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leading sustainability

Quantifying WEEE in Romania: 2019 vs 2015

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WEEE Directive & collection target challenges

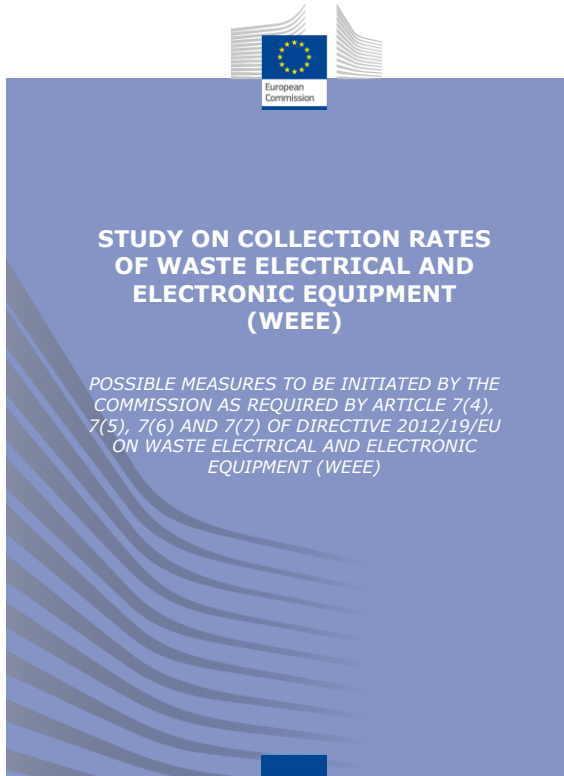
Can we make it ?

WEEE Directive & collection target challenges

- **Romania**

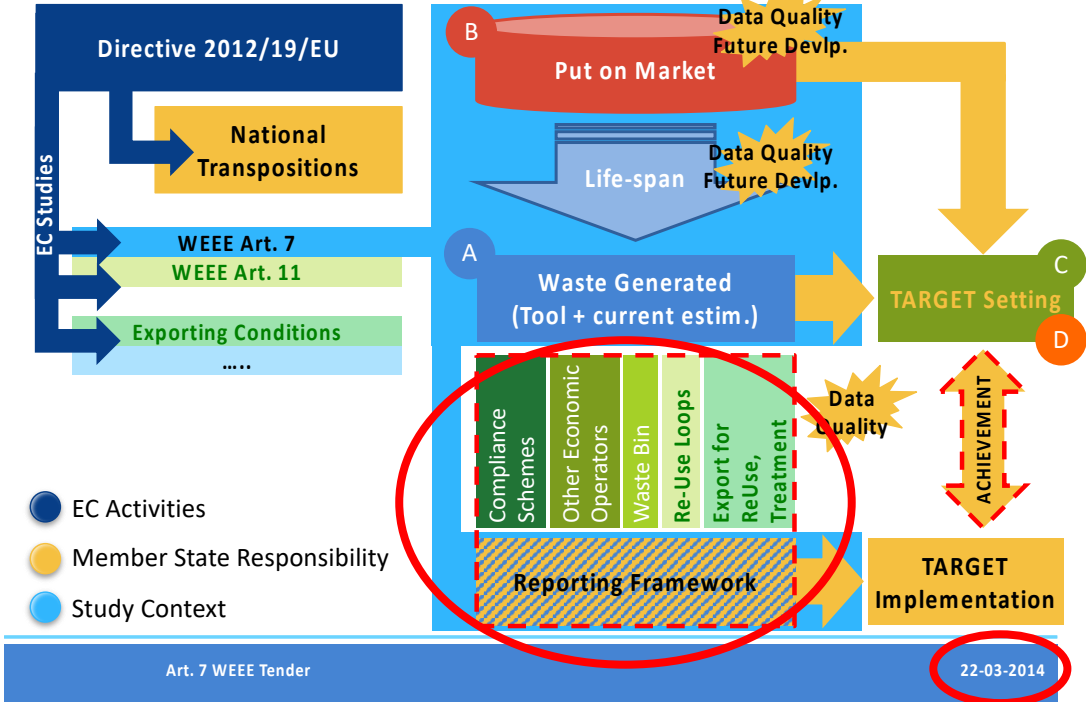
- 2012-2015: 4 kg/person or average 3 preceding years
- 2016-2020: 40% to 45% POM (45% POM in National transposition)
- Latest from 2021: 65% POM or 85% WG
- **Main challenges related to achievability of the target**
- Target setting mechanism:
 - POM and market dynamics
 - Inaccurate data (POM) and wrong WG
- Volumes not accounted/reachable for collection, particularly reused/donated
- Availability of collection infrastructures in Romania & awareness of citizens

#ThrowbackTuesday



Project Context

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WG Methodology, E-tool and challenges

- EC E-tool developed in 2014, pre-loaded with data derived from Apparent Consumption
- $POM = PRODUCTION - EXPORT + IMPORT$
- Statistics based on units converted using average weight sometimes different from reality of Romanian market
- The data-entry in the E-tool can be done according to 6 collection categories, 10 product categories or the 54 UNU-KEYs
- If data entry is done using the 6 or 10 categories the tool split the data to each UNU-KEY using the market breakdown of 2012
- Currently not included appliances for the open scope
- Later (2016) E-tool has been updated (dataset POM) and errors can be seen in the time-series
- No fridges POM prior 2002
- POM data higher compared to 2014 version (+18% to +37%, for some categories +500%)

National Register vs Apparent Consumption

National Register

- Annual declarations from Producers
- Closer link to the “scope” of the WEEE Directive
- Shorter time series when methodology was developed (longer in the future)
- Potential risk of free-riders (reporting POM = financing obligations)

Apparent Consumption

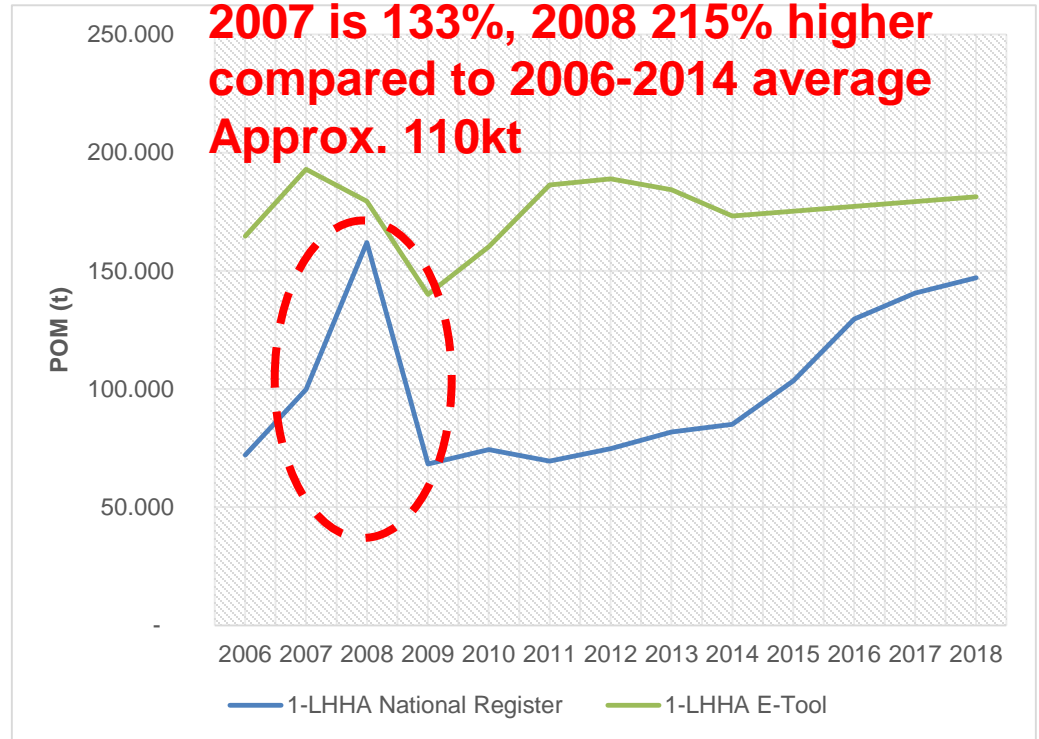
- Based on official statistics
- Longer time series (from 1996)
- For some codes “scope” might slightly differ from WEEE Directive (might include non-electric products)
- Might include used equipment as well (no distinction in trade)

National Register is a better source (Industry declarations) and time series are getting longer now.

