



**Closing material cycles: 15 years
success with SWICO**

**Paul Brändli, CEO
SWICO Recycling**

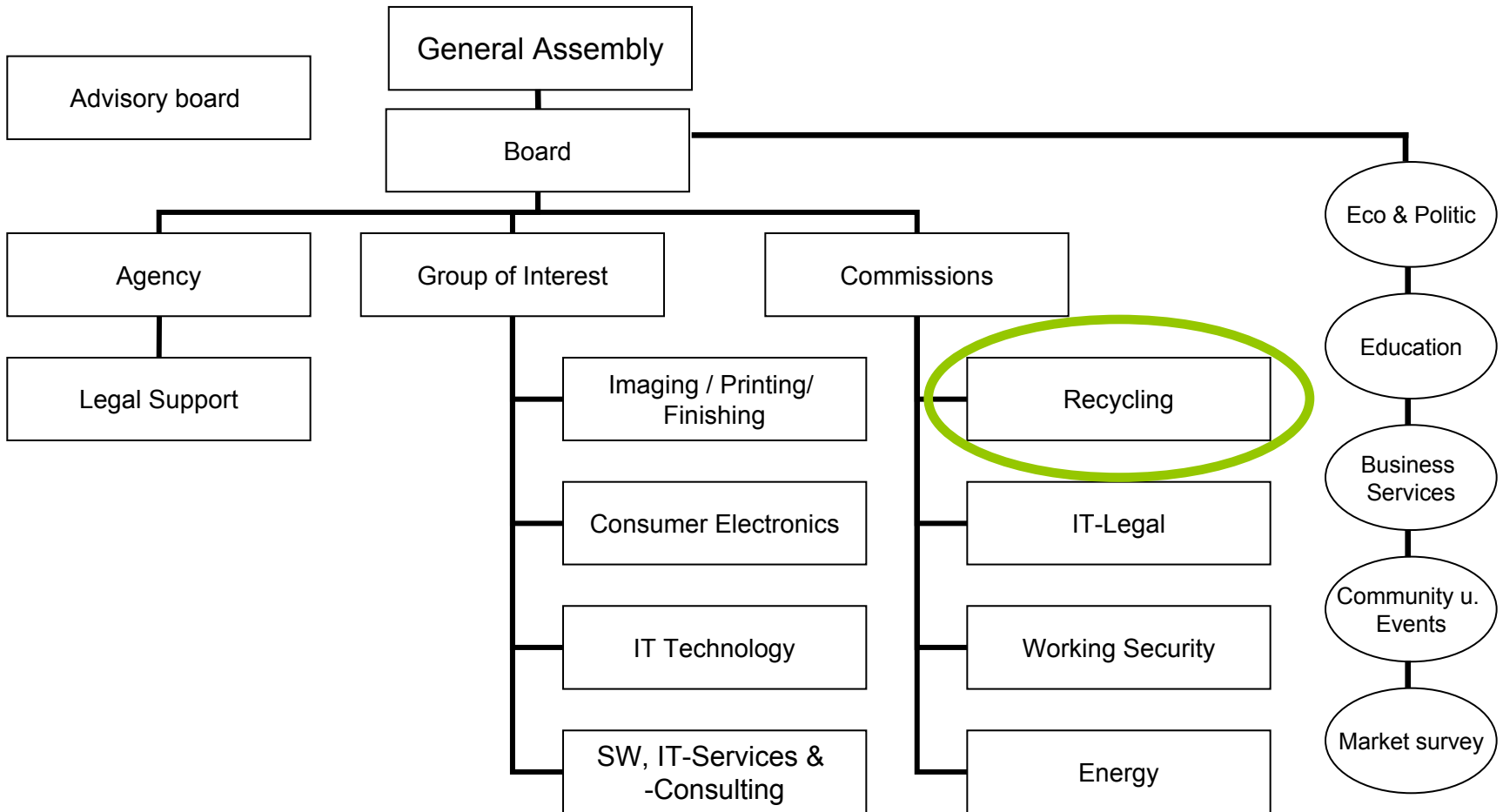
E-Waste Study Tour to Switzerland and Austria

SWICO
recycling

What is Swico

SWICO Organisation

Swiss Economic Association for Information, Communications and Organisation Technology



Recycling Earlier

Almost twenty years ago

TV set: CHF 40.00
Charge for taking sets back

Illegal disposal
Fly-tipping
Waste mountains

Professional disposal was
subject to a charge.



