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Commercial Waste Market in Sweden

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Dumping the Rules: Governance Failures in the Commercial Waste Market in Sweden

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Abstract

Illegal waste management has become a serious and growing problem in Sweden, imposing substantial environmental and economic costs. The Think Pink scandal, involving the illegal dumping of around 200,000 tonnes of waste in 15 municipalities, illustrates both the scale and the systemic nature of this problem. This paper examines how governance failures enable non-compliance in Sweden's commercial waste market. Drawing on market governance theory and Howlett and Ramesh's (2014) distinction between design mismatches and capacity deficits, it argues that both are present and mutually reinforcing. Waste management services share key characteristics with credence goods, generating information asymmetries. Combined with negative externalities and weak enforcement, these conditions create incentives for non-compliance. The analysis is based on semi-structured interviews with regulatory and enforcement officials. It shows that high compliance costs, both economic and organizational, imposed by the regulatory framework, generate demand for non-compliant services, while inconsistent sanctioning and fragmented oversight facilitate their supply. The paper concludes that illegal and non-compliant practices in waste management reflect systemic vulnerabilities in market governance rather than isolated enforcement failures.

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Introduction

Market governance (Howlett & Ramesh 2014) is a complex and distinctive form of governance at the intersection of public administration, economics and law. Unlike traditional command-and-control forms of regulation – where governments directly mandate behavior and enforce compliance – market governance operates through indirect, incentive-based, and informational mechanisms. Market-based instruments shape behavior by altering the costs and benefits associated with different activities, for example through taxes, sanctions, subsidies, or tradable permit schemes (Meckling & Jenner 2016). Complementing these, information-based instruments aim to steer behavior by increasing transparency and enabling firms and individuals to make more informed choices (Hobman & Ashworth 2013).

This governance approach is characterized by arm's-length, relatively passive forms of steering. While state intervention is typically limited and episodic, the state must act decisively when market distortions, environmental harm, or illicit activities arise. This combination of indirect, continuous steering and punctuated, forceful intervention creates a distinct set of governance challenges that remain insufficiently theorized and empirically understood.

Waste markets constitute a case where these challenges are particularly pronounced. Market imperfections – such as information asymmetries and negative externalities – commonly result in governance failures, including environmental crime, thereby necessitating extensive regulation and oversight. A salient example is “negative-value waste”, which offers little or no recycling potential while imposing substantial handling and disposal costs. Such conditions create strong incentives for non-compliance (Baird et al. 2014; Szasz 1986): rather than adhere to complex and costly regulatory requirements, some actors resort to illegal practices such as dumping or concealment (e.g. Polismyndigheten 2017). These activities impose significant environmental and financial costs and undermine fair competition by disadvantaging compliant firms. The persistence of these dynamics helps to explain why waste markets have long been associated with organized criminal activity (e.g. D'Amato et al. 2015; Davidsson 2026).

This paper contributes to understanding the governance of waste markets and the risks and challenges it entails. Focusing on the commercial waste market in Sweden, we examine how the interaction of market failures, regulatory design, and enforcement capacity generates systematic vulnerabilities in market governance. We show that illegal waste handling emerges as a consequence of these vulnerabilities, rather than as a series of discrete incidents. By developing this argument, the paper advances broader debates on the limits of market governance and provides a fine-grained account of the regulatory and enforcement challenges associated with waste markets.

Sweden provides a particularly informative case, reflecting a broader trend observed across many countries over recent decades: the transition from municipally controlled systems to increasingly market-oriented waste management. Following substantial marketization reforms during the 1990s and 2000s, Sweden offers insights into the long-term governance consequences of such transitions, which are directly relevant for countries currently pursuing similar reforms.

This paper investigates the drivers of governance failure in the context of illegal commercial waste management in Sweden, focusing on how shortcomings in both regulatory design and enforcement sustain non-compliance. Accordingly, we address the following research question:

How do governance failures, in terms of both regulatory design and enforcement capacity, contribute to the persistence of illegal waste handling?

Theoretically, the paper adopts a market governance perspective (Howlett & Ramesh 2014), conceptualizing illegal waste handling as a consequence of misaligned incentives and weak oversight in a marketized regulatory environment. While existing research has examined waste crime from

criminological, governance, and economic perspectives separately, these strands have largely evolved in isolation. This study brings these literatures together to show how market characteristics and regulatory arrangements interact to produce governance failures. Empirically, the analysis draws on interviews with enforcement officials to trace how these theoretical vulnerabilities manifest in practice.

Theoretical Framework and Previous Research

Market Governance: Capacities and Design Challenges

Markets do not operate autonomously; they are embedded in institutional contexts and require governance to align market outcomes with broader societal objectives (Levi-Faur 2005). Public authorities shape market behavior by designing rules, monitoring compliance, and intervening when markets fail. These tasks are particularly demanding in contexts where market incentives misalign with policy objectives, requiring governance arrangements that can compensate for structural market imperfections (Baldwin et al. 2012).