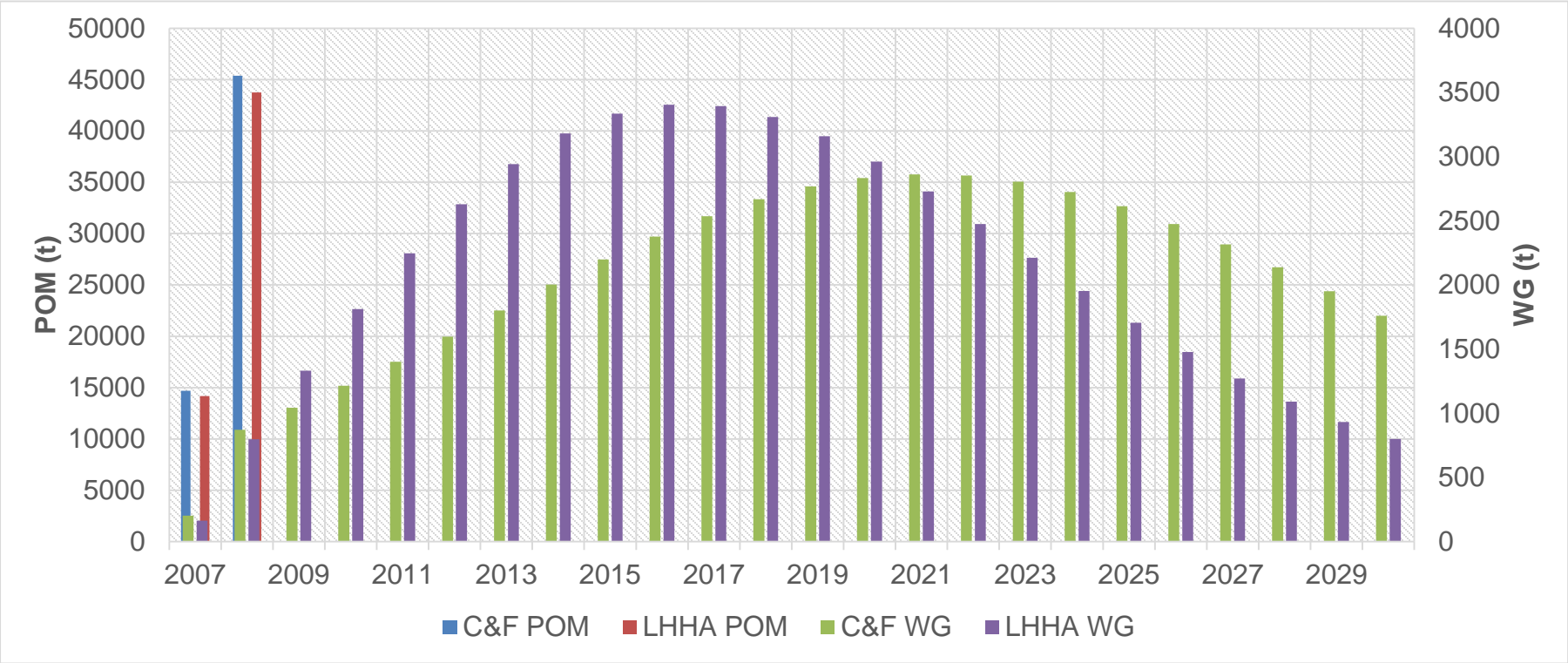
Apparent Consumption can be used to double-check (company level from authorities!)

Impact of bad data in time series

- Direct impact if target based on POM
- Major driver if WG Methodology is used
- EC methodology = Sales-Lifespan (used in the E-tool)
 - POM is influencing the total amount of WG
 - Lifespan telling “when” the waste will be generated
 - Accuracy of Lifespan is having a marginal role (max 10-15% impact on WG)



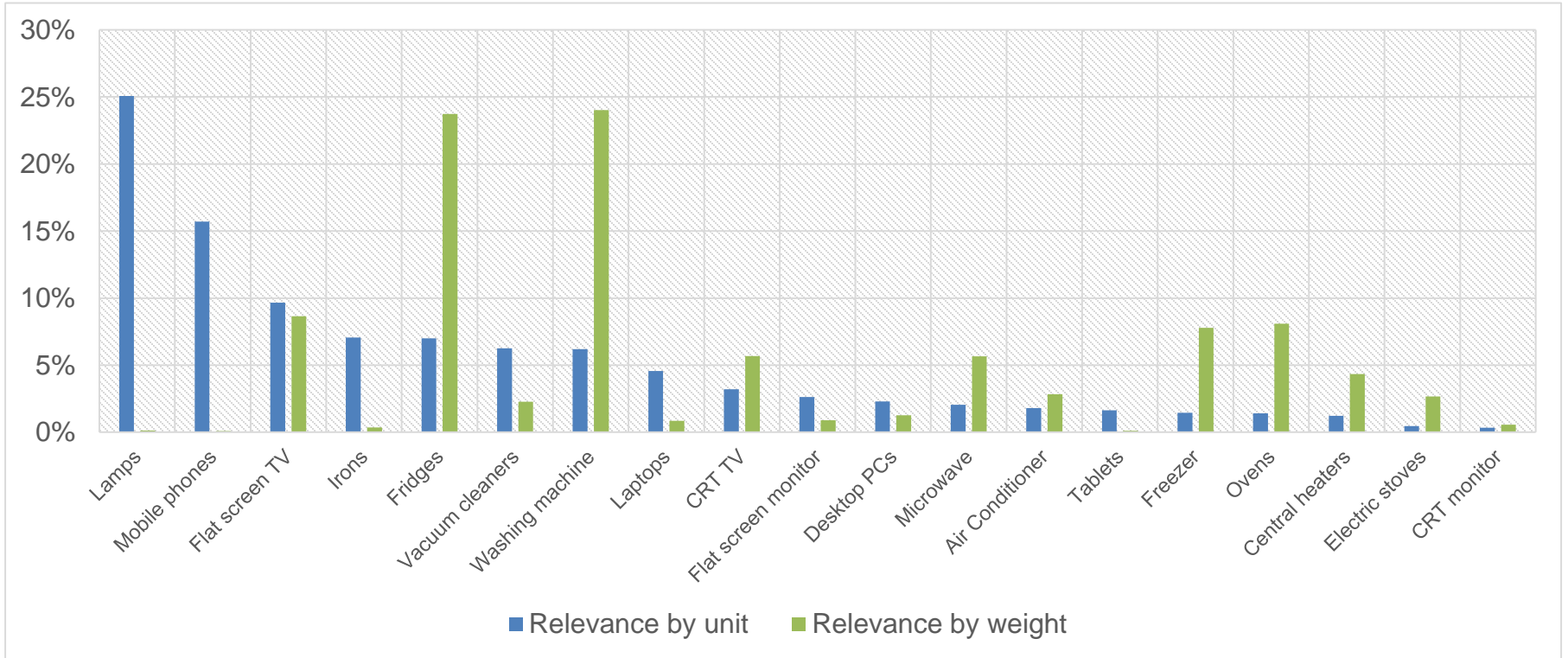
Impact of bad data in time series



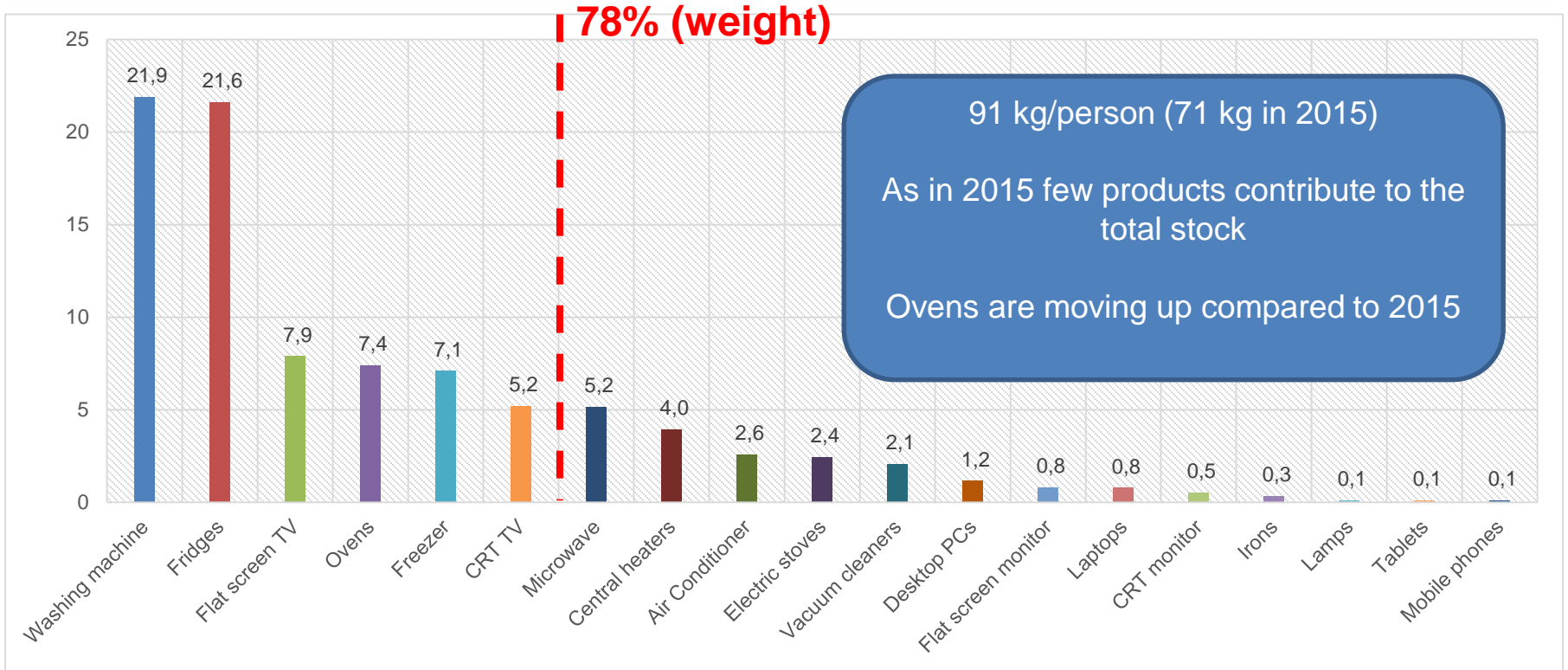
Targets with different data sources

Can we make it ?