1992: IT importers' working group

Project initiators:

Six importers of IT products



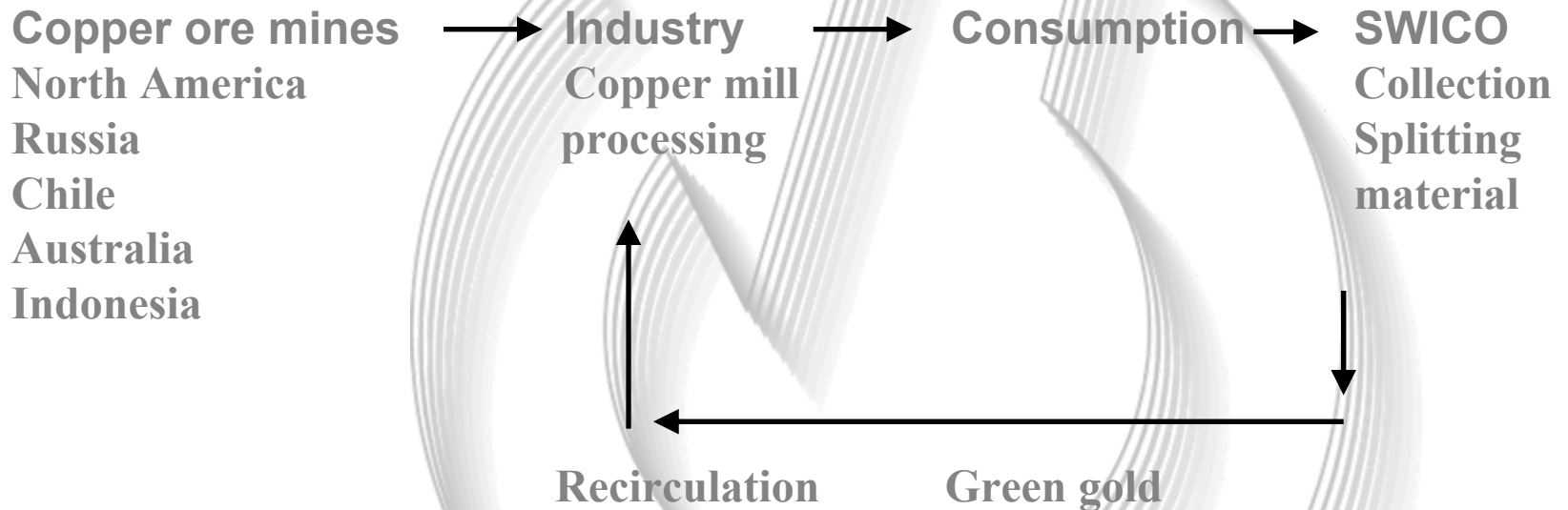
Progressive environmental concept

- Pollutant separation
- Organising joint, professional, disposal
- Recycling of materials
- Establishing a trade cycle
- Channelling raw materials



The overriding goal

Copper as an example



Guaranteed professional disposal

Patronage: SWICO Recycling Guarantee

Project launch: 1992

ARF: From 1994 for the IT sector

Initial members: 30

Goal: Organising collection,
transport,
dismantling and disposal

Controls: EMPA, Ernst & Young AG



Situation today (2008) CH

Members:	630
Network:	400 collection points + 6,000 specialist dealers
Volume:	10-times the volume compared with launch (2008 = 50,753 t)
ARF / costs:	36.9 / 32.8 million
Sectors:	IT, consumer electronics, telecommunications, musical instruments, photo/video, measuring and medicine technology, dental equipment