Market governance constitutes a distinct type of governance where the state exercises limited direct control and instead steers indirectly through the design of institutions and incentive structures. As Howlett & Ramesh (2014) argue, this approach requires high policy analytical capacity: regulators must anticipate both the sources of market failure and the potential outcomes of interventions (see also Rayner et al. 2013).

A prior and often underexamined question, however, concerns whether market governance is an appropriate mode of intervention in the first place. Following Howlett & Ramesh (2014), governance systems can fail in two analytically distinct ways: through *design mismatches* and *capacity deficits*. Design mismatches arise when policy tools or institutional arrangements are ill-suited to the underlying problem — for example, when market-based approaches are applied in contexts characterized by structural inefficiencies such as information asymmetries or weak competition. In such cases, even well-executed policies may fail to achieve their objectives. By contrast, capacity deficits occur when governance institutions lack the analytical, managerial, or political capacity required to implement otherwise appropriate policy designs effectively.

While the distinction is conceptually clear, design mismatch and capacity deficit are often conflated in practice. Governance failures are often attributed to inadequate implementation, without questioning whether the underlying governance model is appropriate. Ideological preferences for particular governance approaches, combined with institutional path dependencies that favor familiar solutions, can foreclose consideration of alternative designs and obscure whether failure stems from flawed design or insufficient capacity.

Credence Goods and the Governance Challenge of Marketized Waste

Waste collection and disposal have been increasingly marketized across a wide range of countries (Baird et al. 2014). In these systems, private firms compete to provide disposal services to waste producers. While certain waste streams may generate value when properly sorted and recycled, waste is typically a cost for producers, who have limited interest in the quality of downstream processing. As a result, competition in waste markets tends to be price-driven rather than quality-driven.

At the same time, these markets are characterized by highly complex organizational structures, involving multiple actors – including waste producers, management companies, transporters, treatment facilities, and brokers – linked through extended and often opaque value chains (Baird et al. 2014, p. 99). This fragmentation complicates both coordination and oversight.

Waste markets pose particularly severe governance challenges because waste services constitute an extreme form of “credence goods”: services whose quality cannot be readily assessed by buyers, even

after consumption (Darby & Karni 1973; see also Akerlof 1970). Unlike more typical credence goods, such as medical treatment or car repairs – where outcomes provide at least some feedback – waste producers have no meaningful way to verify whether disposal has been conducted properly once waste leaves their control. This means that verifying disposal quality would require active ex post monitoring by waste producers, a costly undertaking. Yet waste producers have little incentive to bear these costs: since the consequences of improper disposal are largely externalized, they derive no direct benefit from ensuring compliance, generating a classic moral hazard problem.

This credence goods problem is compounded by two reinforcing market failures. First, negative externalities mean that improper disposal imposes diffuse costs on society rather than on the producer or service provider who cuts corners (Baumol & Oates 1988). The resulting harms are often delayed and dispersed, complicating detection and enforcement (Baird et al. 2014; Comte 2006; Friedrichs 2004). Second, these conditions generate adverse selection, as firms engaging in illegal practices may obtain cost advantages over compliant competitors, thereby distorting competition (Baird et al. 2014).

Together, these features create strong incentives for non-compliance. Disposal operators face economic pressures to reduce costs through illegal practices, while buyers lack both the information and incentives to verify that waste is handled legally and safely. These conditions increase the risk of environmental crime: acts that harm ecological systems in pursuit of economic gain (Clifford & Edwards 1998, p. 26).

Unlike many other markets, waste markets cannot rely on consumers to monitor quality. Instead, they require extensive public oversight to address information asymmetries and distorted incentives (Baldwin et al. 2012). Effective governance depends on monitoring, coordination, and enforcement, all of which are costly and demanding. Environmental crime is also often hidden and difficult to detect (Sahramäki et al. 2015). Together, these factors make waste markets particularly challenging to govern.

Governing Waste Markets: Institutional Responses and Persistent Vulnerabilities

Waste markets are difficult to govern because disposal services are credence goods and generate negative externalities. Governments have responded with a range of institutional arrangements. At the international level, frameworks such as the Basel Convention regulate transboundary waste flows (Hossain et al. 2025), while domestic authorities rely on licensing regimes, technical standards, and economic instruments to shape market behavior.

Many regulatory systems place responsibility on waste producers through a duty-of-care framework, holding them responsible for ensuring proper downstream handling (Baird et al. 2014). This approach faces two problems. First, the low probability of detection means that the expected cost of non-compliance remains limited even when sanctions are formally severe. Second, producers face a fundamental verification problem: once waste leaves their control, there is no straightforward mechanism by which they can confirm legal compliance, making meaningful oversight costly and difficult even for producers who wish to comply (Baird et al. 2014). The result is a misalignment between regulatory design and underlying incentive structures.

More broadly, waste markets are prone to systematic governance failure (Howlett & Ramesh 2014; Howlett 2009). Norgaard & Liu (2007) argue that markets characterized by significant externalities tend to generate governance deficits because the costs of regulation are underestimated or ignored at the design stage. Markets are often created before authorities have the capacity to regulate them effectively, resulting in institutional arrangements that are poorly matched to the problems they are intended to address.