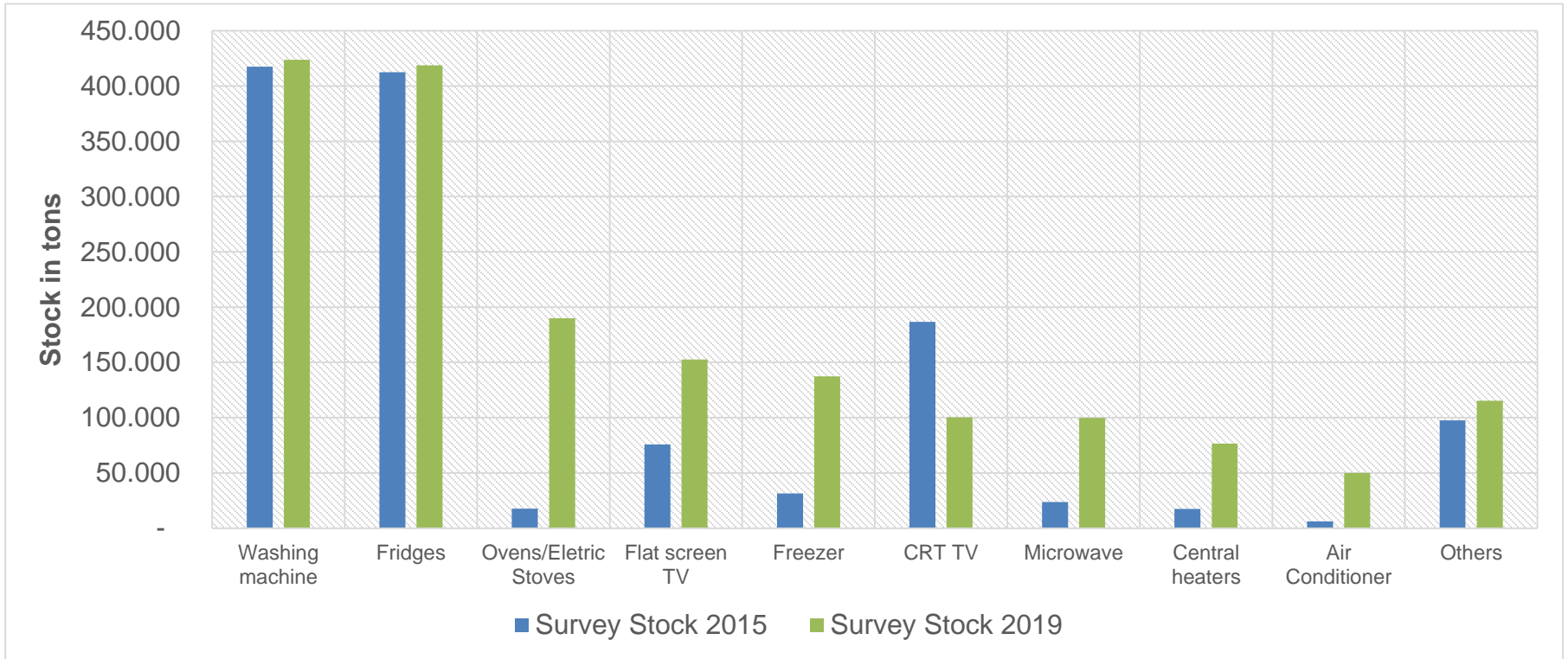
Stock in Romanian households



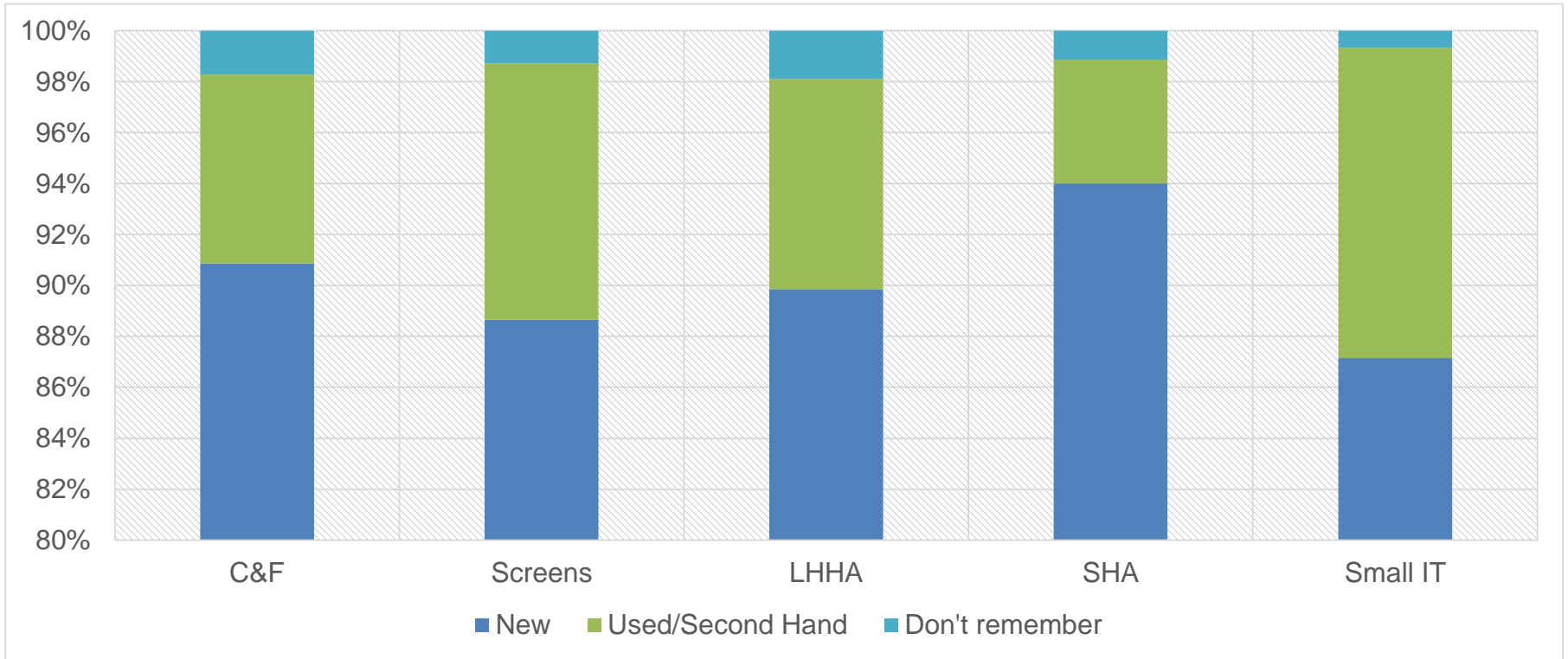
Stock in Romanian households



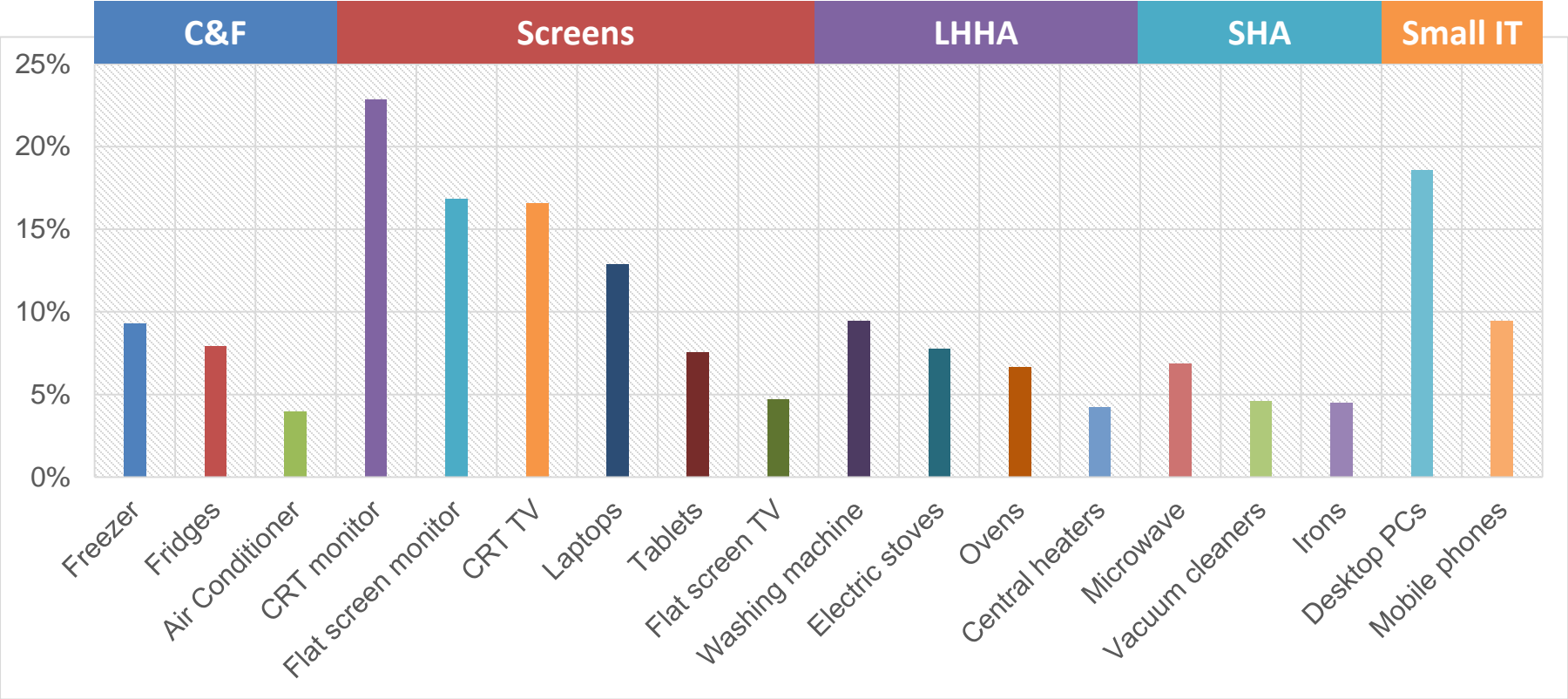
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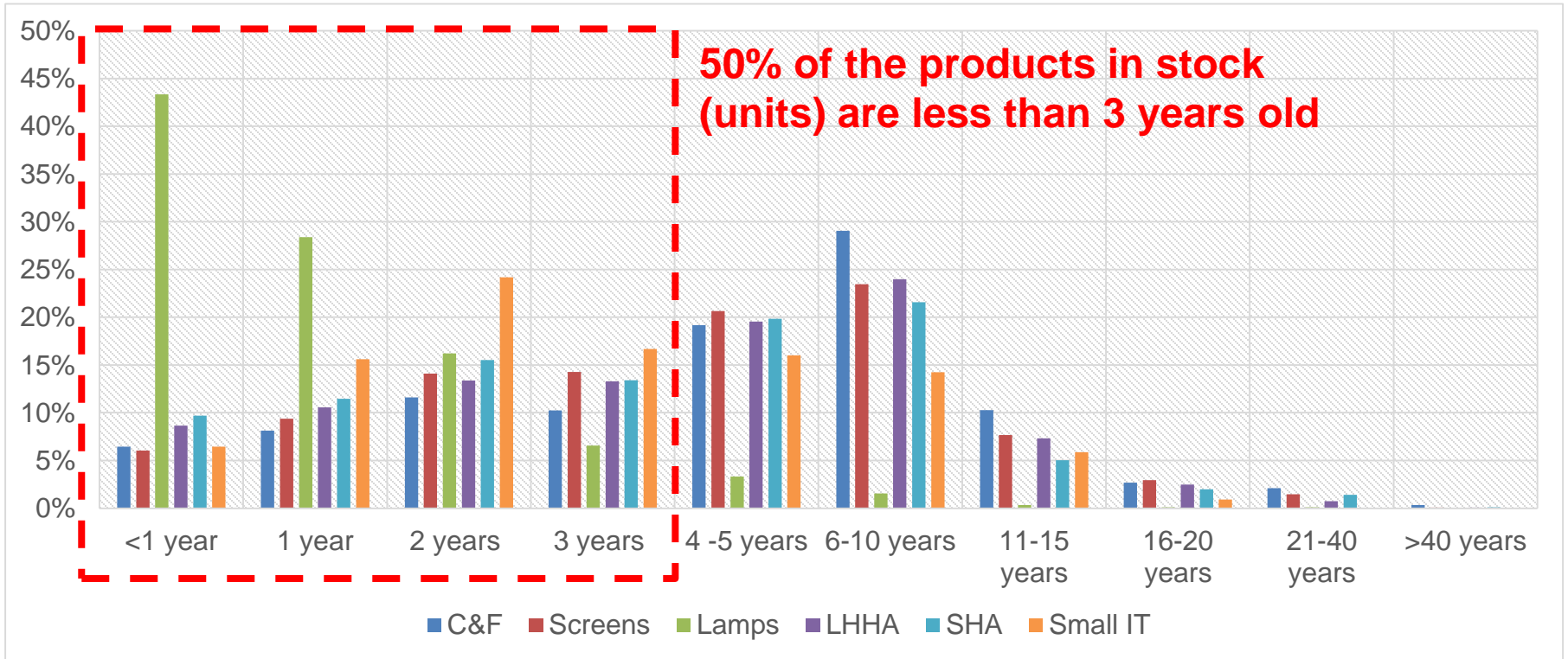
Acquisition of products: New vs Second Hand