The steering board

Environmental Commission

The people who oversee SWICO's recycling processes,
headed by Paul Brändli

Roberto Vitaliano, ALSO
Rolf von Reding, HP
Eric Hubacher, ESAG
Brigitte Schmieder, Canon
Christoph Schweizer, Xerox



- Hans Walker, IBM
- Stefan Hildebrand,
Novis Electronics AG
- Dominik Wirth,
Brack Electronics
- Rainer Wolter, Sun
- Alexandre Lovis, DELL



SWICO's Principal Tasks

Specifying the ARF tariff

Expanding the group of recycling participants (free riders)

Balance by ARF between cost and revenue

Cost efficiency: comparisons with operations abroad

Controls, adherence to statutory requirements



In conjunction with the Environmental Commission

Specifying the ARF tariff according to costs

Low ARF=Low recycling costs	->	Lower costs
	->	Automated processes large volumes
	->	Higher raw material revenue copper price increase
Simple logistics	->	Collections in metropolitan
areas		
High ARF=High recycling costs	->	Manual costs e.g. monitors
	->	Strict statutory requirements e.g. plastics with flame retardants
Complete logistics	->	e.g. Graubünden via RHB

Comparison between Switzerland and the EU

Hardware and household goods



Situation in Switzerland

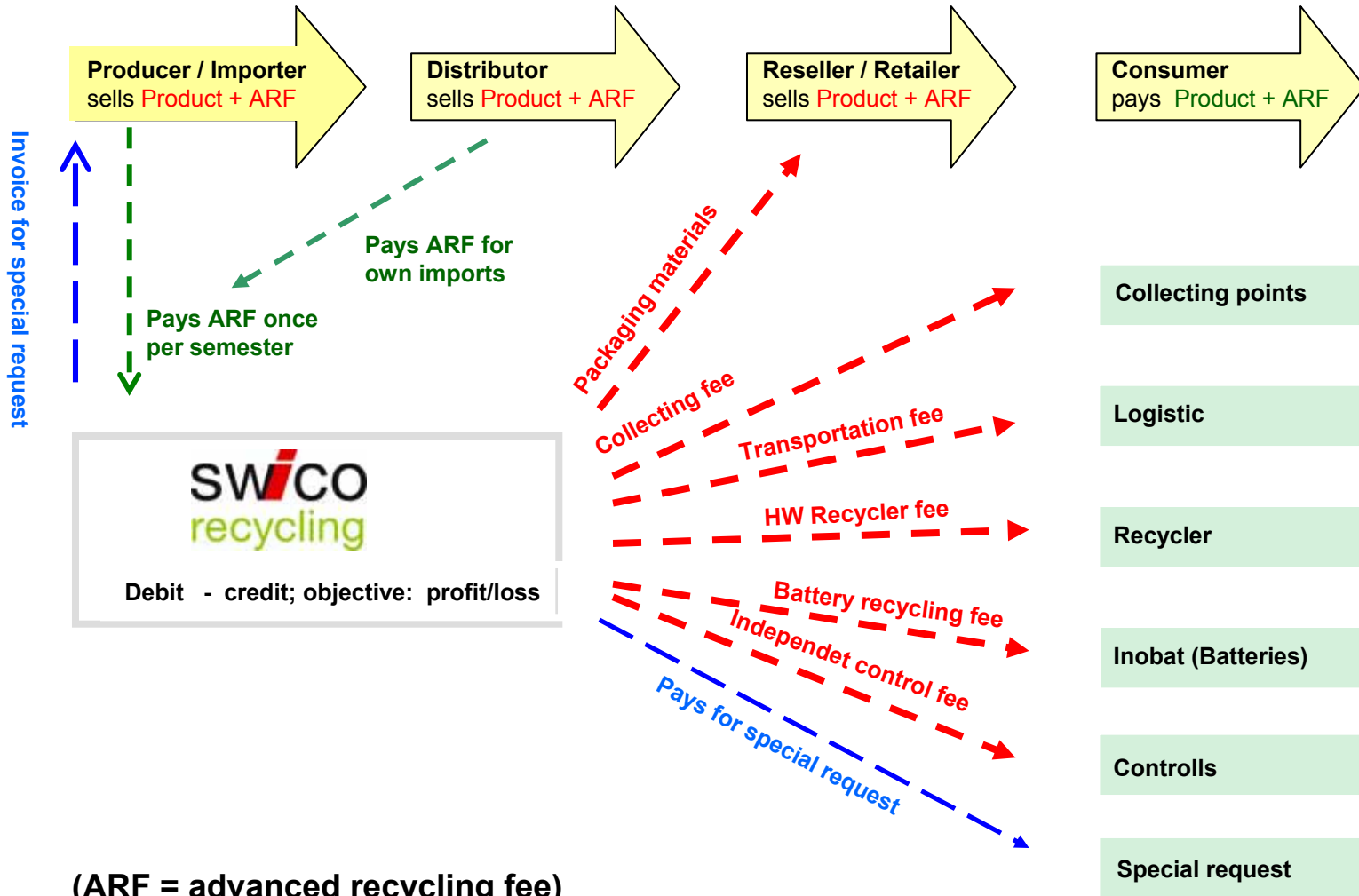
Total of 14 kg* taken back per year and resident