Even where regulatory designs are appropriate, enforcement capacity is frequently insufficient. Research consistently points to gaps in monitoring, coordination, and enforcement. For instance, implementation of the Basel Convention is uneven, with widespread enforcement deficits across

signatory countries (Hossain et al. 2025). Studies from Finland and Japan show that weak enforcement, limited coordination among authorities, and high compliance costs facilitate illegal dumping (Sahramäki & Kankaanranta 2017; Matsumoto & Takeuchi 2011). In some cases, community monitoring can partly compensate for weak enforcement (Matsumoto & Takeuchi 2011), but such arrangements are difficult to scale and therefore unlikely to provide a general solution.

Inadequate enforcement capacity has consequences for market behavior. When the expected costs of non-compliance are low relative to the potential gains, incentives for illegal disposal increase. The cost difference between legal and illegal disposal has been estimated at 200–300% (Baird et al. 2014, pp. 98-99). This gives waste producers strong incentives to engage in illegal practices. Furthermore, as producers seek the lowest price, this creates the opportunity for non-compliant waste handlers to undercut compliant firms, undermining fair competition (Baird et al. 2014). Moreover, extensive regulation without sufficient enforcement capacity may exacerbate these dynamics by increasing compliance costs and thereby widening the gap between legal and illegal options (Szasz 1986; Baird et al. 2014) and ultimately incentivizing regulatory evasion (Troisi et al. 2024).

Market regulation can also have unintended effects when enforcement is weak. D'Amato et al. (2015) show that the introduction of full-cost pricing for household waste disposal in Italy increased recycling rates but also led to higher levels of illegal dumping as legal disposal became more expensive. The study further highlights the adaptability of illicit actors: organized crime groups responded to increased enforcement by lowering prices for illegal disposal, thereby maintaining demand. These findings illustrate a central challenge of market governance: pricing mechanisms can influence behavior, but without effective enforcement, they may also encourage illegal alternatives.

Despite a growing body of research, scholarship on waste governance remains divided across criminology, management, and economics. These perspectives largely operate in isolation, obscuring how the interaction between market structure, regulatory design, and enforcement capacity jointly shapes outcomes. This paper adopts a governance perspective that links market characteristics, incentive structures and regulatory design. It further conceptualizes environmental crime as a problem at the intersection of distorted market incentives and persistent governance failures.

Commercial Waste in Sweden

Description of the Market

The Swedish market for commercial waste constitutes a service sector that encompasses the collection, sorting, and transportation of waste generated by business activities. Following the gradual dismantling of the municipal monopoly during the 1990s and 2000s, a sophisticated and competitive market has emerged in which private waste management companies offer comprehensive waste-handling solutions to enterprises seeking to manage their waste efficiently and in line with environmental regulations.

Companies operating in this market function as intermediaries, contracted by waste-producing firms to ensure that a complex mix of waste streams is properly sorted, categorized, and transported to appropriate recycling facilities. These facilities are predominantly managed by municipally owned companies, which process waste in exchange for fees, in accordance with the polluter-pays principle. Consequently, the market logic implies that waste-generating firms compensate waste management firms not only for sorting and logistical services, but also, indirectly, for treatment fees charged by the treatment facilities.

The Swedish Environmental Code provides the legal definition of waste as “any substance or object which the holder discards, intends to discard, or is required to discard” (SFS 1998:808). Waste is classified as either municipal or commercial. The Environmental Code defines municipal waste as

waste from households and waste from other sources that is similar in nature and composition to household waste, explicitly excluding waste from manufacturing, agriculture and forestry, fishing, septic tanks and sewage treatment, construction and demolition waste, and end of life vehicles (Chapter 15, Section 5(18)). Municipalities are responsible for the collection and treatment of this household waste category (Chapter 15, Section 12), and are obligated to arrange its transport from the property where it is generated (Chapter 15, Section 13). By contrast, the concept of commercial waste lacks a formal legal definition. Avfall Sverige (2023), an association of municipalities, their waste management companies, as well as the private waste management sector, defines commercial waste as waste generated through business processes, noting that such waste may include both municipal-like waste and other distinct waste types.

Several features of the Swedish market for commercial waste give rise to regulatory challenges. First, improper waste management generates negative externalities in the form of environmental degradation and health risks to humans and wildlife. These costs are borne by society at large rather than by waste-generating or intermediary firms. In cases of illegal disposals, municipalities and taxpayers often bear substantial remediation costs. For instance, by the end of 2024, Botkyrka Municipality had incurred SEK 91 million in cleanup costs related to illegal dumping by Think Pink and had allocated an additional sum of SEK 185 million for future remediation, together amounting to approximately 4% of the municipality's annual revenues (Botkyrka kommun 2025).

Another challenge concerns information asymmetry. Waste disposal typically occurs off-site and after transactions have been completed, limiting the ability of buyers to verify whether services are performed in accordance with legal and environmental standards. In line with Akerlof (1970), such information problems can give rise to adverse selection and moral hazard. Intermediary firms may have incentives to cut costs through non-compliance or illegal practices while shifting the associated risks and costs onto third parties. At the same time, waste producers have incentives to hire intermediaries at the lowest possible cost and limited incentives to undertake costly screening processes, as they do not fully internalize the risk of environmental damage.

