

Layman's Report

December 19th 2002



LIFE99 ENV/E/000375

Demonstration and Pilot Experience of Recycling and Decontamination System for End-of-Life Vehicles. Implementation in the Region of Navarra (Area of Pamplona)

Basic data

Total Cost: 1.592.164,30 €
UE contribution: 468.814,41 € (30% of the eligible costs)
Length of the project: < 36 > months **Beginning date:** 12/10/1999

Project partners

Navarra de Medio Ambiente Industrial, S.A. - Beneficiary
Reciclauto Navarra, S.A. – Project partner

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1. Summary

The approval of the European Union legislation (Council Directive 2000/53/EC of September 18th, 2000, on End-of-Life Vehicles, ELVs) and its national transposition (not yet existing on 20 December 2002) for the correct treatment of End-of-Life Vehicles (ELVs), has brought up several questions over the real possibility of complying with its objectives.

The main objectives of the project **LIFE99 ENV/E/000375** are; a) the demonstration of the technical and economical feasibility of the integral management of ELVs, b) the implication of all the agents to fulfil the environmental goals in the retiring and management of the ELVs residues, and c) the achievement of reusing and recycling levels of at least 85 %.

With the fulfilment of these objectives, it can be shown that the percentages for reuse, recycle and recovery established by the directive are very much possible to achieve.

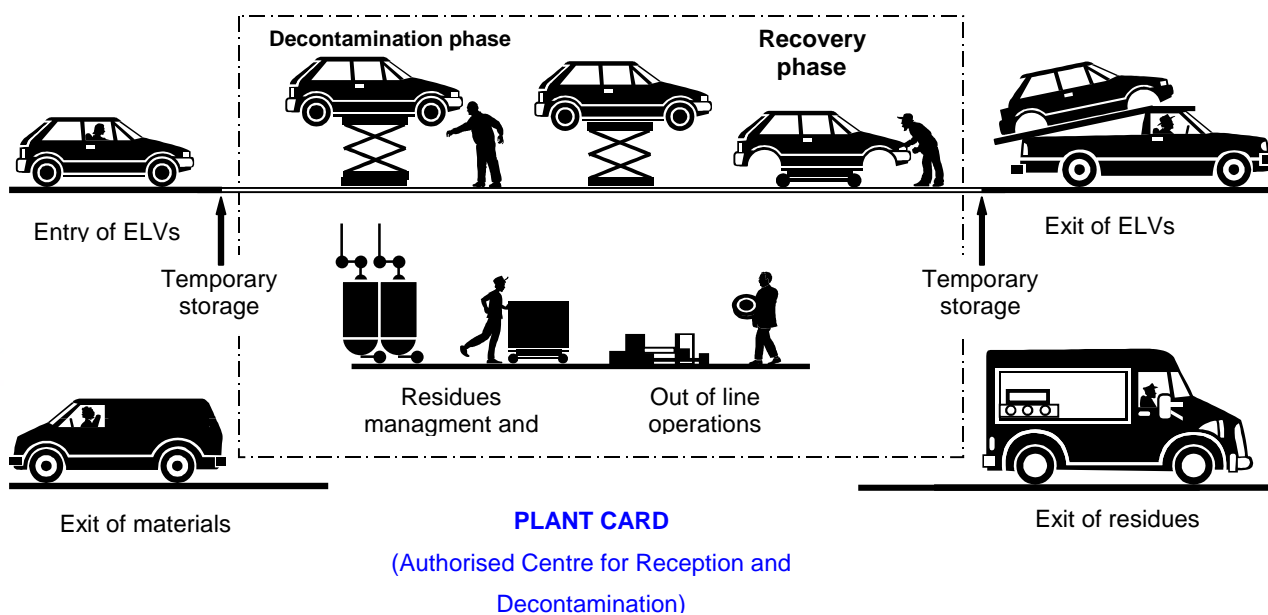


Fig.1 Esquema de proceso de gestión de VFU

At the same time, the levels of decontamination and recycling achieved at present have been studied to compare them with the levels that could be achieved by the use of the system created by Reciclauto Navarra, S.L. in this project.

Final Conclusions: a) Impossibility of fulfilment of the directive objectives under present conditions (recovery average under 80 %) and b) necessity of introduction of operational control tools and innovative technologies for the achievement of the expected material recovery level of over 90 %.

2. Applied technologies and results

The techniques used for the development of the project, include:

- **The ones developed for the project:** a tool with integrated control systems to ensure the correct decontamination of the ELVs (in our own installations).
- **The traditional ones:** the dismantling and reuse of vehicle parts by the usual procedures: manual dismantling assisted by conventional tools (in existing dismantling site).
- **The last generation ones:** The technique of separation of materials by shredding in a company of industrial residues management.