EU target

Total of 4 kg taken back per year and resident

***7 kg household goods + 7 kg office electronics**

ARF financial flow



(ARF = advanced recycling fee)

Controls

Collecting Points (400)	Transportation	Entry point Recycler	Dismantling Recycler	Batch Tests	Comparison
Secured storage	Controls weight received	Spot checks concerning products and brands	Keeps Swico and government regulation	Select. prod	WEEE
Separation Swico and other products		Spot checks Aging	Method of Recycling	% of material for reuse splitted in material category	Visit abroad price
Takes only products of private users		Only SWICO products	Handling of harmful mat.		Efficiency
weight		Correct weight	% of material for reuse		Experience exchanges
SWICO-Person		Logistic Company	SWICO Person	Independent (EMPA) Only negative reporting	SWICO CEO

Environmentally friendly and socially acceptable

The SWICO Recycling Guarantee ensures that ...

... the collection points are at most 40 km from the recycling companies.

...the 1,000 created jobs are given to the weaker members of society.



2008 financial year

Collected Electronic Products in 2008

Recycled quantities by device type (A and B signatories)

	Quantity	Average weight (in kilograms)	Metals (in tonnes)	Plastics (in tonnes)	Mixed metal / plastic (in tonnes)	Cable (in tonnes)	Glass and/or LCD modules (in tonnes)	Printed circuitboards (in tonnes)	Pollutants (in tonnes)	Others ²⁾ (in tonnes)	Total (in tonnes)	Increase/ decrease from 2007
CRT television sets	256,706	31.3	646	2,033	173	0	4,270	-	8	-	8,048	-3.5%
CE, mixed ¹⁾	984,557	5.3	2,972	1,104	412	148	10	61	83	438	5,228	+14.5%
CRT monitors	200,601	20.0	467	2,117	125	6	3,088	-	5	-	5,808	-33.3%
LCD monitors	140,125	6.4	392	190	-	-	252	60	-	-	894	+97.8%
PC/servers	370,566	15.9	4,883	338	11	178	-	468	14	-	5,892	+8.7%
Laptops	151,487	4.4	354	95	64	7	27	102	13	-	663	+67.2%
Printers	423,008	11.2	2,859	1,354	240	33	56	151	10	3	4,726	-26.1%
Large equipments/copiers ²⁾	27,545	117.8	2,225	424	200	85	61	148	2	99	3,244	+9.7%
Other equipments	-	-	9,204	3,403	1,203	459	31	190	259	1,364	10,250	+37.4%
Total in tonnes			24,032	11,998	2,517	925	7,804	1,180	394	1,904	50,754	+3.5%
Total percentage			47.3%	23.6%	5.0%	1.8%	15.4%	2.3%	0.8%	3.8%		