The market for commercial waste is characterized by the presence of information asymmetry, moral hazard and cost externalization, which together shape the incentives of both waste-generating and intermediary service providers. According to a standard economic account, such conditions are likely to generate persistent inefficiencies, as quality is difficult to verify, cost-cutting behavior is rewarded, and significant costs are externalized onto society. As a result, market outcomes may deviate systematically from socially optimal levels of environmental protection and legal compliance.

In light of these characteristics, it is unlikely that the market can, “on its own”, ensure efficient or socially desirable outcomes. This creates a need for institutional arrangements — including regulation, monitoring, and enforcement — to mitigate incentive problems and align private behavior with public objectives. The extent to which such governance mechanisms are effective in the Swedish context is examined in the following section.

Historical Development of the Swedish Market for Commercial Waste

Swedish municipalities have traditionally exercised substantial control over the waste management sector, including the commercial waste market. While private actors have long been active in waste collection and treatment, municipal monopolies often excluded or severely restricted their participation. Legislative reforms in the late twentieth century, and particularly in the 2000s, gradually weakened this municipal dominance and opened new opportunities for private involvement.

Since the 1990s, Sweden’s waste management has shifted toward a more market-based model, with a steady reduction in municipal involvement and an expansion of producer responsibility. A first major shift occurred in 1993-1994 with the introduction of the first producer responsibility under the Sanitation Act (SFS 1994:1235; SFS 1993:1154). This reform transferred both the physical and

financial responsibility for the collection and treatment of end-of-life products to producers and was subsequently extended to include packaging, tires, vehicles, and electronic products.

The Environmental Code (*Miljöbalken* 1998:808) came into force on 1 January 1999, replacing the Refuse Collection Act (*Renhållningslagen* 1979:596) and several other environmental laws. It established a comprehensive framework for environmental governance, including waste regulation, and clarified the division of responsibilities among municipalities, producers, and private individuals. Under the Code, municipalities retained responsibility for the collection and treatment of household waste not covered by producer responsibility schemes. Furthermore, from 1 January 2000, responsibility for non-hazardous industrial and commercial waste outside such schemes was assigned to the waste producers themselves.

In 2004, a report by the Swedish Environmental Protection Agency found that municipalities and municipally owned enterprises continued to retain substantial market power (Naturvårdsverket 2004). The report argued for further liberalization to ensure that privately owned companies could compete on equal terms with municipal operators. At the same time, it concluded that the existing regulatory framework was sufficient to ensure the proper management of hazardous waste flows, emphasizing the need for improved enforcement rather than changes to the underlying market design. Following these recommendations, the government prohibited municipalities from extending their monopoly to hazardous waste outside the household waste category (*Municipalities' Role in Waste Management* 2005/06:176), thereby ending the municipal monopoly over industrial and commercial waste management.

However, the transition from predominantly municipal control to a more competitive market created new challenges. Regulatory barriers to market entry remained low for private providers: firms can begin operations within six weeks of registration, with minimal capital requirements and limited ex-ante oversight. This has created opportunities for opportunistic actors lacking both the capacity and the intention to manage waste in accordance with regulatory standards (Naturvårdsverket et al. 2022).

The expansion of the market has been accompanied by a corresponding rise in non-compliant and outright illegal waste handling. The most common forms are illegal dumping and illegal waste transportation (Naturvårdsverket 2024). The former involves disposing of waste in unauthorized locations, while illegal transportation concerns moving regulated waste, such as hazardous materials, without the required permit, often crossing municipal borders. Other forms of illegal waste handling include burying, burning, using waste in construction, or mixing toxic waste that requires special sorting with non-toxic waste (Naturvårdsverket et al. 2022). Illegal waste handling leads to distorted competition by conferring cost advantages on non-compliant actors, enabling them to undercut legitimate firms and, in some cases, displace them from the market (Polismyndigheten 2017, Naturvårdsverket et al. 2022).

Regulations and Oversight

The regulatory framework and oversight of waste management are primarily governed by the Environmental Code (*Miljöbalken* 1998:808) and the Waste Ordinance (2020:614, previously 2011:927).

The Environmental Code requires that waste be handled in a manner that does not cause harm or pose a risk of harm to human health or the environment (Chapter 15, Section 10).⁵ This broadly

⁵ Chapter 15 was repealed and replaced in its entirety by Government Bill 2025/26:108 (SFS 2026:507), which introduced a new structure and numbering scheme. The amendments entered into force on 1 July 2026. All references in this article are to the chapter as currently in force.

encompasses considerations of environmental risks, potential nuisances such as noise or odor, and impacts on sensitive or protected areas.

Since 1 July 2026, a party responsible for waste in a professional operation may transfer it to another party only after verifying that the recipient holds the required permits or notifications (Environmental Code, Chapter 15, Section 27). Liability transfers only if such verification has been carried out. If no adequate due diligence was done, the previous waste holder remains jointly responsible (Chapter 15, Section 30). The requirement concerns verification of administrative status rather than scrutiny of the actual treatment of the waste and the requirement does not extend down the chain of subsequent holders. Failure to comply is punishable by a fine (Chapter 29, Section 9(15)).

