



UNDERSTANDING ILLEGAL WASTE TRADE TODAY'S REALITY AND TOMORROW'S PERSPECTIVES



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An Estimation of the Extent of Illicit Waste Market and Trafficking in the European Union

Dr. Serena Favarin, Transcrime (WP3)

Importance of estimating the extent of illegal markets

- ▶ Identify areas at higher risk
- ▶ Decide where to allocate resources
- ▶ Orient crime prevention strategies
- ▶ Enhance enforcement capabilities



Existing estimates of the size and revenues of IWM and IWT

► DIRECT APPROACH

Based on data on illegal shipments (seizures), crime data

► INDIRECT APPROACH

Based on data on legal waste management operations



The methodology - Step 1 and 2

Legal waste
management
data

Difference between
waste generated and
waste recorded as
being legally treated



Waste disappearing
from the legal market

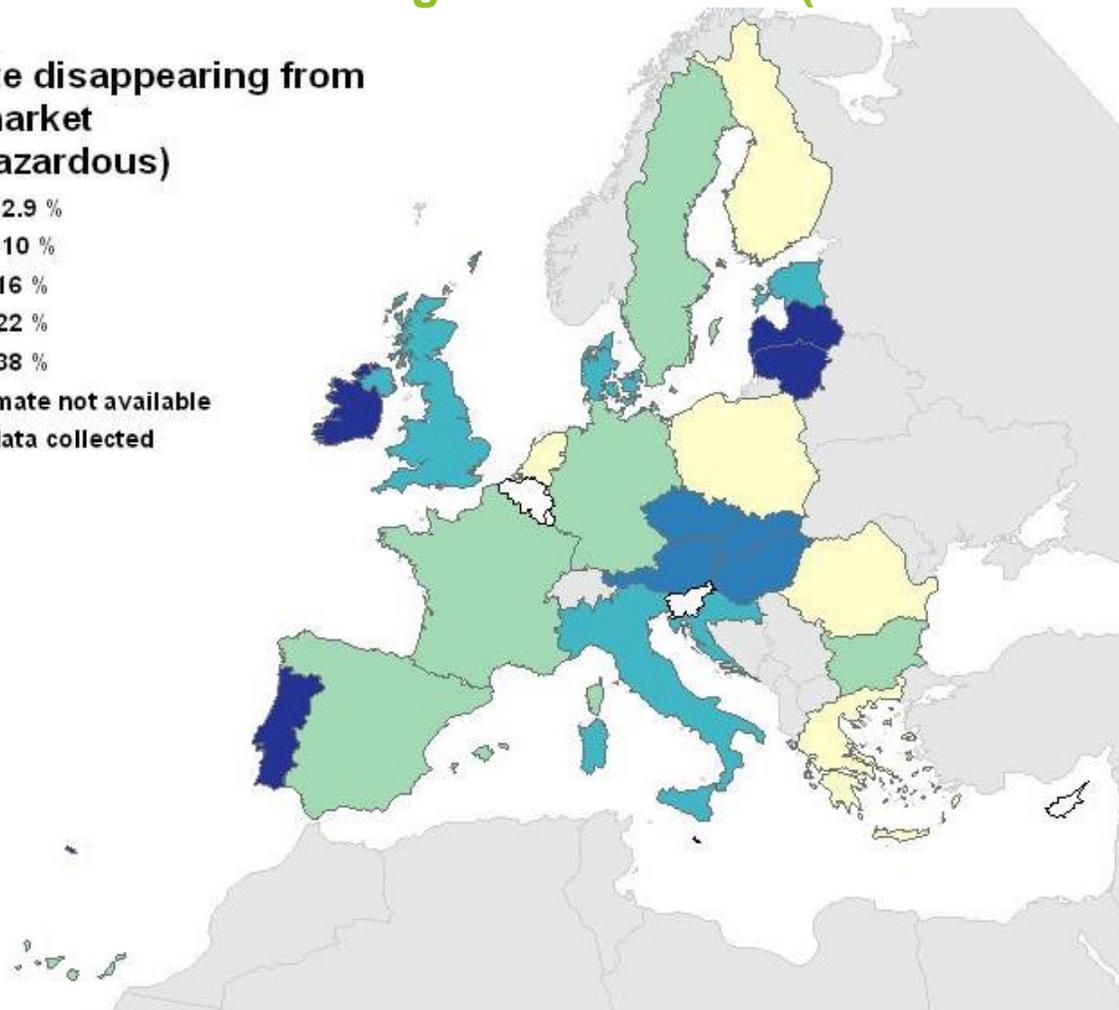
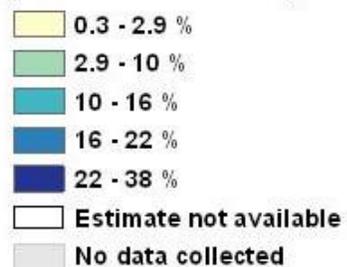
Adjustment
import/export

Phase 1 & 2

Results - Step 1 and 2

Share of generated non-hazardous waste disappearing from the legal market on the total generated waste (mean 2010-2014)