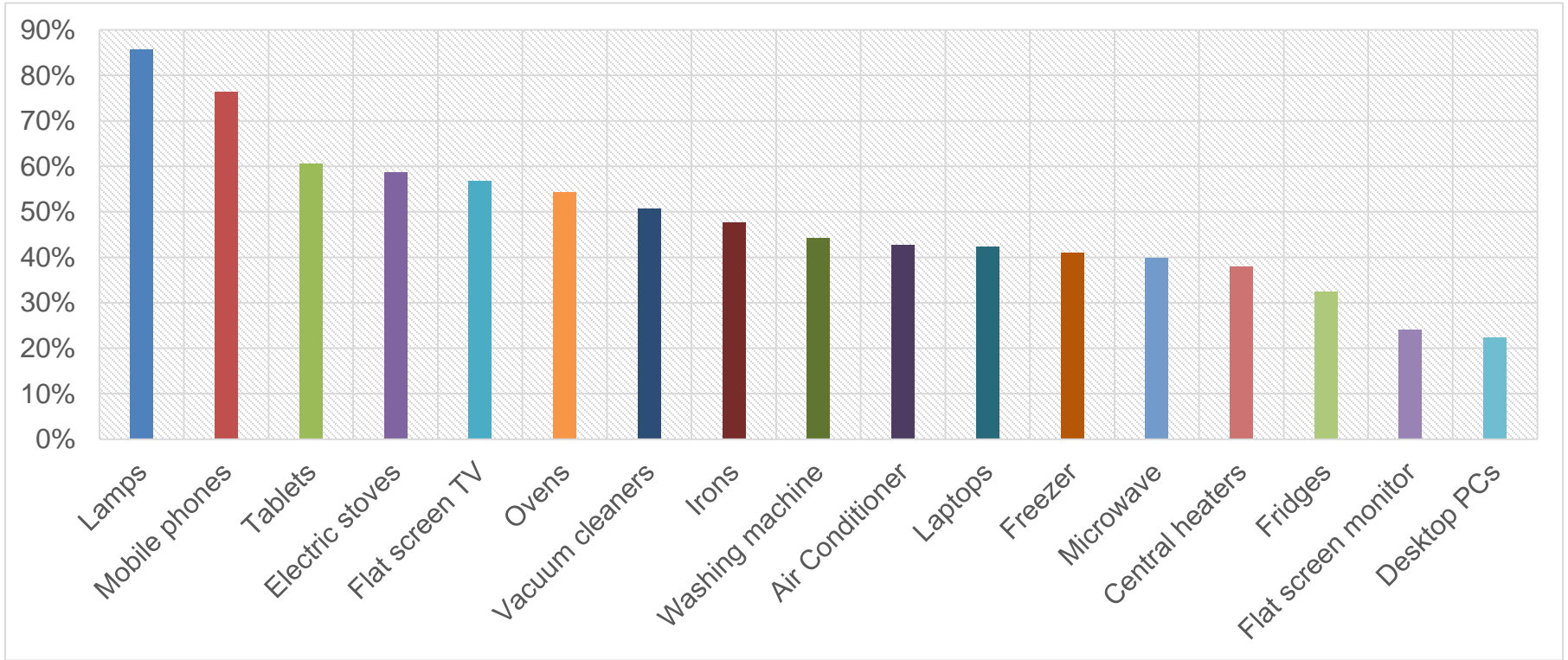
Products acquired used/second hand (% on stock)