Professional waste handling is subject to permit and notification requirements. Depending on the type of waste and activity, businesses are required to submit a notification or obtain a permit from relevant authorities in most cases from County Administrative Boards and municipal authorities, while the Swedish Environmental Protection Agency acts as competent authority for cross-border waste shipments, under the Environmental Code and implementing ordinances such as the Waste Ordinance (2020:614). Compliance with the Environmental Code is ensured through a combination of permitting, primarily under Chapter 9 for environmentally hazardous activities, with generally applicable procedural rules on time limitation, conditions, and appeal rights set out in Chapter 16, and supervision under Chapter 26. Supervisory authorities may request information and documents (Chapter 26, Section 21), require investigations or sampling (Chapter 26, Section 22), and obtain physical access for inspection (Chapter 28, Section 1). Non compliance can be met with injunctions or prohibitions (Chapter 26, Section 9). For example, enforcement authorities assess whether permit conditions are met, take corrective actions where needed, including imposing sanctions, and report suspected violations to the police or public prosecutor (Chapter 26, Section 2).

The Swedish system distinguishes between *regulatory guidance* at the national level and *operational oversight* at the national, regional and local levels (see Table 1). Municipalities are responsible for the handling of municipal waste, that is, household waste and waste from other sources similar to it in nature and composition (Environmental Code, Chapter 15, Sections 5(18) and 12). Municipalities previously held this responsibility for all such waste, including waste of household character arising in businesses. Since 1 July 2026, waste producers in retail and certain other professional activities have become responsible for managing their own waste, except waste covered by producer responsibility schemes, while municipalities retain a time-limited (five-year) secondary responsibility available on request if the producer can show that the market does not supply adequate services (Environmental Code, Chapter 15, Sections 18 and 19). Where the municipality remains responsible, no one other than the municipality or its contractor may handle the waste (Environmental Code, Chapter 15, Section 16).

Municipalities also supervise compliance with waste legislation among businesses within their jurisdiction. Supervisory responsibility is assigned per installation according to its regulatory classification rather than to operators as corporate entities. Each municipality oversees only the installations located within its jurisdiction, and no authority is responsible for supervising the operator's activities in their entirety (Environmental Supervision Ordinance, miljö tillsynsförordningen, SFS 2011:13, Chapter 2).

At the regional level, the County Administrative Boards (*Länsstyrelserna*) combine permitting, supervisory and coordinating functions. They authorize waste management activities and professional waste transport within Sweden, including hazardous waste operations. Their responsibility also includes supervising waste handling that requires a permit, which in turn is based on both volume and the degree of hazardousness. However, this responsibility may be transferred to a municipality at its own request. They also coordinate joint enforcement efforts against illegal waste activities and supervise waste transports throughout the waste chain. On 1 July 2026, the boards assumed two new responsibilities. They became responsible for granting exemptions that allow businesses to manage

their own municipal waste and for supervising waste handling carried out by municipalities themselves.

At the national level, several agencies issue regulations, as well as provide guidance to support enforcement. The Environmental Protection Agency has the overall coordinating role for waste policy and enforcement guidance. Together with several other national agencies, including the Swedish Agency for Marine and Water Management, the National Board of Health and Welfare, and the Swedish Board of Agriculture, the Environmental Protection Agency provides guidance intended to support consistent enforcement across the country (Naturvårdsverket 2023). These agencies mainly support regulatory processes, issue guidance, and provide technical support. In its own assessments, the Environmental Protection Agency has generally found the legislation to be adequate, but they have repeatedly highlighted problems at the stage of enforcement and coordination (Naturvårdsverket 2023, 2024).

Table 1. Public authority responsibilities in commercial waste management⁶

Level	Authority	Core responsibility	Legal/institutional basis
National	Environmental Protection Agency (EPA)	National coordination, supervisory guidance, EU reporting, supervision of producer responsibility schemes and strategy development against illegal waste handling	Environmental Code (miljöbalken, SFS 1998:808); Environmental Supervision Ordinance (miljötillsynsförordningen, SFS 2011:13)
National	Agency for Marine and Water Management	Oversight of waste affecting marine and aquatic environments	Environmental Code (SFS 1998:808)
National	National Board of Health and Welfare	Regulation of health-related waste, including infectious medical waste	Environmental Supervision Ordinance (SFS 2011:13)
National	Board of Agriculture	Regulation of biological waste and animal by-products	Regulation (EC) No 1069/2009; national ordinances
National	Police Authority; Prosecution Authority; Customs; Tax Agency	Investigation and prosecution of environmental crimes, including illegal storage, dumping, and export of waste	Environmental Code (SFS 1998:808), Chapter 29; Code of Judicial Procedure (SFS 1942:740); Smuggling Act (SFS 2000:1225)
Regional	County Administrative Boards	Permitting and supervision of waste management facilities and operations; supervision of municipalities' own waste handling; approval of exemptions permitting businesses to handle their own municipal waste; cross-municipal and cross-agency coordination and enforcement	Environmental Code (SFS 1998:808); Waste Ordinance (<i>avfallsförordningen</i> , SFS 2020:614)
Local	Municipalities	Operational supervision of waste handling within the municipality, except for the waste handling the municipality is itself responsible for.	Environmental Code (SFS 1998:808), Chapter 26, Section 3; Environmental Supervision Ordinance (SFS 2011:13)

When suspected environmental crimes are identified – such as illegal waste storage, dumping, or export – the Police Authority, the Prosecution Authority, and the Customs Service are responsible for investigation and criminal enforcement (Environmental Code, Chapter 29). The Tax Agency plays a complementary role in monitoring financial irregularities associated with waste crime.