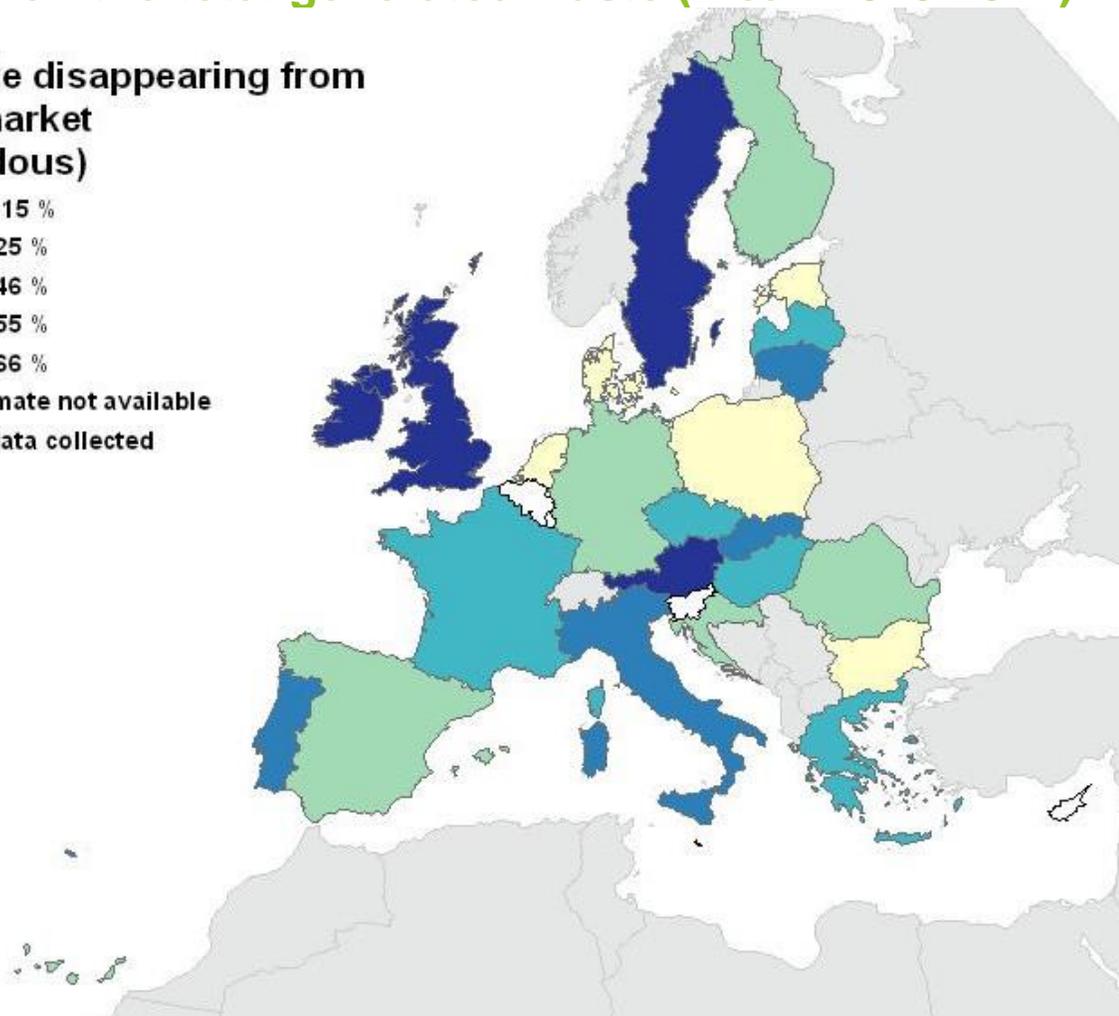
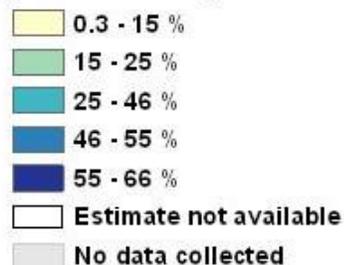
% waste disappearing from legal market (non-hazardous)



Results - Step 1 and 2

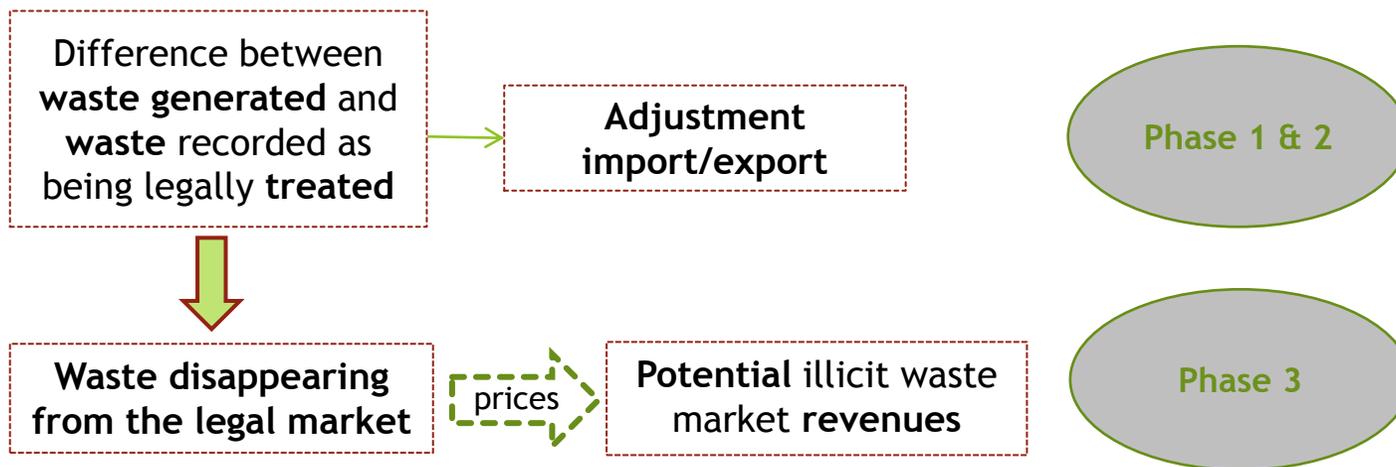
Share of generated hazardous waste disappearing from the legal market on the total generated waste (mean 2010-2014)

% waste disappearing from legal market (hazardous)