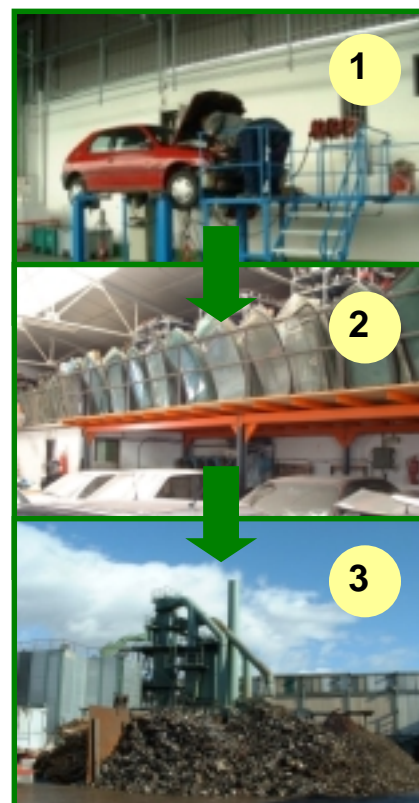


Fig.2 Order of techniques used

The final results assure an average recuperation of 85,96% of the average weight of a vehicle, as long as each step taken in the process of the management of the ELVs is correctly controlled. Such results are achieved by recycling (76,73%), reuse (5,88%) and recovery (3,35%).

Recuperation operations (%)	800 kg	1.000 kg	1.200 kg	1.400 kg
Recycling	76,7	77,4	76,5	76,3
Reuse	6,7	6	5,4	5,4
Recovery	3,1	3,5	3,2	3,6
Total	86,5	86,9	85,1	85,3

Fig.3 Relation vehicle weight – percentage of recuperation

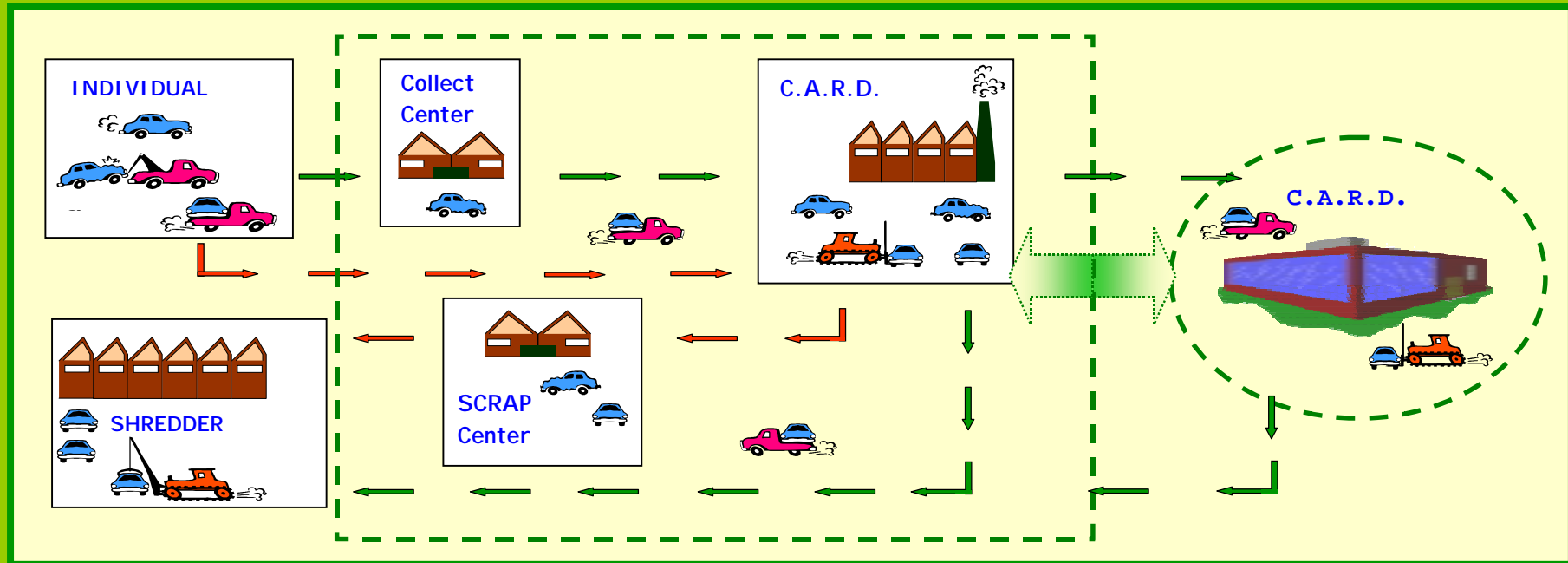
If the manual-assisted dismantling techniques for the recovery of the materials are not available, there is the possibility of amelioration of the final separation of materials with new technologies, as long as all toxic materials have been previously removed.