¹⁾ Consumer electronics, mixed, excluding TVs

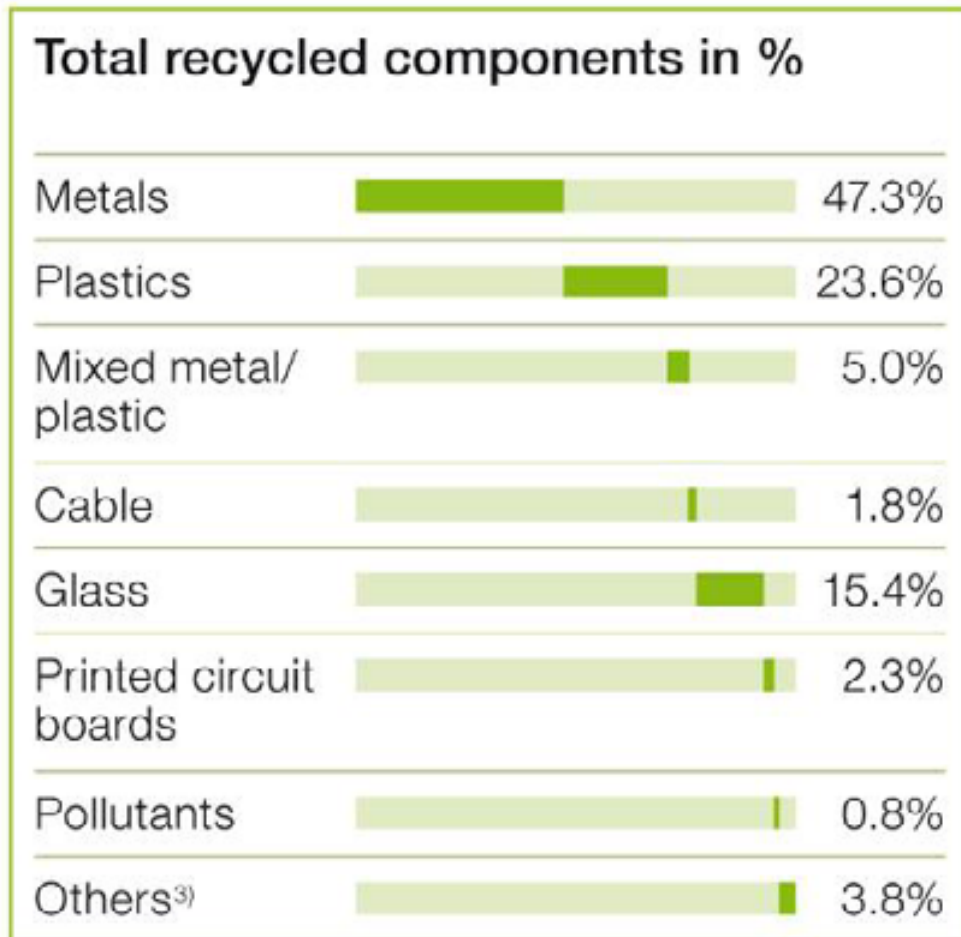
²⁾ Currently includes large copiers only