The methodology - Step 3

Legal waste management data

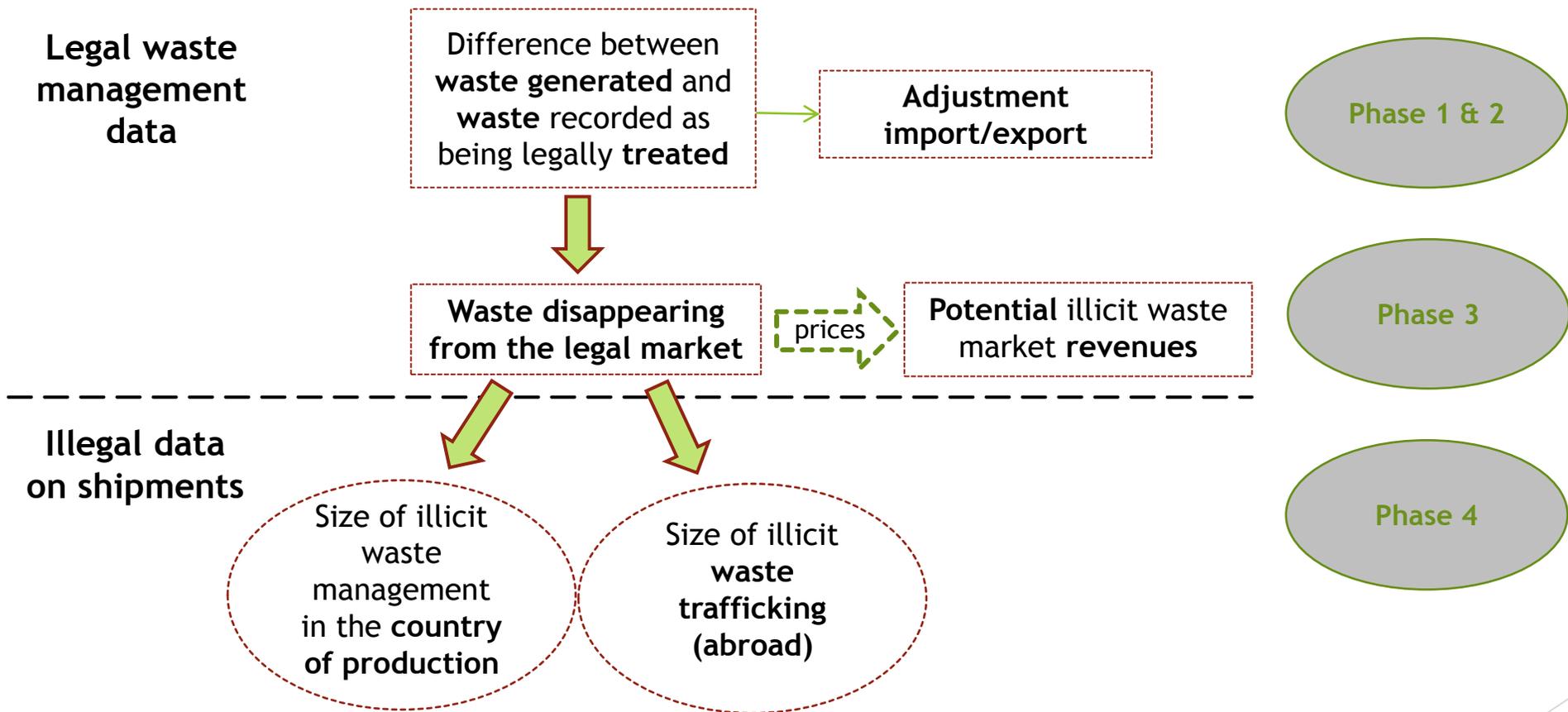


Results - Step 3

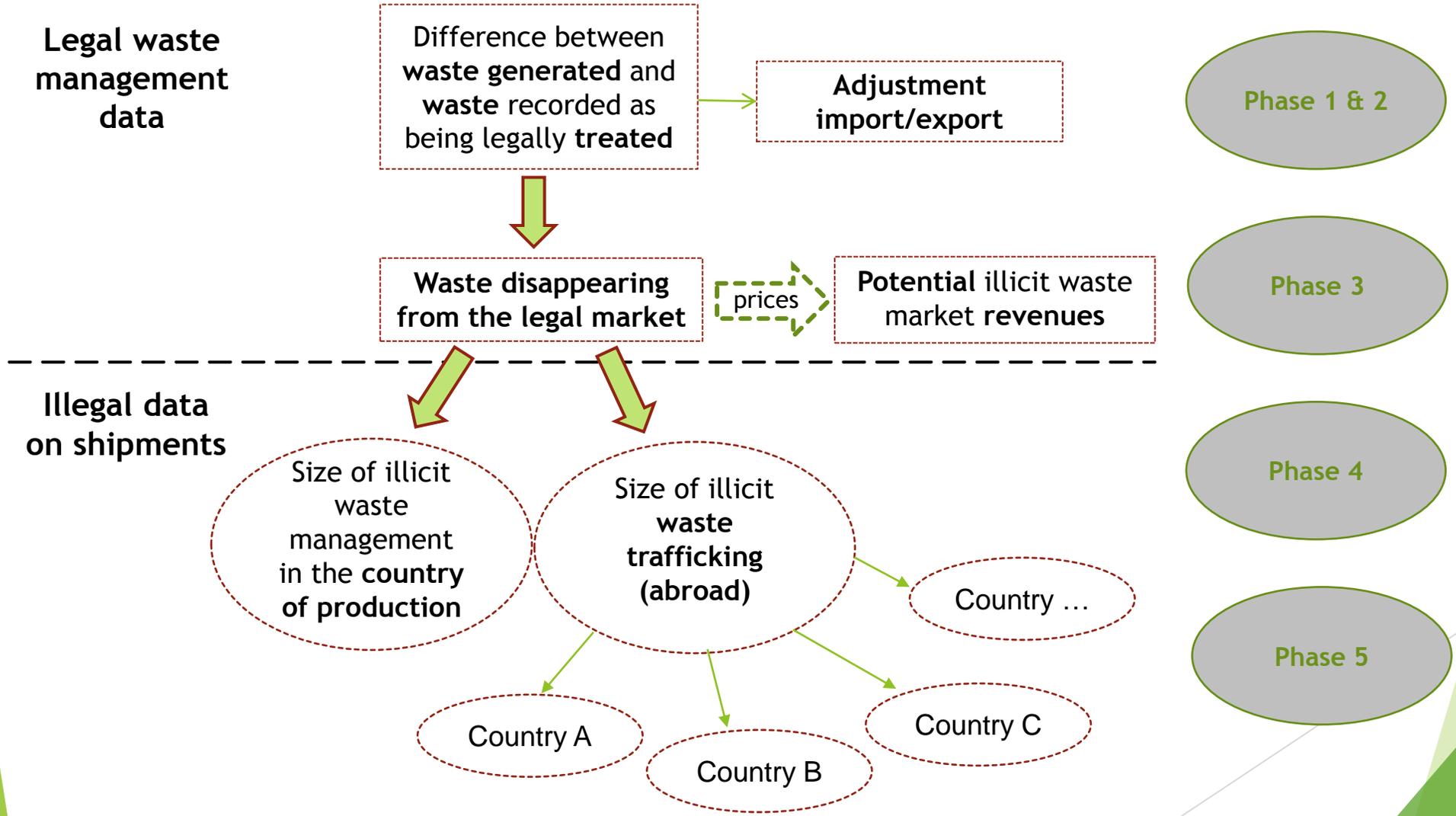
- ▶ Prices charged for the illegal management of waste
 - ▶ hazardous waste range between **€82 and €95** per tonne (mean value of €89)
 - ▶ non-hazardous waste range between **€9 and €70** per tonne (mean value of €40)
 - ▶ The magnitude of collected prices is in line with the one presented in Calderoni et al. (2014)
- ▶ Potential revenues
 - ▶ non-hazardous: €1.3 bn and €10.3 bn
 - ▶ hazardous: €1.5 bn and €1.8 bn

Further estimates on illegal prices are needed to redefine the minimum and maximum estimates