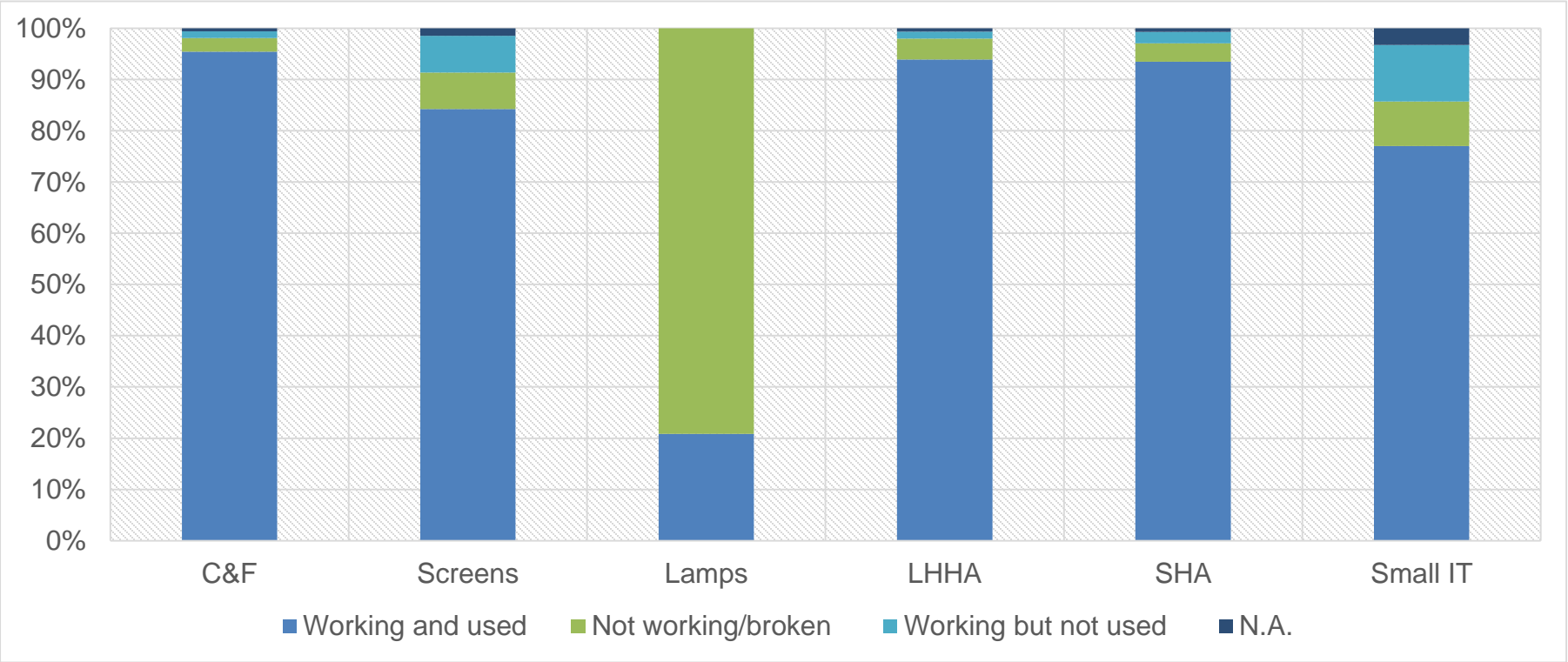
Age of stock



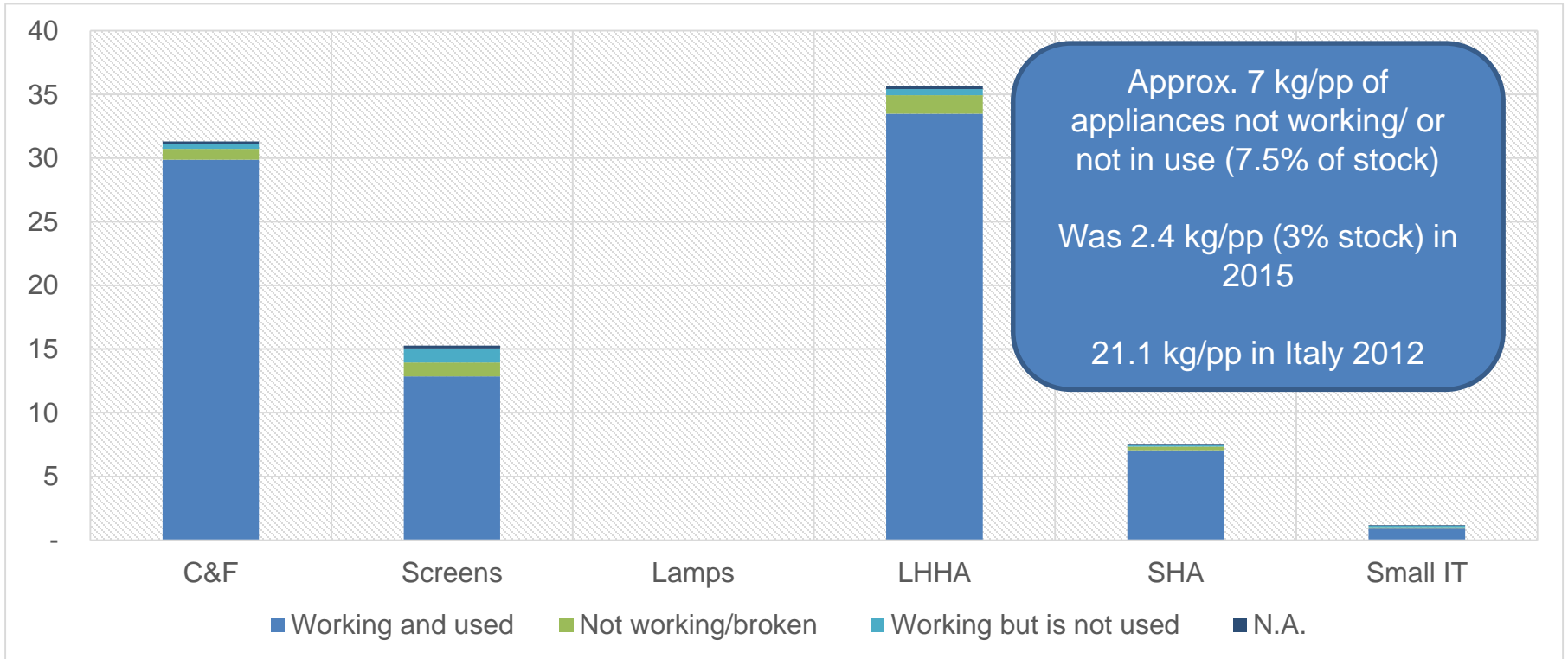
Stock up to 3 years



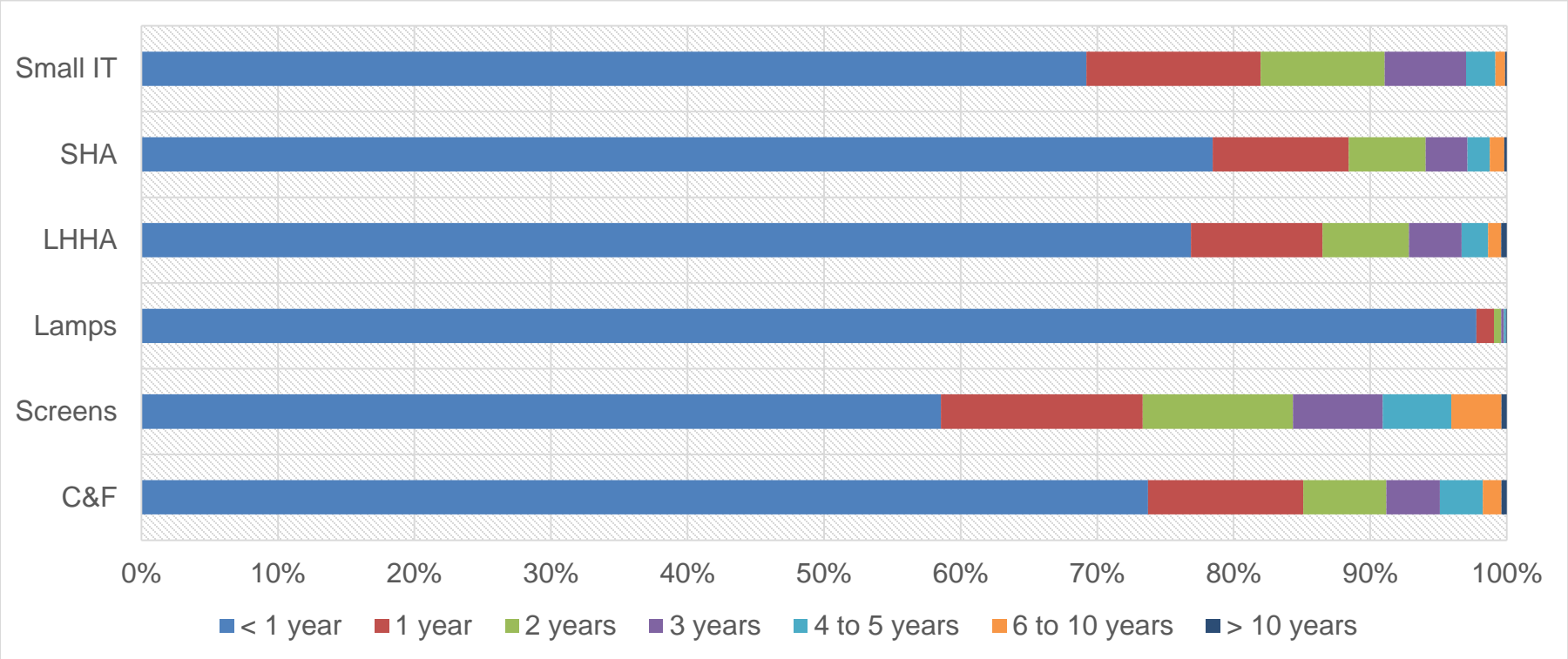
Stock: role of not used and broken products



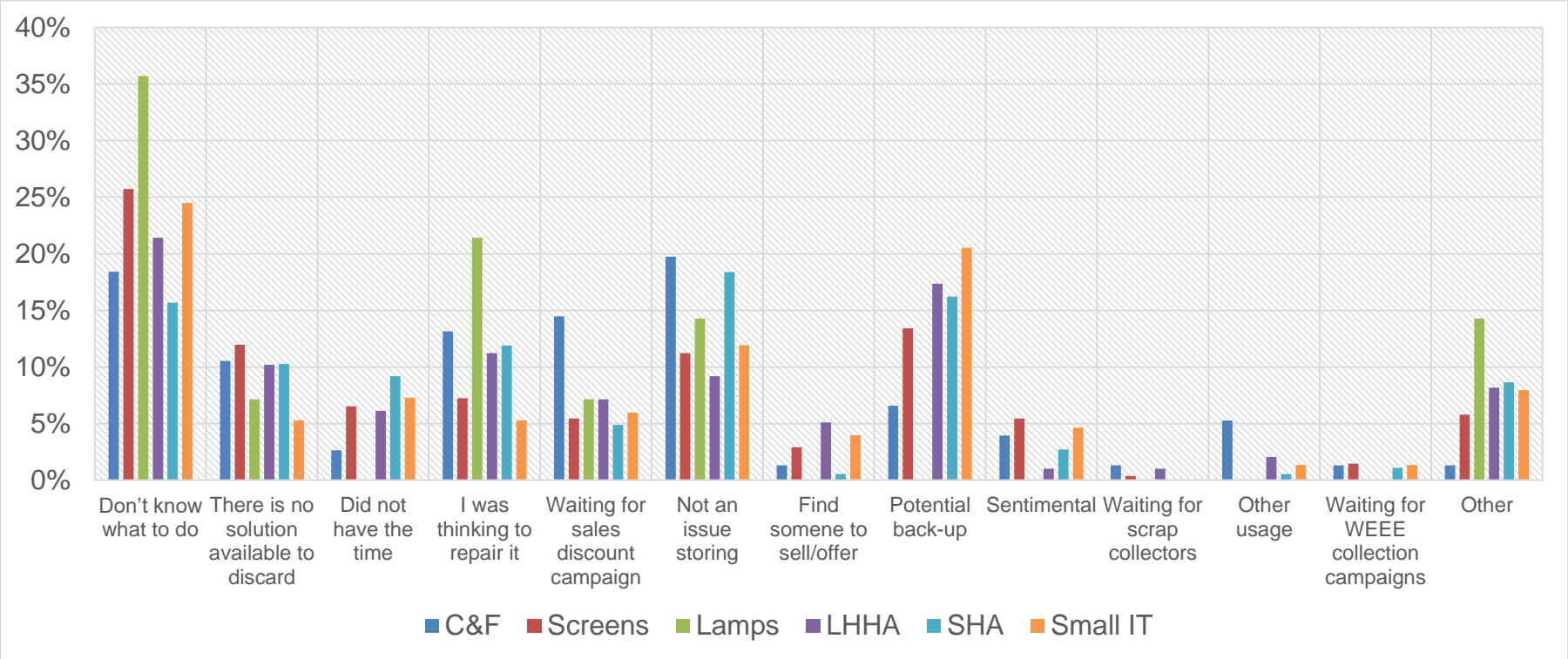
Stock: role of not used and broken products