³⁾ Packaging and other waste, toner cartridges



Biggest increase LCD's TV and Lap top's

Substance won back in 2008

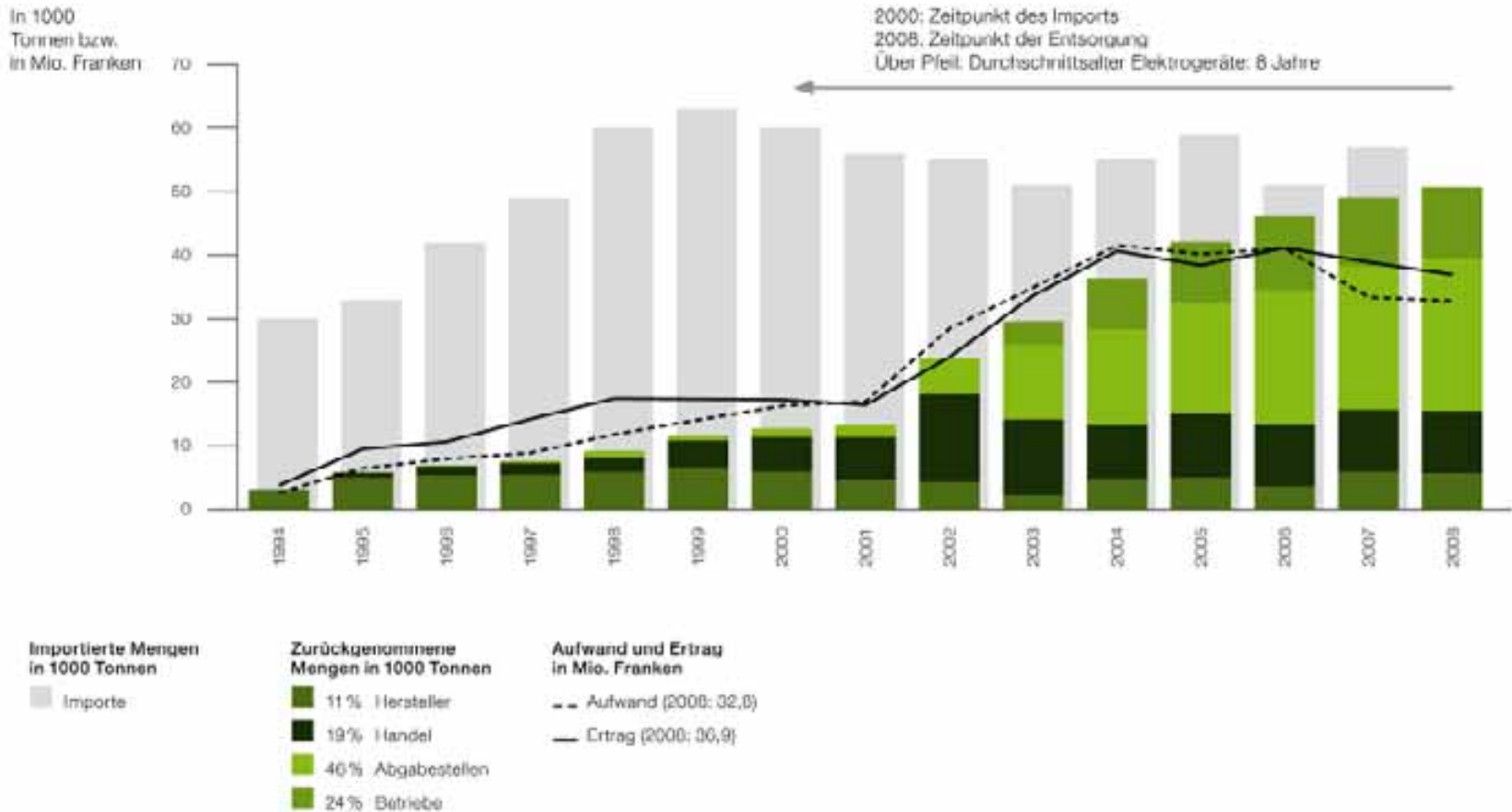


2008 we checked first time if one brand has different substances than the rest

Results: not important differences.



Expenses, Revenue and Quantity Growth



Share of costs

32.8 33.2 Mil

B signatories	2008	2007
Expenditure as percentage of total costs		
Recycling hardware	43.9	53.8
Logistics	26.4	22.2
Collection points	11.4	9.1
Packaging disposal	9.9	9.3
ADF on batteries	2.7	1.7
Audits	1.6	1.1
PR work	1.5	0.4
Administration	2.6	2.4

15 years SWICO Recycling



1. of April SWICO celebrated 15 years of service.

	1994 (12 month)	2008
Electronics returns	3700 t	50 753 t
Member	36	630
ADV-Income	6,13 Mio. CHF	36.9 Mio. CHF
Income / Member	149 410 CHF	60 240 CHF
Expenses	5,15 Mio. CHF	32.8 Mio. CHF
Cost / kg*	1,40 CHF	64,5 CHF / Cent

*) rounded

We recycle today 15 times more for half of cost



Our resources are limited

They won't increase!

Let's take care of what we have

Many thanks for your attention.