The methodology - Step 4

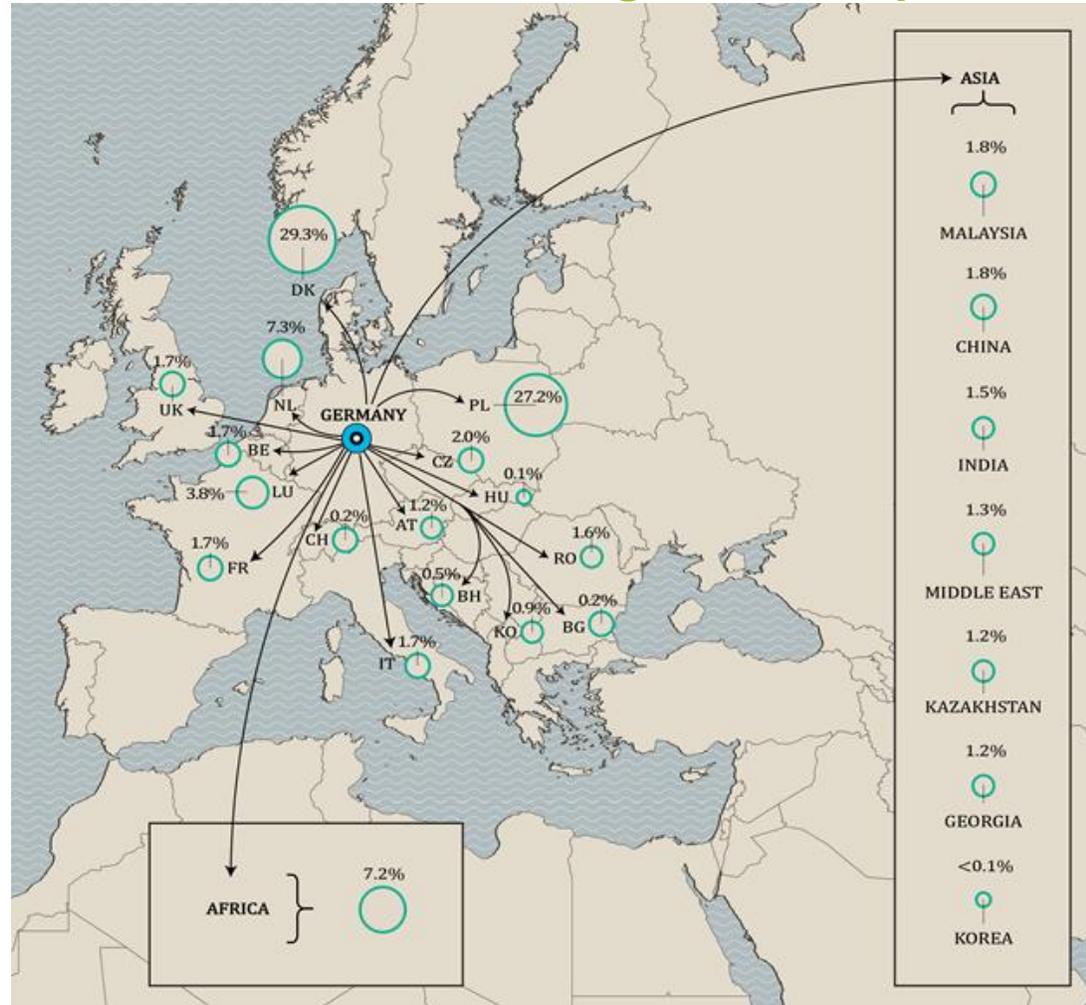


The methodology - Step 5



Results - Step 4 and 5 (Germany)

Destination of detected illegal waste exports leaving from Germany



Estimated quantity of waste illegally exported from Germany to the major trafficking destination countries

Destination countries	Potential size of illegal exports (tonnes)		
	Scenario 25%	Scenario 50%	Scenario 75%
Denmark	1,436,082	2,872,165	4,308,247
Poland	1,329,566	2,659,132	3,988,698
Netherlands (the)	359,839	719,678	1,079,517
Africa	350,427	700,855	1,051,282
Luxembourg	184,326	368,652	552,979
Other countries	1,237,138	2,474,277	3,711,415

Crime Script of Illegal Waste Trafficking

Dr. Terhi Kankaanranta, Police University College (WP1)

CRIME SCRIPT ANALYSIS

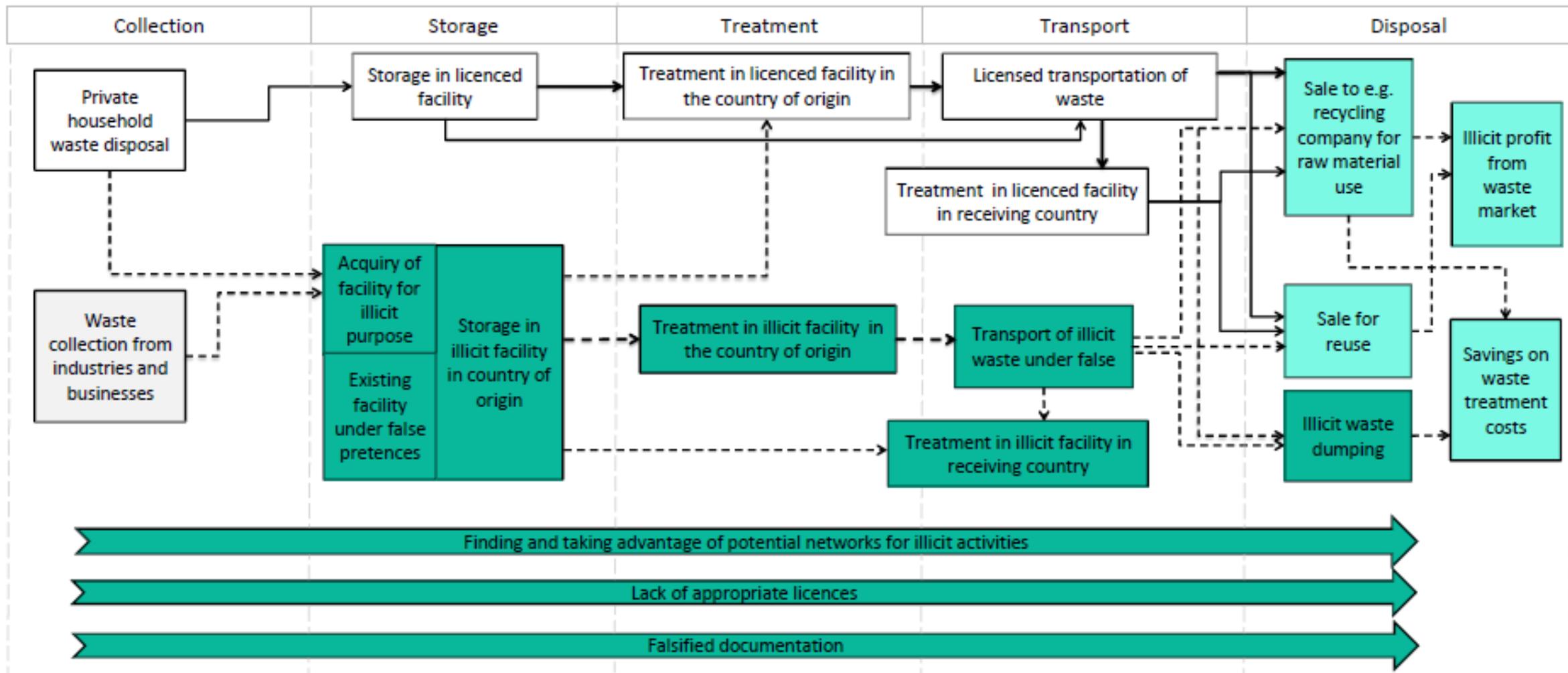
- ▶ Highlights the procedural aspects of crimes: actions before, during and after criminal acts
- ▶ A script is a sequence of events which is written down in a structured way: crime script illustrates the modus operandi
- ▶ When the different stages of events are described →
 - ▶ possible to pin down the points where an illicit form of action is chosen instead of the legal one
 - ▶ identify the enablers of illicit activities