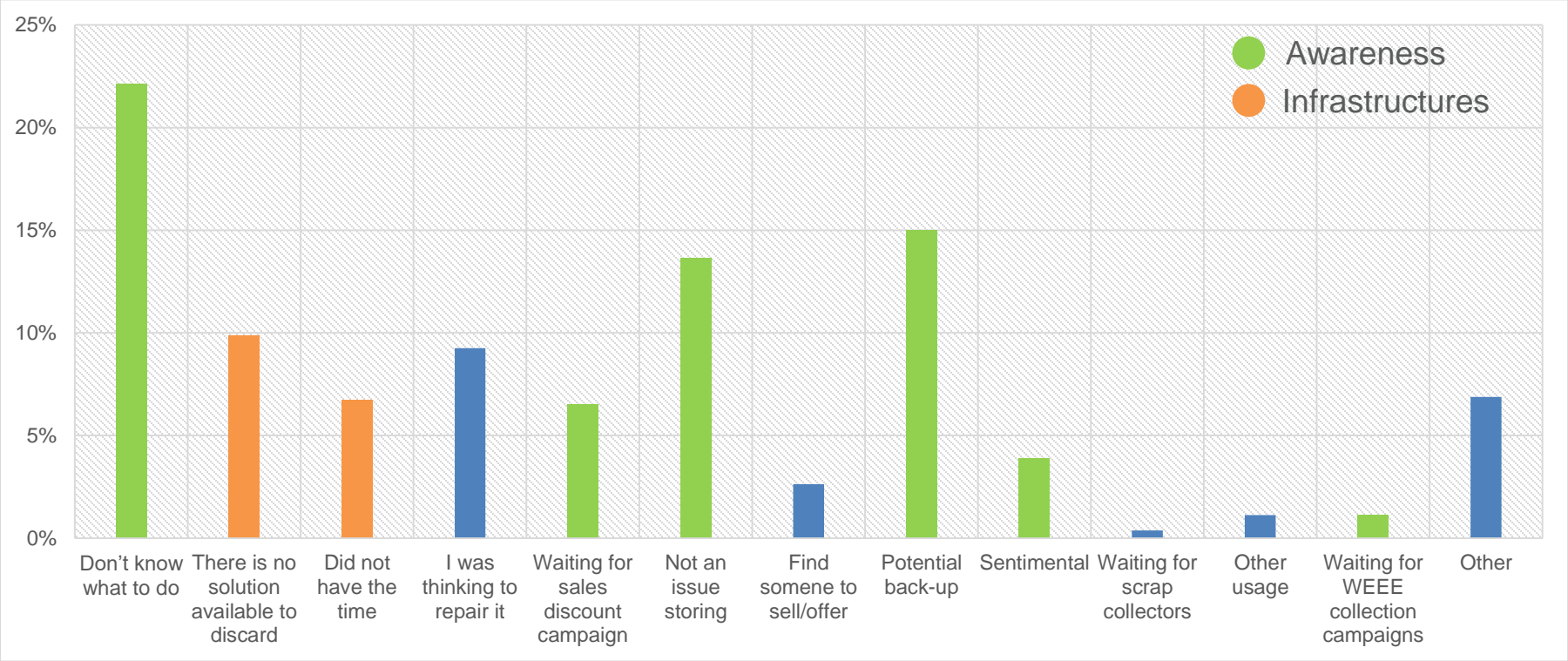
Storage at home



Reasons for storage at home



Reasons for storage at home

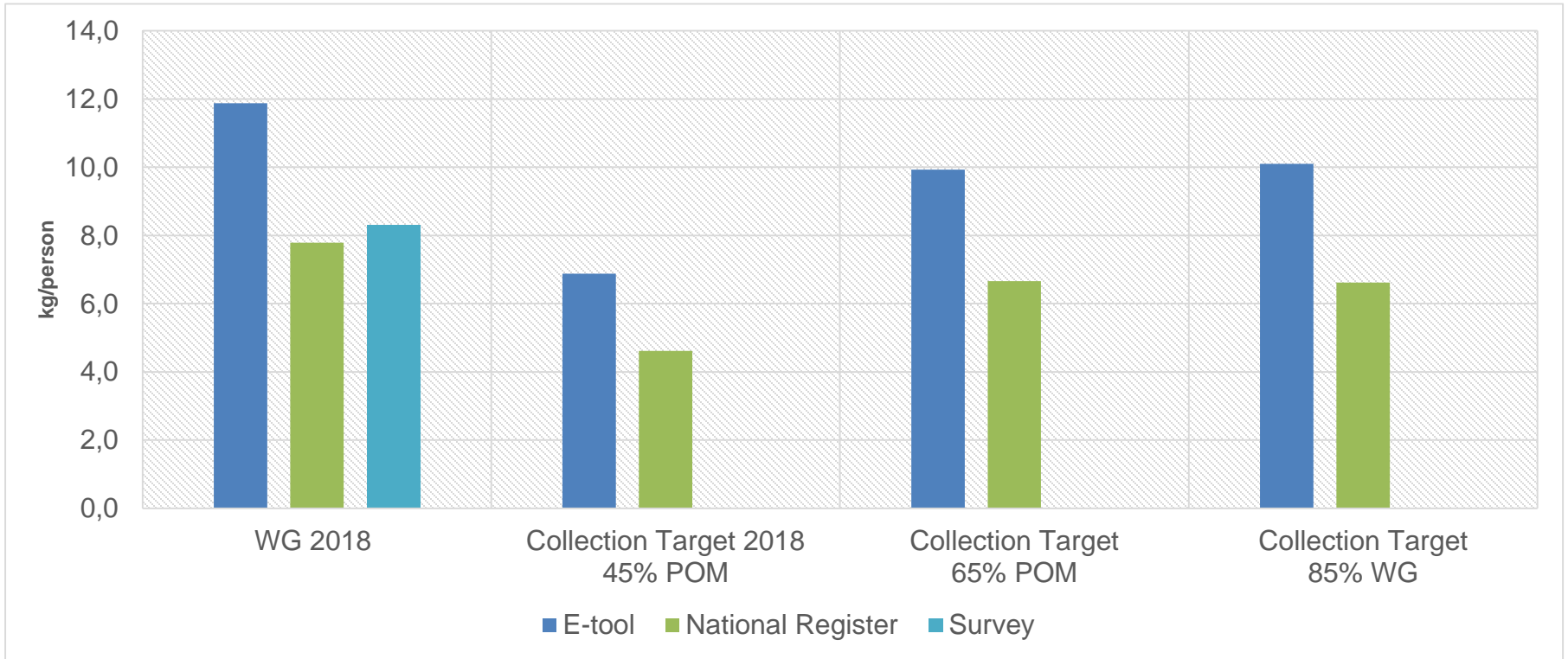


Disposal habit consumers

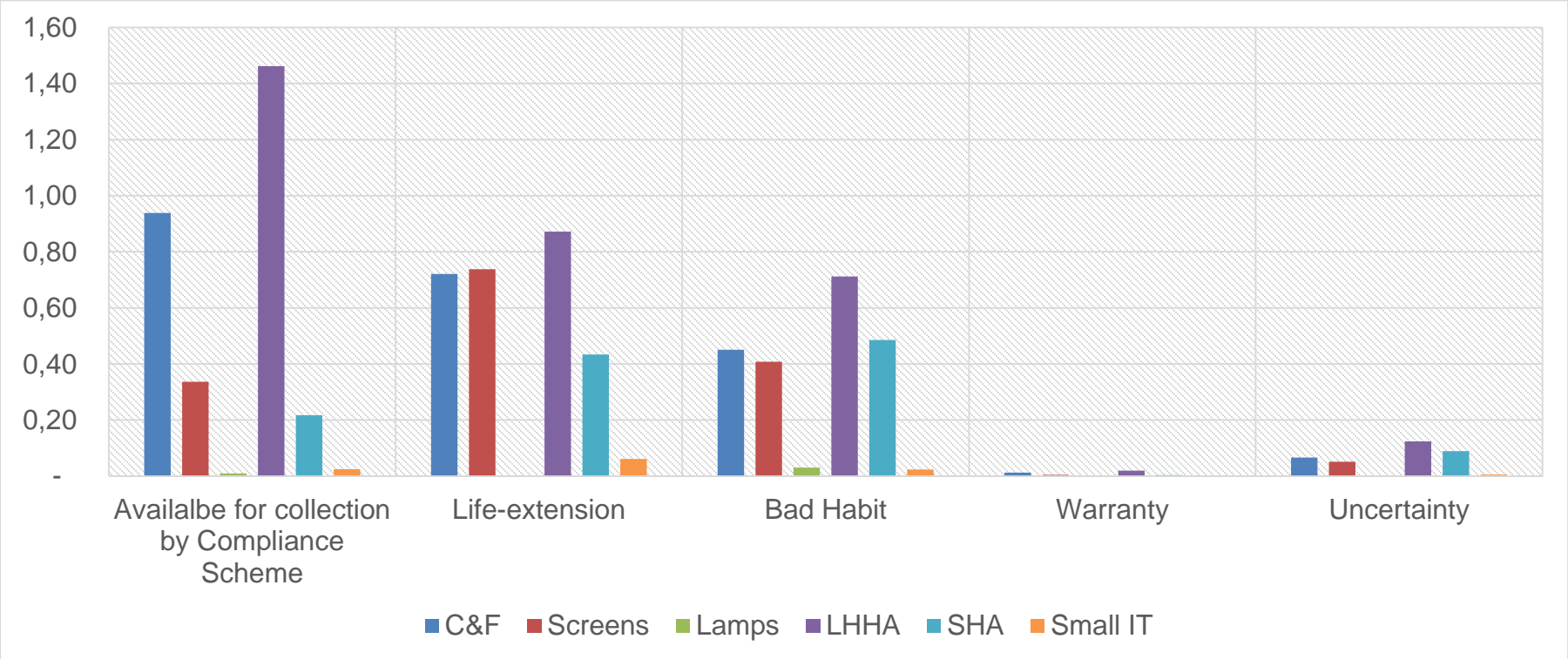
- Consumers have been asked what happened after they decided to discard the appliance (i.e. formally waste according to Waste Framework Directive definition of waste)

