

ARN: Expertise centre for mobility recycling and sustainability

Mobilis 2011, Belfort, France

What is ARN?

ARN is the Dutch centre of expertise for recycling in the mobility sector.

It has managed recycling chains in the sector for 15 years and has grown into an expert in the field of recycling and chain management.

ARN uses its expertise to advise companies and public authorities on a variety of issues relating to sustainability.



The Dutch system in a nutshell

Started: 1995

Stakeholders: Dutch importers, dealerships, dismantlers

Structure: national system for all brands; contracted dismantlers

Employees: 45 over two locations

ELV's recycled to date: +3,5 million

Average yearly no. of end-of-life vehicles: ~200.000

Average yearly no. of exported vehicles: ~200.000 (!)

Reuse & recovery in 2010: 95,3% (with 83,3% reuse & recycling)

Our target for 2015: 95% (with 85% reuse & recycling)

Hazardous materials are dismantled at ATF



24,5% dismantling for spare part trading



Shredding of dismantled ELVs



Ferro, approx. 70% of ELV, melted for construction steel applications



Auto Shredder Residue (ASR) is the remaining fraction of an ELV



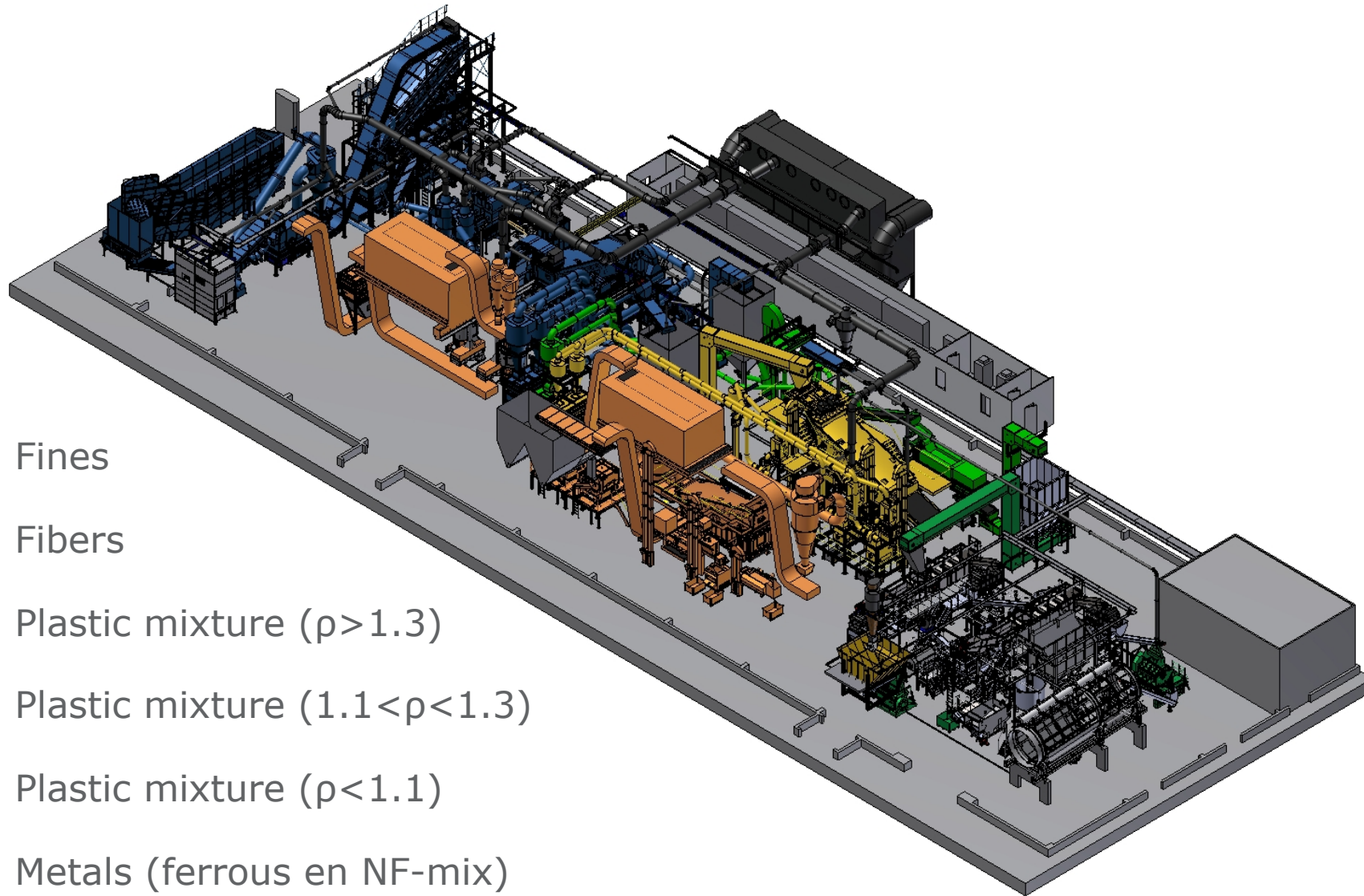
To reach 95% recycling ARN built PST-plant