Crime Script Analysis of Cross-border Illicit Waste Trafficking

- ▶ The goal in this analysis was to identify the best opportunities and concrete points of action for detecting criminal activities in waste trafficking
- ▶ Data: 13 judiciary cases of illicit trafficking of waste cross-borders (3 Finland, 5 Netherlands, 5 Italy)
- ▶ All the cases had a cross-border element such as corporations located in different countries or the illicit activities and transports took place in more than one country
- ▶ To get as extensive cases as possible, cases that included corporate actors were preferred to cases involving only a single actor

A consolidated crime script

- ▶ After analysing all cases, a consolidated crime script was created and situations where illicit activities may have been prevented or uncovered were identified
- ▶ Following acts were recognised: collection, storage, treatment, transport and disposal
- ▶ Acts included following phases:
 - ▶ preparation (opportunities for crime were identified)
 - ▶ pre-activity (steps needed to be carried out before the activity)
 - ▶ activity and
 - ▶ post-activity (steps needed when exiting from the illicit activity)



Darker coloured boxes refer to illicit activities; and lighter coloured boxes to activities which might be licit or illicit depending the e.g. following action. Dashed lines describe the illicit process. White boxes and solid lines refer to what would have been the licit activity.

Key findings

- ▶ In all the acts and scenes of the crime commission three characteristics were present:
 - ▶ taking advantage of illicit and licit networks in facilitating activities
 - ▶ falsified documentation
 - ▶ lack and misuse of appropriate licences

Leading actors

Networks of illicit actors are essential for success in illicit waste trafficking

- ▶ Two types of actors were identified:
- ▶ Leading actors:
 - ▶ main offenders or suspected offenders, who willingly participated and organized illicit waste trafficking together
 - ▶ in almost all the cases, the leading actors had previous knowledge of the waste markets and possible profits to be made with illicit waste activities
 - ▶ the leading actors often had knowledge of the existing legislation and regulation, which they intentionally violated

Supporting actors

- ▶ were in an important role in enabling illicit activities, but
- ▶ were not necessarily aware of the illegality of the activities, but were part of part of the crime commission either willingly or unwillingly
- ▶ for example, in one of the Italian cases the supporting actor was under the impression of giving away the e-waste to charity, while the main actors were willing to eliminate the firms' waste management costs with illicit waste trafficking



Falsified documentation. Lack and misuse of appropriate licences

- ▶ This was either intentional in order to avoid enforcement or due to the indifference of the legislation
- ▶ The existing licenses were misused in order to conceal the illicit activities and mislead authorities in the country of origin as well as in the receiving country



When interpreting the results

- ▶ With a small number of case studies, caution must be applied when interpreting the results, as the findings may not be transferable to all illicit waste trafficking cases
- ▶ In addition, the characteristics of the analysed offences in this study may be atypical and as such may not represent all illicit waste trafficking cases. Therefore generalizing these findings has limitations
- ▶ For more detailed crime script analysis, see Sahramäki, I., Favarin, S., Mehlbaum, S., Savona, E., Spapens, T. & Kankaanranta, T. (2017) Wasting opportunities – prevention of illicit waste trafficking cross-borders. European Journal of Policing Studies Online first EJPS (ISSN: 2034-760X)

Future Threats and Challenges

Dr. Leila Suvantola, Police University College (WP4)



Delphi Study - extraction of expert knowledge and intuition

- Panel: selected experts (police, customs, environmental protection, waste management industry, research, prosecutors) in 5 European geographical areas + international bodies + research
- 3 rounds, each with different focus; Questions based on literature review
 - 1) characteristics of IWT (connected crimes, modi operandi, actors, countries of destination, purpose of export) today and in the future (2030)
 - 2) impact of megatrends on IWT on the economic drivers of IWT and adequacy of the barriers of IWT
 - 3) the future prospects: threats and potentials, mapping the activities to the future (timing and priority by targeted actors)

27/11/2017

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Significance of the related crimes in 2017 and in 2030