Bring to the shop	Retailer pick up at home	Bring to Municipal Collection Point	Municipality pick up at home	Sold on olx.ro, okazii.ro / Sold to a refurbisher	Donated to parents, friends, people in need for free	Waste bin / garbage	With Plastic/other recyclable waste	Give it to iron scrap collectors	Bring it to an iron scrap yard - REMAT	Other WEEE collection points	Warranty substitution	Specialized team pick-up it from home (Ecotic or RoREC)	Not Know/Do not Remember	Other
Retailer	Retailer	Municipal	Municipal	Life-Extension	Life-Extension	Bad-Habit	Bad-Habit	Scrap Collection	Scrap Collection		Warranty		Uncertainty	Uncertainty
Correct	Correct	Correct	Correct	Life-Extension	Life-Extension	Bad-Habit	Bad-Habit	Bad-Habit	Bad-Habit	Correct	Warranty	Correct	Uncertainty	Uncertainty

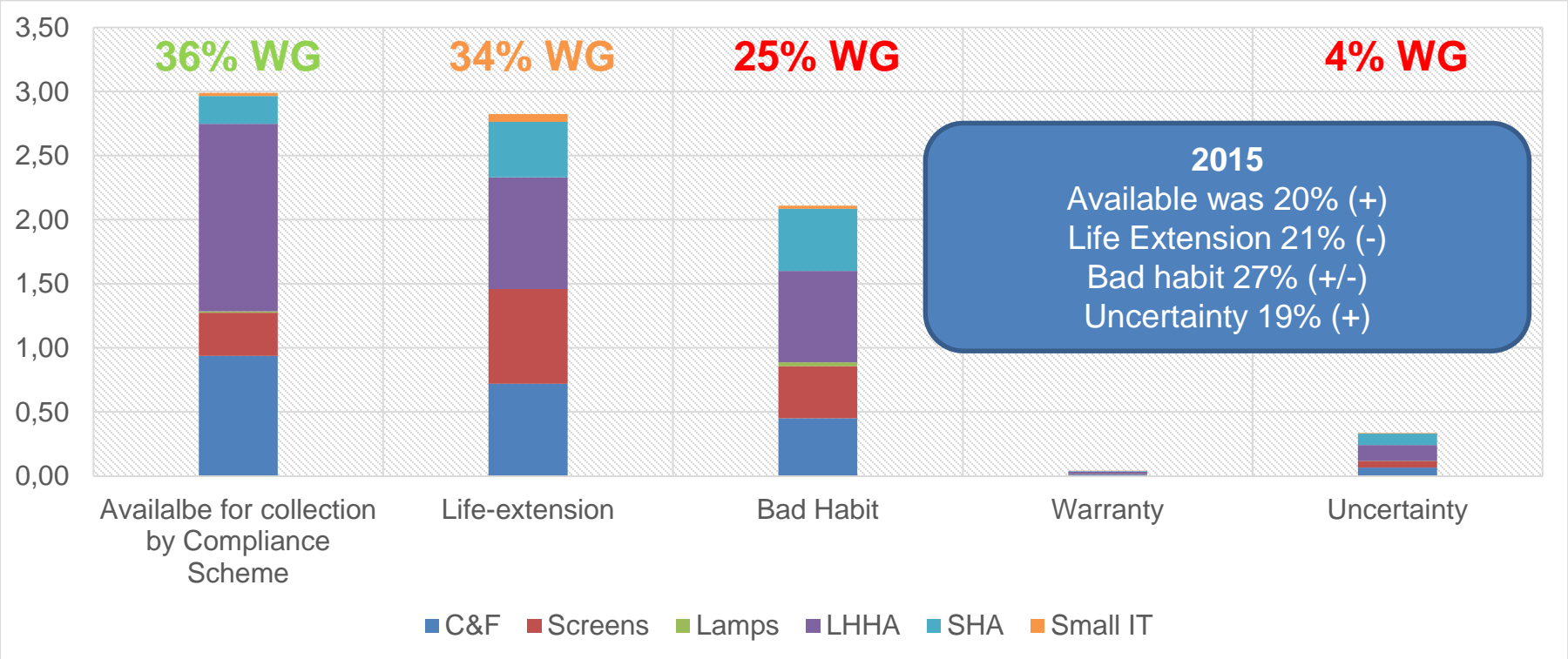
WEEE Generated & Collection targets



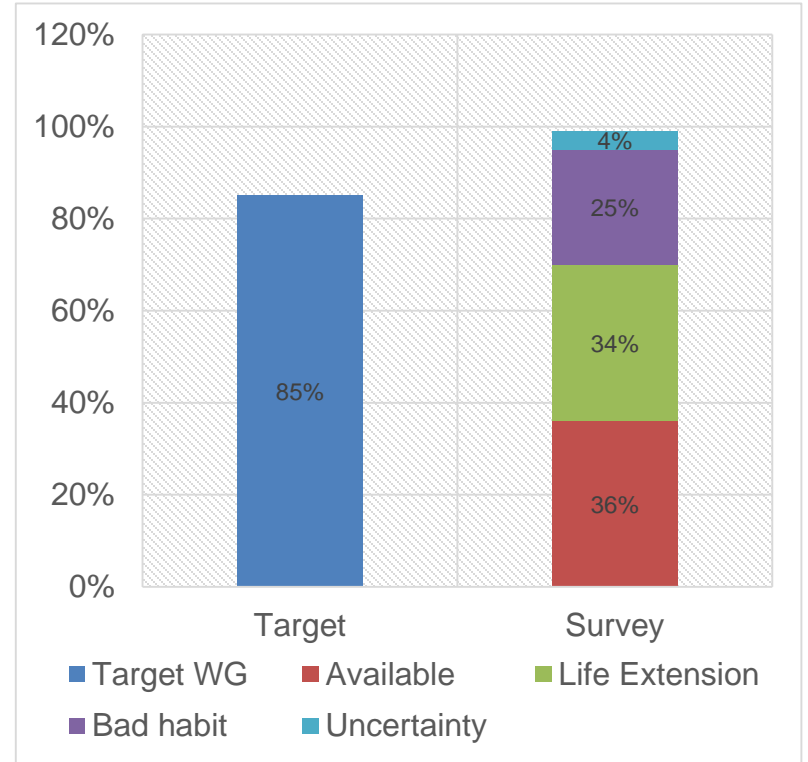
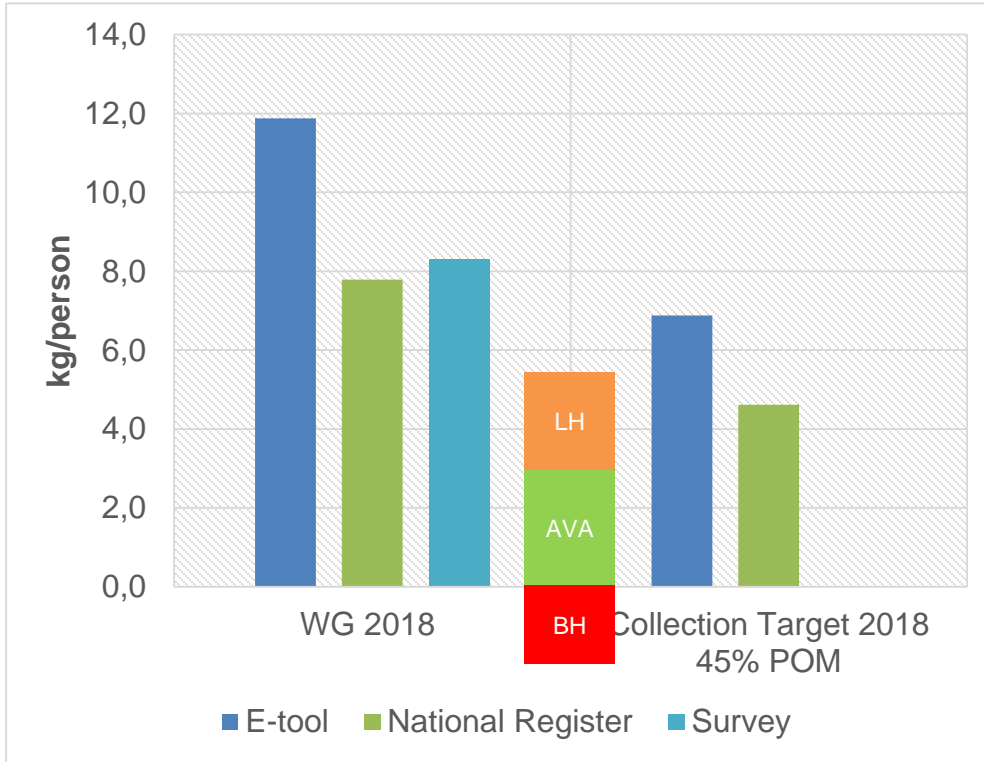
Discard patterns: where waste goes