⁶ Swedish statutory titles are given in italics at first mention. No official English translations exist; the English names used here are the authors' renderings.

In sum, although waste management in Sweden is governed by a comprehensive regulatory and oversight framework, challenges related to illegal waste management continue to persist, raising questions about potential shortcomings in the legislation and enforcement.

Illegal Waste Handling in Sweden: Evidence of a Systemic Problem

Illegal waste handling may both be profitable and cause severe damage to the environment and human health. When environmental harm is done, remediation costs fall first on the operator responsible for the contamination and, in some cases, on a property owner who acquired the site knowing that it was contaminated (Environmental Code, Chapter 10, Sections 2–3). Financial security is required only for permitted landfill operations and a limited number of other activities (Chapter 15, Sections 58–60). If the responsible operator is insolvent or no longer exists, the costs ultimately fall on the public sector.

The consequences are not merely theoretical. In December 2023, eleven individuals associated with the waste management company NMT Think Pink were charged with illegally dumping or burying an estimated 200,000 tonnes of waste at 21 sites across 15 municipalities in Sweden (Avfall Sverige 2024; Bryant 2023; RFI 2025). The case led to ten convictions in the district court in June 2025, largely upheld in substance on appeal in June 2026 (Södertörns tingsrätt 2025; Svea hovrätt 2026), and attracted considerable public attention both in Sweden and internationally.⁷ It was described as the largest environmental crime case in Sweden in terms of scope and organization (Bryant 2023). The immediate economic costs are substantial: Botkyrka municipality, one of the affected areas, faces total estimated cleanup costs equivalent to around 4% of the municipality's annual revenue base (Botkyrka kommun 2025).

The Think Pink scandal is not an isolated incident. Illegal waste dumping appears to be a systemic problem in Sweden: in Södertälje municipality alone, as many as 50 cases of illegal dumping are reported each month (Sveriges Radio 2025). More broadly, irregularities in the management of commercial waste are a persistent and growing problem in Sweden (SOU 2021:24; Söderenergi 2023). Moreover, the waste sector has become an increasingly lucrative domain for organized crime that exploits weaknesses in the current regulatory and enforcement framework, thereby imposing substantial costs on society (Polismyndigheten 2021; Gunnarsson 2023). This follows an international trend. A systematic review of organized crime within the waste sector by Davidsson (2025) confirms that high profits, low detection risk, and the ease with which illegal operations can be embedded within legitimate businesses make the sector structurally attractive to organized criminal networks.

Method

To examine whether and how market governance failures manifest in practice, we conducted semi-structured interviews with key informants (Marshall 1996) across the commercial waste management sector, including representatives from central government agencies as well as regional and municipal authorities. These informants were selected for their professional expertise and direct involvement in regulatory and enforcement activities, making their insights particularly valuable for understanding practical challenges in the sector. The purpose was to draw on their professional knowledge and experience with regulatory and enforcement challenges within the sector. The study followed the Swedish Research Council's (Vetenskapsrådet 2024) ethical recommendations, including the requirements for informed consent, confidentiality, and data usage.

Participants were selected through purposive sampling (Patton 2015) to capture perspectives from officials with direct involvement in regulatory and enforcement matters related to commercial waste

⁷ On appeal in June 2026, the court found four individuals in central positions guilty of aggravated environmental crimes at 18 sites, reducing the two principal sentences to five years and four years and six months, and ordering damages exceeding SEK 200 million, primarily to the municipalities of Botkyrka and Västerås.

management. To ensure variation across governance levels and institutional functions, we deliberately sought respondents from county administrative boards, municipalities, and the police. Potential participants were identified through official agency websites. In total, 21 individuals were contacted, of whom eight agreed to participate (Table 2). Non-participation was mainly due to time constraints.

All interviewees were public officials working in positions related to the commercial waste market, with professional experience with investigating cases of and enforcing regulations against illegal waste handling. Interviewees from County Administrative Boards and municipalities were pseudonymized with respect to name, organization, and job title to reduce identification risk. Job titles for officials from County Administrative Boards included environmental officers or similar positions, as well as specialized roles focused on waste crime. Officials from municipalities held positions equivalent to environmental inspectors, though with some variation in formal titles. The study also includes an interviewee from the Police Authority, an organization with a distinct mandate in relation to waste crime. Given that the Police Authority is a large organization with many officials knowledgeable about waste crime matters, identification risk is limited, and the interviewee is therefore pseudonymized only by job title.