—2017

—2030

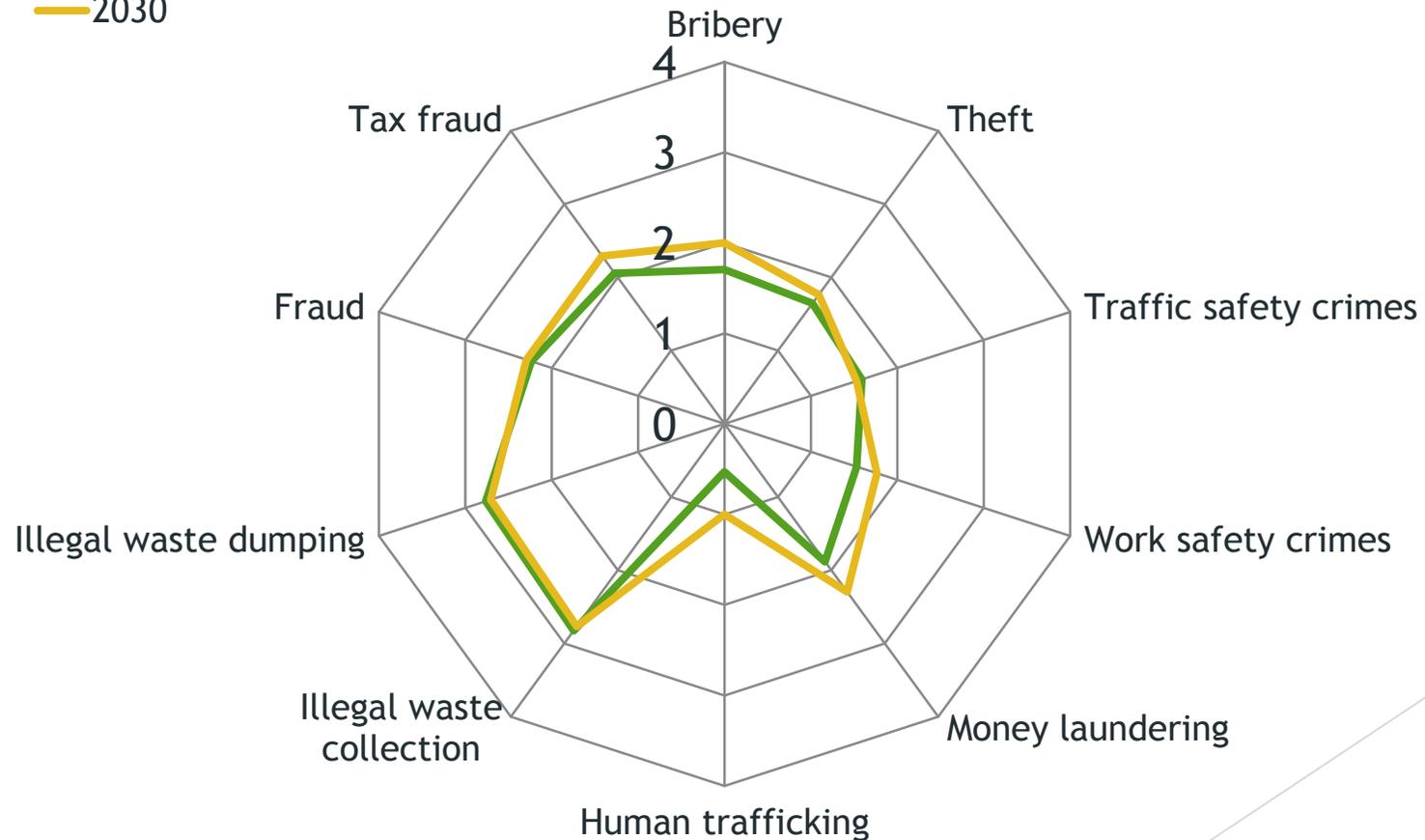
4 very important

3 important

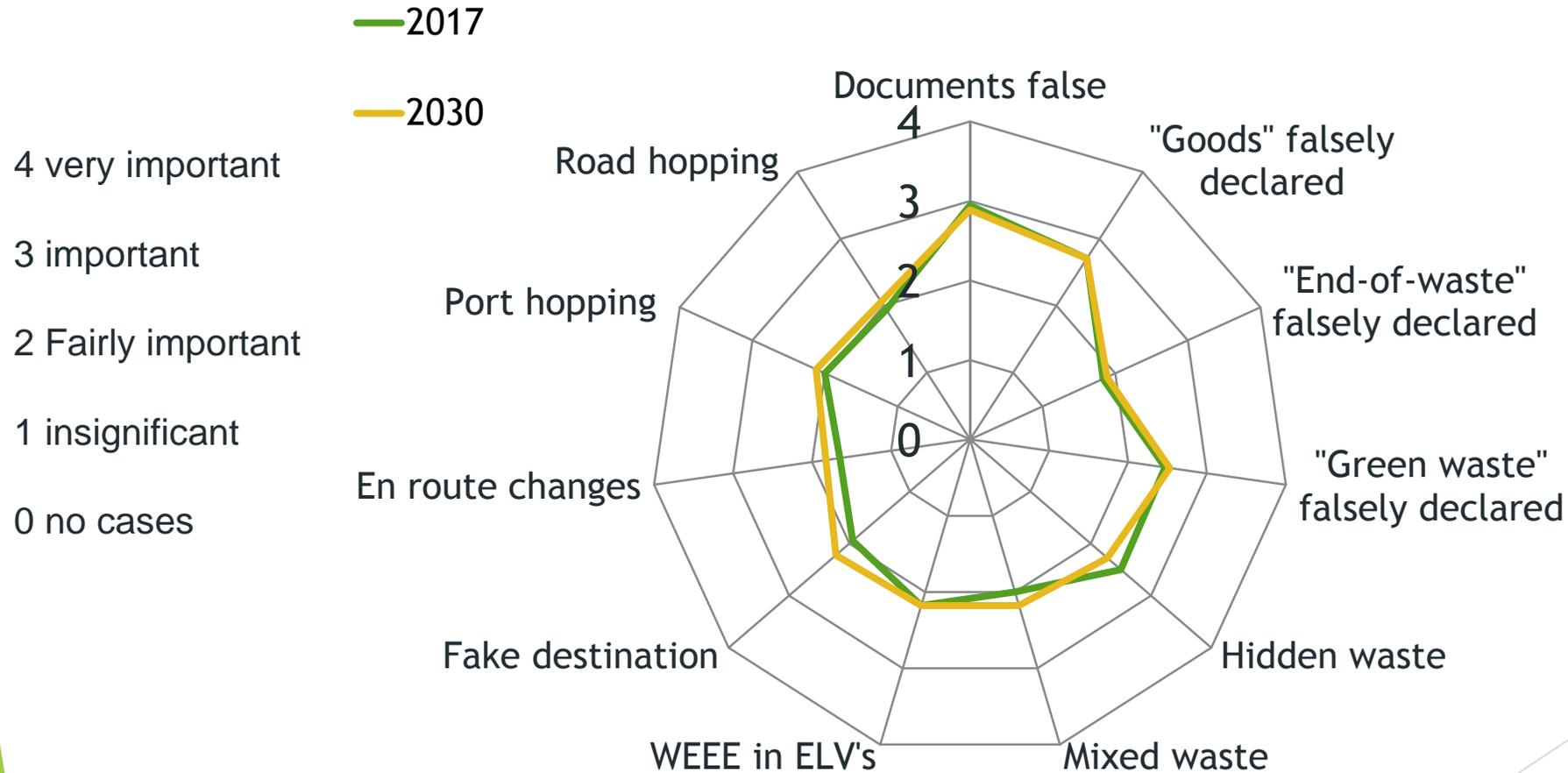
2 Fairly important

1 insignificant

0 no cases



Significance of modi operandi in 2017 and in 2030



Global Megatrends

1. Demographic: *population growth mainly in less developed countries, 2/3 urban, international migration;*
2. Water-energy-food-climate: *water demand +55%, energy demand + 37 %, climate change;*
3. Geo-economic - geopolitical landscape: *globalisation, China + India surpass G7/OECD GDP, global power shift to South and East, 155 M get mobiles / year*
4. Digitalisation; and
5. Wealth, health and knowledge: *middle class + 100 % with 2/3 in Asia, higher education + 100 %, today 43 % of world population online, 7.7 billion on broadband*