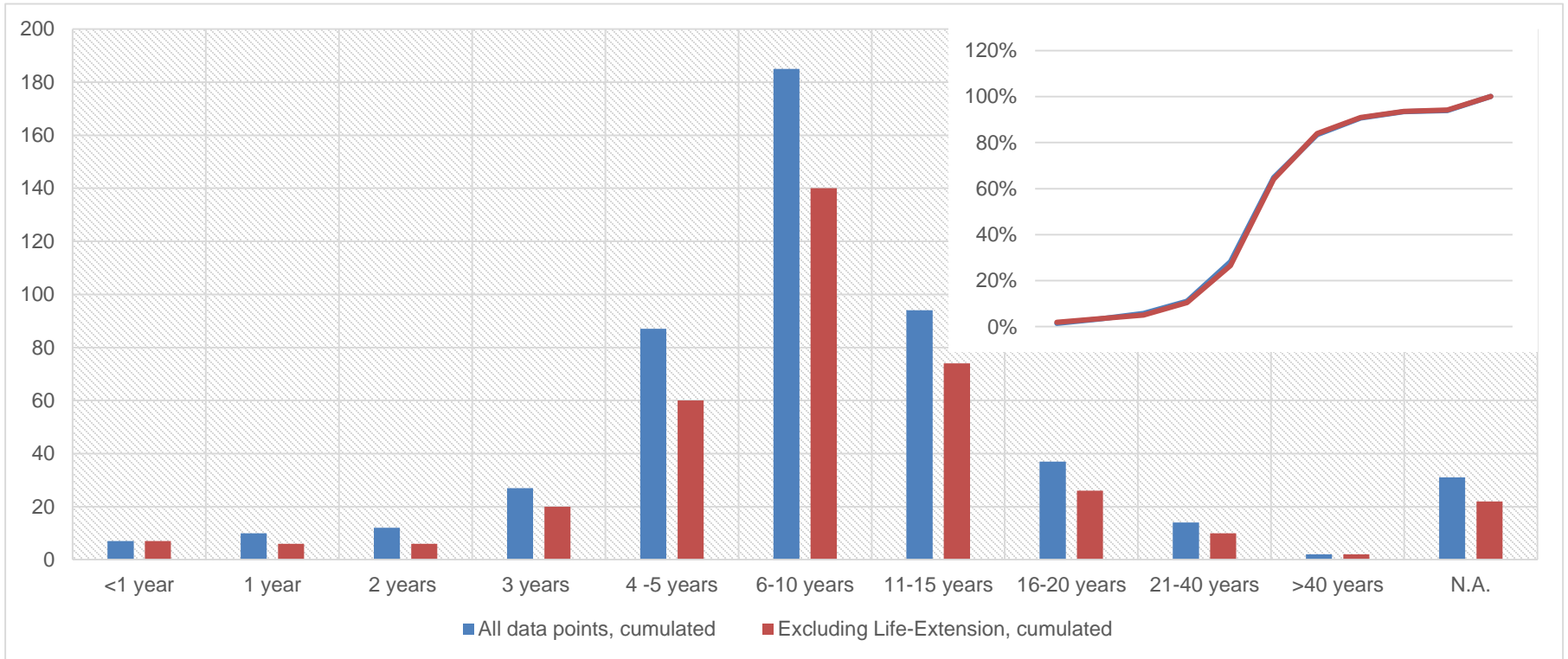
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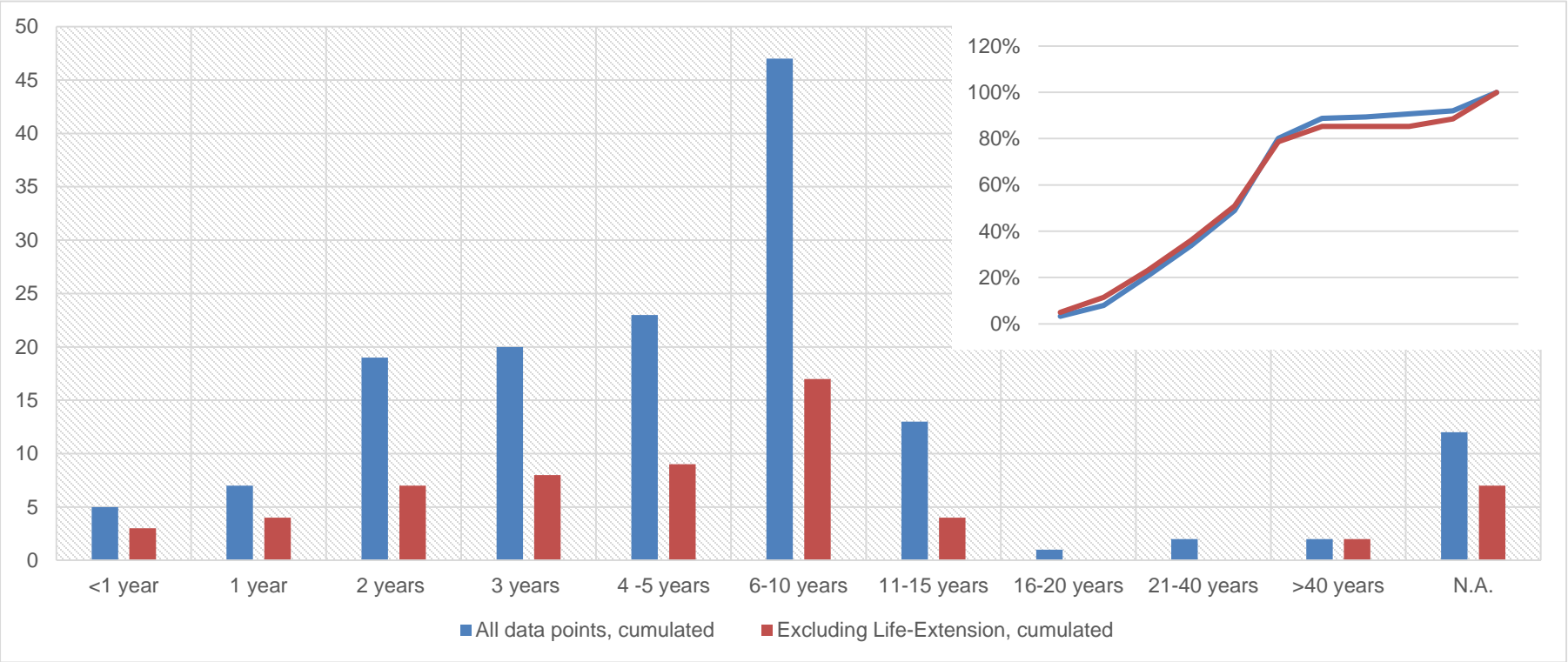
WEEE Generated & Collection targets



Distribution of Age of discard: example washing machines



Distribution of Age of discard: Flat screen TV

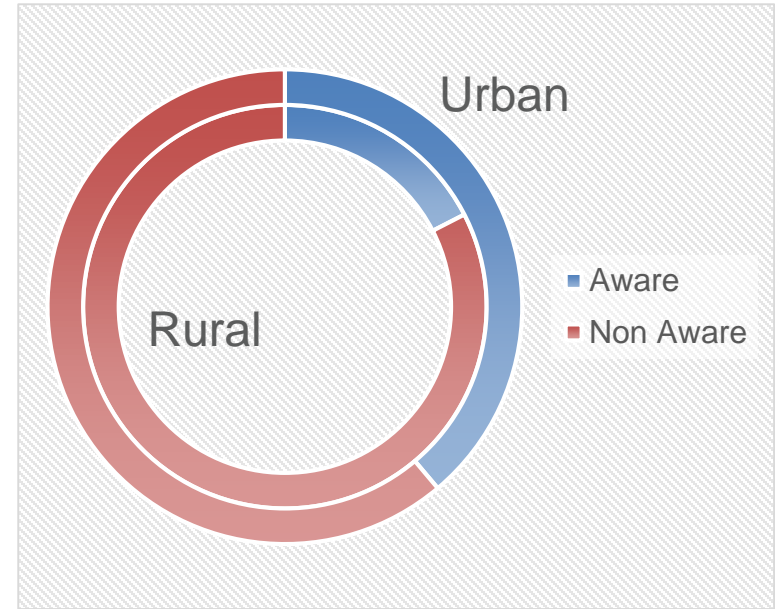


Problems in reachability of target

- Even when consumer report to discard WEEE via municipal collection points or retailers (correct, potentially) the waste **MIGHT NOT BE** reachable by Compliance Schemes
- Retailers might sell to scrap dealers, as well as municipalities
- Scavenging of products/components might still happen and waste being subtracted
- **The appliances donated/sold to relatives/friends or third party are not accounted**
- They are waste according to WFD definition, but not available for collection.
- Those flows are not influencing the lifespan distribution as the distribution of “age of appliances” is for all the appliances not changing.
- It’s not something related to the estimation of WG but more related to the accounting of the flows.
- **Availability of collection points where consumers can discard appliances and flows can be safely stored until pickup by Compliance Schemes is a major concern in Romania**

Reachability of the targets

- General awareness of consumers on the options to discard WEEE is limited (39% in urban areas and 17% in rural areas) declared to know about collection point established by local authorities
- Despite such figures (probably optimistic), not always those that indicated to know the existence of collection point discarded the products in the correct way
- Any awareness raising campaign makes only sense after the infrastructures for collection are further developed



Conclusions

- Current and future target are not possible to reach UNLESS we “discount” or deduct the share of products that are being re-used
- Even under such scenario, major improvements are still needed in order to:
 - Reduce the share of WEEE ending up in “bad-habit” routes (scrap collectors, waste bin, etc..) and not treated according to standards by qualified recyclers
 - Ensure waste potentially reachable by schemes are handed over to right operators and flows are accounted for
- The target (both expressed as %POM or %WG) is highly influenced by the accuracy of POM data: improvements in current but also past dataset is required
- Availability of collection infrastructure (first) and awareness raising (afterwards) are also key to foster collection possibilities
- Monitoring the changes in consumer behaviour and the discard (or reasons for storage) patterns is also crucial

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