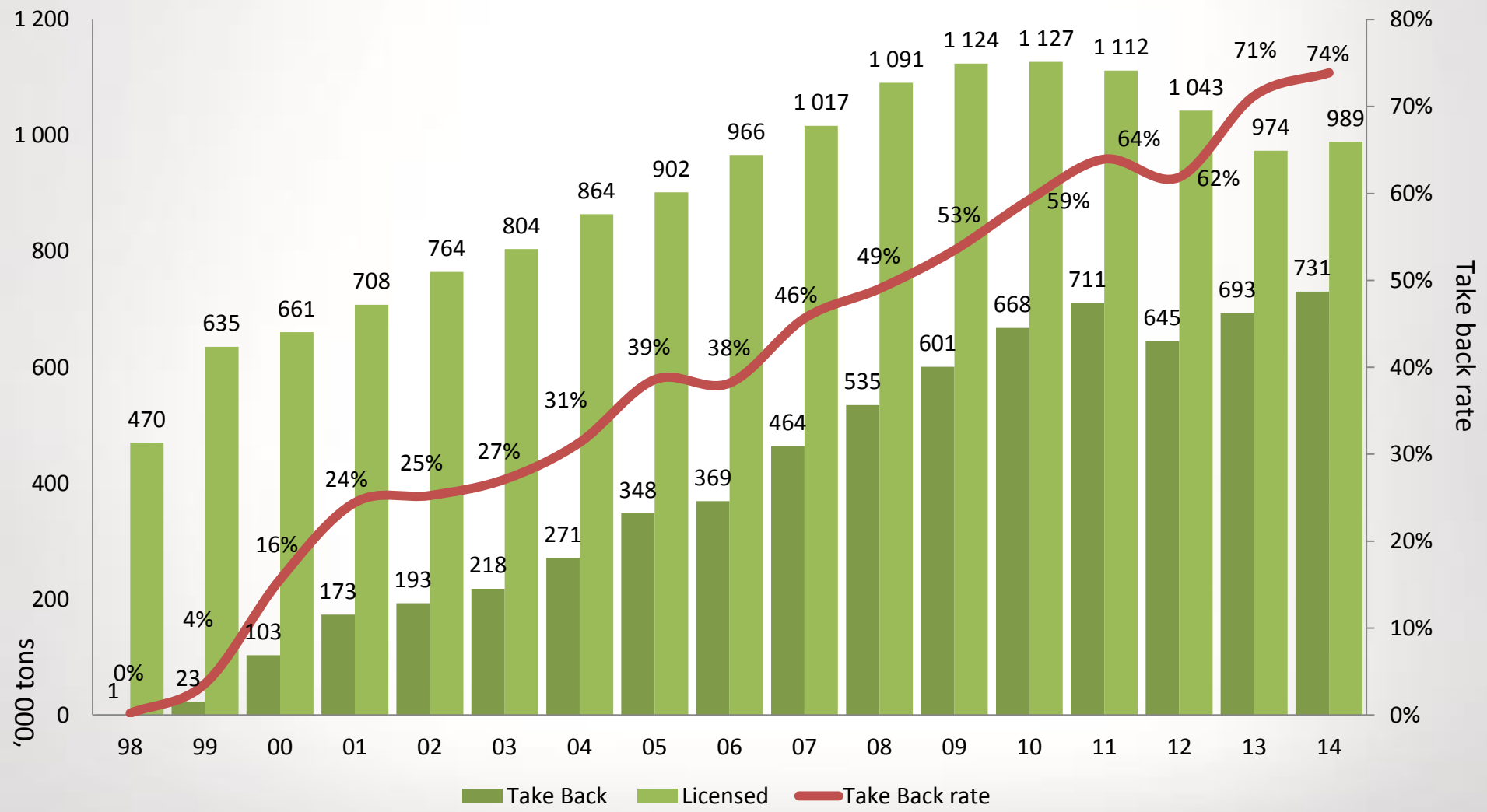
Spread over **100% of the area of Portugal**

75 Waste Managers / Recyclers cooperate with SPV in the MSW flow, **89 in the trade&industry flow**

Almost **7 million tons of packaging waste** sent to recycling since 1998



SPV's Performance



THANK YOU!



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