Panelists Views

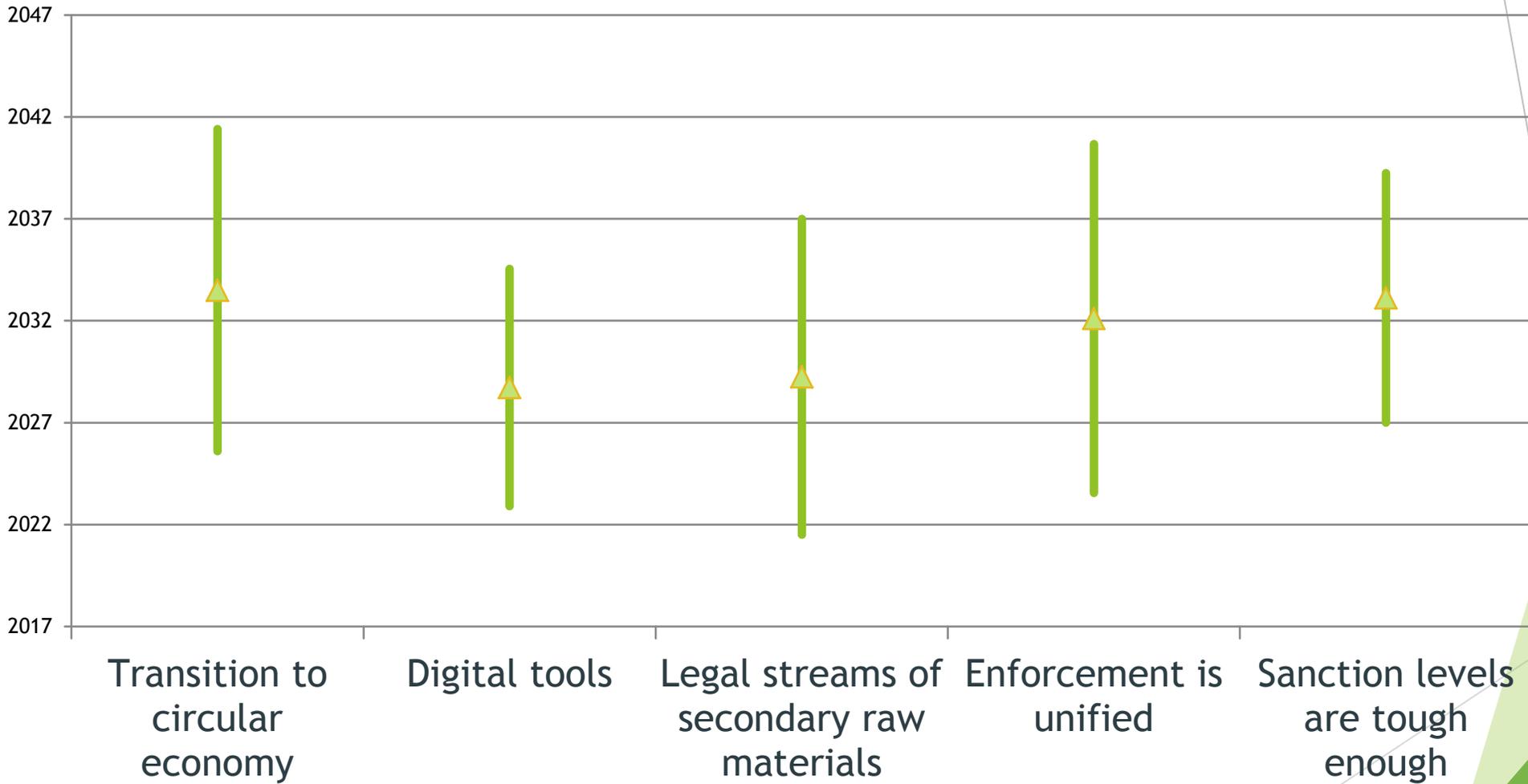
- All megatrends are significant to IWT, some even very significant, most important the Water-Energy-Food-Climate megatrend
- Increase of waste, especially WEEE: Abundance of marketable waste material for IWT
- No clear connection to the volume of hazardous waste
- Conflicting opinions, yet increase in the waste management costs (push factor for waste producer)
- Increase of the demand of secondary raw material (pull factor for trafficker)

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- •
- Second hand electronic equipment may lose attractiveness: the fear of “bridging the digital divide with creating a digital dump” may be outdated, BUT
- Increasing demand for new electronic equipment and economic activity in the developing countries
- Conflicting opinions about the impact on the profit potential of IWT, which seems to remain on current level (profitable)
- Increasing knowledge and the emergence of circular economy are expected to cause positive changes in behavior!

Desirable Changes in the Long Run



Threats 2025

- Hidden economy is expected to be a reality where a large share of the recyclable packing material shipped illegally to the East and illegal markets feeding into illegal waste stream
- The demand for income in developing countries will make it politically impossible to take strict measures to stop trafficking of reusable electronic waste
- The enforcement of EU waste transport regulation is expected to be incoherent in different member states and certain countries to become safe havens for trafficking
- The majority of the volume of illegal waste trafficking will be taken over by companies acting on behalf of organized crime groups

Prospects 2025

- ▶ Prevention and detection of IWT is believed to remain a policy priority in the Member States and not bypassed by e.g. human trafficking and counter terrorism
- ▶ Detection rates are expected to increase due to more effective use of limited resources and improved international co-operation
- ▶ There will be EU wide electronic, online database for access of information on waste transport permits holders and for following currently moving waste shipments

Main challenges and existing practices in countering waste crime in EUROPE

Renato Nitti, DOTCOMWaste, Prosecutor's Office in Bari

Main challenges and existing practices in countering waste crime in EUROPE

- ▶ **24 questionnaires from 12 member states**

Respondents:

- ▶ officers/inspectors from environmental agencies/inspection authorities
- ▶ police officers
- ▶ customs officers
- ▶ prosecutors, judges
- ▶ officers from the Ministry of Environment and
- ▶ representatives from the waste recycling industry

TOPICS COVERED:

SUBSTANTIAL: waste types, implementation of waste laws

PROCEDURAL: information & intelligence

inspection procedures, investigations

prosecution and sentencing

national and international cooperation

exchange of information, training needs

Challenges related to the implementation of waste legislation

Some reported legislations are complex
Interpretation of legislation is difficult