- Capacity PST plant: 100 kton/year
- ARN co-engineered and operates plant
- Capacity available for 'foreign' ASR
- Operation has started up



Complete 3D lay-out PST plant



1. Fines
2. Fibers
3. Plastic mixture ($\rho > 1.3$)
4. Plastic mixture ($1.1 < \rho < 1.3$)
5. Plastic mixture ($\rho < 1.1$)
6. Metals (ferrous en NF-mix)



Targets for recycling percentage ELV's

	ELV recycling (at present)	ELV recycling (2010-)	ELV recycling (2015)
Dismantling	10%	5%	5%
Metals (shredder)	75%	75%	75%
PST phase 1		10%	10%
PST phase 2			5%
Total	85%	90%	95%

ARN criteria to optimise the chain: recovery quota, economy and sustainability



More information:
<http://www.ecotest.nu>

Analysis of treatment alternatives with Ecotest



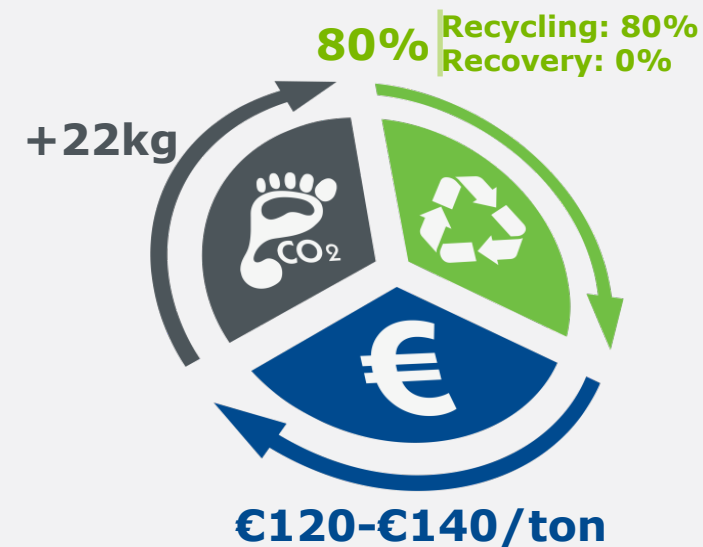
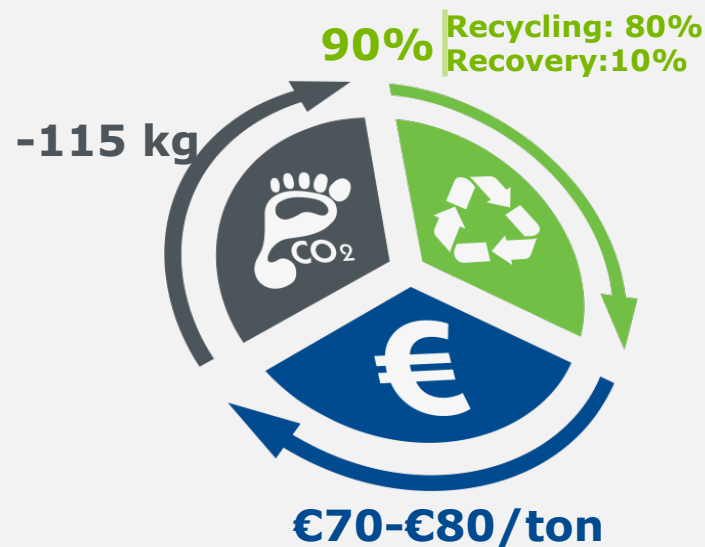
PST (optimized)



Incineration (no PST)



Landfilling



Setting up demonstration and training centres in Netherlands and abroad

- Set-up of demonstration recycling facility in Tiel in The Netherlands
 - Purpose is training for car recyclers and government officials involved in enforcement
- Assisting in design and construction of demonstration and training facility for the Turkish government in Ankara region with Turkish recycling industry
 - Recycling company personnel in Turkey will train at this facility



Development and teaching of several training modules on auto recycling

- Training on airbag deployment in a safe environment
 - Focus on health and safety
 - Procedures are key!
- Training on dismantling and recycling high-voltages batteries from electric cars and scooters
 - Focus on safety (high-voltages)
 - Dismantling techniques



Vision for the future in car recycling

Focal points:

- System based on *country-specific* situation
- System based on *economical value* of the ELV
- Mechanical separation techniques (e.g. PST)
- Shared responsibility in chain between car producers, recyclers and government
- Focus on environmental benefits instead of *only* recycling percentages – ***is 95% realistic?***
- Government enforcement of environmental policies is still very necessary!

ARN: Expertise centre for mobility recycling and sustainability

Mobilis 2011, Belfort, France