We employed a semi-structured interview format to balance consistency with flexibility (Leech 2002). An interview guide (see Appendix A) provided a structured framework that ensured consistent coverage of key topics across cases, while leaving room for respondents to introduce unanticipated topics. The interviews were conducted in Swedish.

All interviews were conducted online via Teams and Skype during weeks 14–16 of 2024, and lasted approximately 45 minutes each. Hence, the interviews were conducted before the amendments to the Environmental Code entered into force on 1 July 2026. Respondents therefore describe the regulatory framework as it existed at the time. Four interviews were conducted individually. One group interview was held with representatives of four County Administrative Boards, who proposed a joint session in light of their close cooperation. Their shared professional experience enriched the discussion, and all participants were given the opportunity to contribute. No issues of dominance or conformity were observed during the session.

Interviews were transcribed and analyzed using a thematic approach. Relevant segments were systematically coded and organized into broader themes, which were iteratively refined through comparison across interviews to ensure coherence and consistency (Braun & Clarke 2006). The analysis was primarily inductive, allowing patterns to emerge from respondents' accounts, while being informed by theoretical perspectives on market regulation and enforcement.

Table 2. Interviewees by authority.

Authority	Interview type
Police	Individual
County Administrative Board (CAB) 1	Group
County Administrative Board (CAB) 2	Group
County Administrative Board (CAB) 3	Group
County Administrative Board (CAB) 4	Group

County Administrative Board (CAB) 5	Individual
Municipality East	Individual
Municipality South	Individual

Analysis

Three main themes have emerged from the data: the drivers of illegal waste management, its consequences, and the effectiveness of enforcement responses.

Drivers of Illegal Waste Management

The drivers of illegal waste management can be analytically divided into demand- and supply-side factors, reflecting the incentives facing both waste-generating firms and service providers. On the demand side, respondents identify three main drivers of non-compliant waste handling: high compliance costs, regulatory complexity, and a misalignment between regulatory ambition and implementation capacity.

The high costs of compliant waste handling – particularly for waste streams with negative value – create strong incentives for waste producers to seek lower-cost alternatives (CAB 5, Municipality South, Police, Municipality East). As one respondent noted, “it’s so expensive and complicated to do it right [...] that if someone comes and offers a comprehensive solution it feels like ‘oh, great, here you go’” (CAB 5). This dynamic is especially pronounced for firms producing small waste volumes, for whom compliance costs are relatively burdensome (Municipality South, CAB 4).

These incentives are reinforced by regulatory complexity. Respondents emphasized that waste producers often lack clarity regarding their legal obligations (Police, CAB 5). For example, the transport of hazardous waste requires not only a permit, but also the maintenance of documentation specifying the waste’s origin, type, quantity, and destination. Such requirements are frequently poorly understood, making waste producers vulnerable to seemingly convenient alternatives: “an illegal transporter says: ‘just give it to me, and I’ll take care of it’” (CAB 5). In this sense, non-compliance is not only opportunistic but also facilitated by limited knowledge.

In addition, respondents point to a misalignment between regulatory ambition and implementation capacity. While environmental regulations impose stringent requirements, the technical and organizational conditions necessary for compliance are not always in place. Although Swedish environmental law prohibits the landfilling of most types of waste, the technologies and organizational arrangements required for the proper treatment of certain materials are not fully developed or scaled (CAB 5). For example, while producer responsibility was expanded for textiles in 2025, its implementation has faced delays due to overwhelming pressure on municipal collection infrastructure and the absence of large-scale, nationwide recycling facilities. When adequate treatment options are unavailable or difficult to access, compliant disposal becomes less feasible, while low-cost non-compliant providers become more attractive.

On the supply side, respondents highlight regulatory complexity, legal loopholes, lenient penalties, and limited enforcement as key drivers of non-compliant service provision. Increasing regulatory complexity raises compliance costs, expanding the supply of non-compliant lower-cost alternatives: “the more waste management legislation in general, the more it, unfortunately, fuels the illegal side [the supply of non-compliant services – authors]” (CAB 4, see also Municipality South).

At the same time, gaps in the legal framework and relatively low sanctions reduce the expected costs of non-compliance, weakening deterrence. The Environmental Code contains multiple gaps, the most notable of which, according to the respondents, is the absence of sanctions for certain stipulated violations.

[...] it is prohibited to transport [hazardous – authors] waste without notification [...] but no penalty linked to it [...] the provision becomes quite toothless, it becomes merely [a recommendation – the authors] ‘don’t do that’, and there are quite a few such gaps. (Municipality South)

When sanctions are stipulated in law, they are, according to most interviewees, too low relative to potential profits to function as an effective deterrent: “if you make four million [SEK] a year and have to pay a fine of 100,000, well, you’ve still made a pretty good profit” (Municipality South). While some respondents argued for stronger sanctions (CAB 2, CAB 3, CAB 5), others questioned their effectiveness (Police), echoing broader debates on the importance of detection and enforcement certainty over sanction severity (Chalfin & McCrary 2017).