The difference
between waste and
non-waste is not
clear

The difference
between LEGAL
and ILLEGAL is not
clear

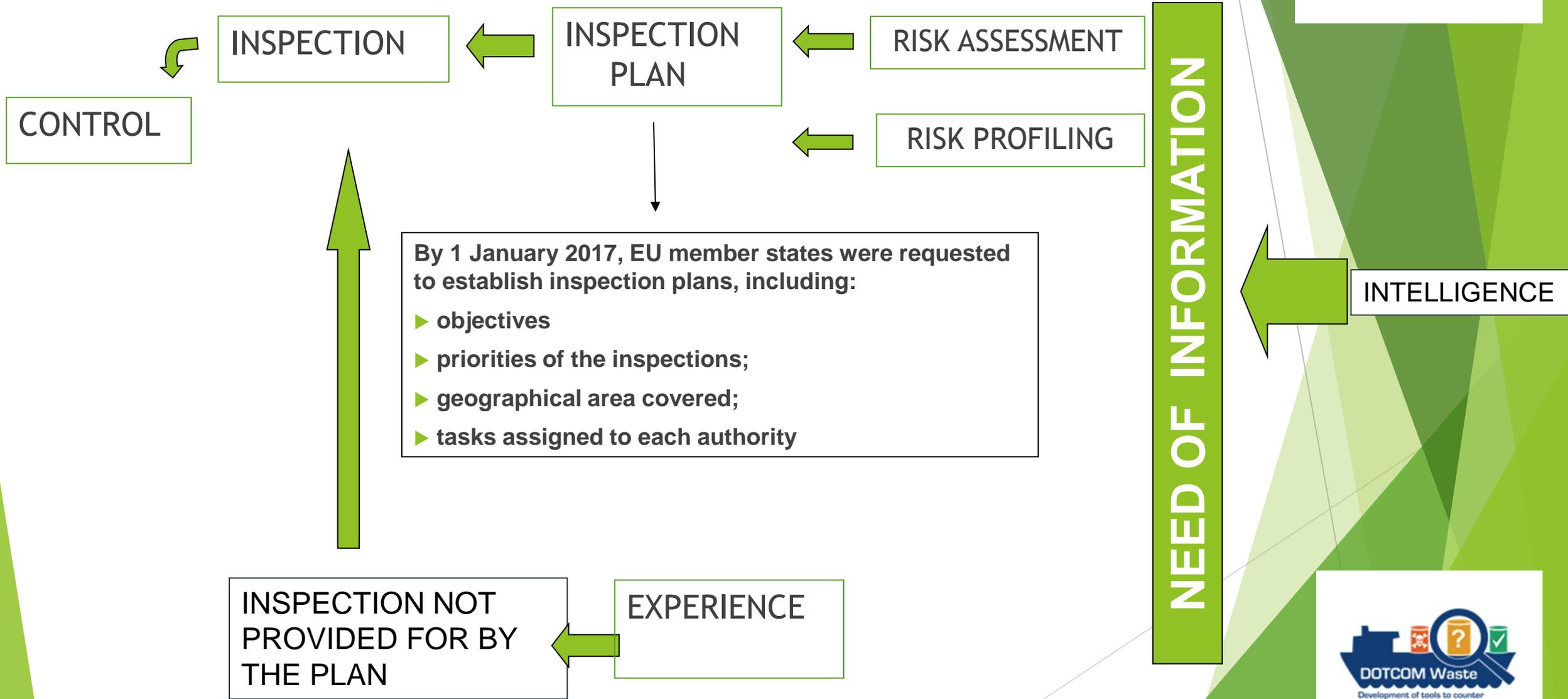


This is leading to
operational difficulties.



Difficulties with clarifying what
is waste and non waste to
exporters, who hardly accept
that law.

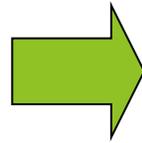
Challenges related to Information and Intelligence



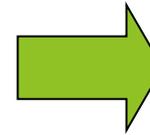
Challenges related to Information and Intelligence



Information on illegal shipments is reported not to be stored by the police or to be gathered by other agencies



More structured access to data related to waste handling is needed



It is important to have a two-way flow:

- ▶ from officers bringing information in,
- ▶ and from analysts providing a tangible output



Challenges related to Investigations



▶ Use of MAIN INVESTIGATIVE TECHNIQUES:

- ▶ interrogation of witnesses/suspected persons, observation,
- ▶ samples of waste and analysis by lab,
- ▶ wiretaps and audio-video interceptions, GPS tracking devices on trucks and containers etc.

▶ strengthen the UPSTREAM INVESTIGATION, including investigating the waste cycle, the origin, transport and destination

▶ Give Importance to FINANCIAL INVESTIGATIONS: following the money trail and identifying the proceeds of crime

highly trained officers with a police background, public prosecutors and judges



Challenges related to prosecution and sentencing

► PROSECUTION

Need to exchange practices among prosecutors → possibility to use guidelines that have been successful in some countries

INTERNATIONAL COOPERATION

SANCTION

- The reported sanctions range from small fines up to imprisonment of two years -is this effective and proportionate as requested by EC legislation?

CLEANING

- An option is to require the authorities to clean a waste site, while imposing the owner to support the costs of cleaning

CONFISCATION

- Illegal profits/proceeds of crime can be confiscated

► SENTENCING

Enforcement Challenges in Countering Illegal Waste Trade in China and Africa

Henry A. Okine, DOTCOMWaste

Trainings

- **Most** enforcement officers have **no specific training** on countering waste crime.

National Legislation

- **Generally absent or weakly enforced** in most West African (W/A) countries.
 - *Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) - Ghana.*
 - National Environment (Electrical Electronic Sector) Regulations, 2011 - **Nigeria.**
 - Law on the Prevention and Control of Environmental Pollution by Solid Waste - **China.**
- **Lack of guidelines** directing customs officers on waste inspection, investigation, prosecution and sentencing in China.

Information and Intelligence

- **Generally weak/no intelligence capability/system** in place in W/A countries.
- **No statistical information** on waste crime cases in W/A.
- **Several risk assessment tools** implemented in **China**.

National and Regional Cooperation

- **Fairly good inter-agency cooperation** in Ghana, Nigeria, and China though the degree of cooperation varies.
- **Regional cooperation is lacking**

International Cooperation

- **Very weak cooperation** on waste crime amongst West African countries.
- Mostly **facilitated by international networks** such as INTERPOL.
- **Bilateral cooperation exists** between some countries - **China-Japan; EU-China**.

Exchange of Information

- **No networks and bilateral/multilateral information exchange mechanisms** on waste crimes among West African countries.
- **The need to improve information exchange** in China and W/A countries.

Waste Types

- **Mostly Waste Electrical and Electronic Equipment (WEEE).**
- Others are EoL vehicles, used tyres, lead acid batteries, scrap metals, waste plastic bags, waste papers, worn-out clothes, cans and shoes.

Inspection Procedures

- Bureaucratic procedures, time, cost and resource constraints.
- Difficulties in waste identification by Customs officers.
- Lack of safety consciousness.
- Difficulties with re-exporting waste back to countries of origin.

Investigations

- Technical skills are grossly inadequate.

Prosecution and Sentencing

- Often hampered by **ambiguous or lack of appropriate national legislations**.
- Evidence collection is **complicated**.
- Sample handling often **inappropriate for evidence purpose**.
- Judicial officers **lack special knowledge** required for processing waste crime.
- **Few cases prosecuted**, perpetually remain in court. **Hardly** any sentencing in West African countries.
- **The need to improve Information exchange** in China and WA countries.