Different configurations valid for the management of ELVs

The project has followed the first one, getting several installations to work in line on different tasks, and including the Authorised Centre for Shredding to control up to the last step of the ELVs management procedure.

DIFFERENT INSTALLATIONS IN LINE

THREE INSTALLATIONS IN A POLIVALENT ONE



3. Environmental Impact Assessment

1. Increase on the ELVs recycling level

During the project there have been found several possibilities for the treatment of residues that usually are sent to landfill and can be recycled.

2. Reduction on the Environmental impact

The reduction of at least the 15% of the shredding residue of an ELV, that nowadays is sent to landfill, is an immediate decrease on the environmental impact of the residue. Other reduction in the environmental impact, is the correct management of all the dangerous residues extracted from the vehicles.

3. Better environmental behaviours for scrappers and shredders

Correction of the traditional methods of ELVs management: Storage, decontamination and recycling without environmental impact. Share of tasks for the consecution of the objectives of Directive 53/2000/CE.



Fig.4 Installation for the recovery of dangerous residues

4. Increase on environmental consciousness

Reduction in the number of ELVs abandoned to under 5% and assurance to the last owner that the vehicle will be properly treated. Improvement in related sectors like vehicle repairing garages. And helping the Public Administration, due to the facility for the management of ELVs of programs like PREVER, complying with the environmental legislation.

4. Cost analysis

Due to the distribution of the project in different places, the transportation of the ELVs has been the most costly chapter, followed by the shredding and its complementary installations, the personal and the management of the residues generated.

In the project, the costs have been much higher than the generated income. However, the economical and environmental benefits, if the findings and developments of the project are applied, are quite high in relation with the investments and exploitation costs needed to apply them.

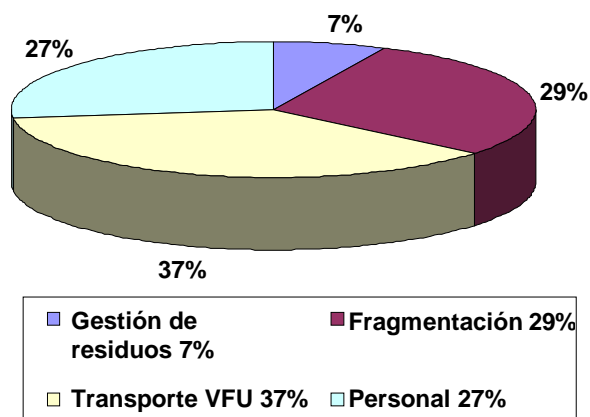


Fig.5 Representation of project costs in percentages

10.000 ELVs have been treated, of which a 6% have been specifically decontaminated for the project. The rest, came from installations in process of adaptation to the normative.

5. Transferability potential

The data obtained with the project is applicable with much exactitude to the north-centre of Spain and can be easily extrapolated to the rest of the Spanish communities.

The decontamination procedure is easily reproducible everywhere in Europe, specially in countries with low application of the ELVs normative like Spain, with the corresponding patent protection. The necessary investment for the installation of the decontaminating system is of 110.000 €, plus the auxiliary components.

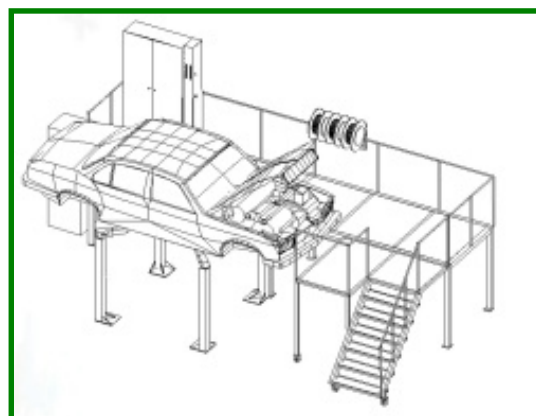


Fig.6 Technical drawing of the installation

The project itself, in its demonstration method, is transferable for the analysis and comparison of the existing problematic in the different Member States of the European Community where the ELVs dismantling sector has difficulties to adapt.

6. Do you want to know more?



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