This dynamic is further reinforced by limited enforcement capacity, which reduces the perceived risk of detection and allows non-compliant providers to operate with relatively low probability of sanction. Respondents pointed to limited financial and human resources as a central constraint on effective oversight, reducing both the frequency and quality of inspections: “time and resources are not available to [match – authors] the scale of the problem” (CAB 4). Furthermore, new rules are often introduced without timely guidance, reducing their practical enforceability: “the legislation may take effect on November 1, but the guidance is not issued until April [...] until then you have to reinvent the wheel” (Municipality East). Many respondents noted a combination of an increasing regulatory complexity without a corresponding increase in enforcement capacity as a potential driver for increased supply of non-compliant services – a pattern mirroring findings from other national contexts (D’Amato et al. 2015; Baird et al. 2014).

Finally, interviewees highlighted shortcomings in inter-agency coordination. Effective enforcement requires collaboration across municipalities, regions, and national authorities, as well as across different areas of expertise, yet such coordination was widely described as insufficient (CAB 2, CAB 4, Police). One official noted that “a regular police officer knows very little about environmental crimes [...] they don’t know what to do” (Municipality South). Given that waste flows often span administrative boundaries, these coordination failures further constrain enforcement effectiveness.

Several respondents noted that complex regulation, weak enforcement, high compliance costs, and low penalties for non-compliance make the sector attractive to organized crime (Police, CAB 1). It is notable that the respondents’ accounts, however, largely treat illegal waste management as ordinary cost-benefit reasoning. Organized criminal networks differ from opportunistic non-compliant firms in that they actively seek out sectors where they can operate below the radar of state authorities. The commercial waste market, with its low entry barriers and fragmented enforcement landscape, offers precisely this. As Szasz (1986) argued, regulatory structures that combine high compliance costs with weak enforcement do not merely tolerate criminal activity but actively generate it, a dynamic further illustrated by the Italian evidence reviewed earlier in this paper (D’Amato et al. 2015).

Taken together, these findings point to a mutually reinforcing interaction between demand- and supply-side incentives. On the demand side, high compliance costs, regulatory complexity, and capacity constraints increase waste producers’ reliance on low-cost intermediaries. On the supply side, regulatory complexity, weak sanctions, and limited enforcement reduce the expected costs of non-compliance and increase its profitability.

The result is a structural environment characterized by high potential returns, low risks, and limited oversight, in which illegal waste management is not an anomaly but an expected outcome. In this

context, regulatory arrangements that combine ambitious environmental goals with insufficient implementation and enforcement capacity do not merely fail to prevent non-compliance but actively generate it. This dynamic helps explain why the sector has become attractive to organized crime, which is particularly well positioned to exploit fragmented oversight and operate across jurisdictional boundaries.

More broadly, the findings suggest that illegal waste management is best understood not as isolated deviant behavior, but as a systemic feature of market governance under conditions of regulatory complexity and implementation capacity constraints, including weak enforcement.

Consequences of Illegal Waste Management

Respondents consistently emphasized that illegal waste management generates substantial environmental damage, economic costs, and market distortions.

Environmentally, improper waste handling leads to both local and transboundary harm. Within Sweden, illegal dumping and burial contaminate soil and groundwater and can have long-lasting effects on ecosystems. As one respondent noted, “when you bury [waste], it often contributes [...] to contamination in the soil [...] which can spread into the water and ecosystem” (Municipality East). At the same time, respondents highlighted that waste exports shift environmental risks abroad, often to contexts with weaker regulatory capacity: “we send a lot of our waste abroad and that can severely affect other countries and endanger ecosystems” (CAB 1).

These environmental harms translate into significant economic costs. Because remediation and proper treatment of illegally handled waste are highly expensive, the burden is often shifted onto municipalities and, ultimately, taxpayers. Respondents described cases in which firms accepted large volumes of waste and subsequently declared bankruptcy, leaving authorities responsible for cleanup: “the state had to take care of all the waste and clean up the land [...] tens of millions of kronor ultimately borne by society” (Municipality South). In some cases, these costs are substantial relative to local budgets, as for Botkyrka Municipality which faces cleanup costs equivalent to approximately 4% of its annual revenues following the Think Pink case (Botkyrka kommun 2025). One respondent emphasized the importance of communicating these costs to politicians at the municipal level: “I also think it is important to talk about how much this costs and bring it to their attention [...]. The sums that municipalities need to spend on cleaning streets, parks, and illegal dumps at recycling stations are enormous” (CAB 3).

Beyond environmental and fiscal impacts, illegal waste management also distorts market competition. By avoiding compliance costs, non-compliant firms can undercut legitimate operators, weakening incentives for lawful behavior and discouraging investment in compliant waste management (Baird et al. 2014; Polismyndigheten 2017; Naturvårdsverket et al. 2022). Over time, this can crowd out compliant firms and reshape local markets. Respondents pointed to cases where legitimate businesses, such as car scrapyards, have declined as waste is diverted to non-compliant channels, reducing local processing capacity and generating broader economic losses.

Taken together, these consequences illustrate how illegal waste management externalizes environmental and economic costs while undermining market functioning. In doing so, it reinforces the systemic vulnerabilities identified above, linking governance failures not only to the emergence of non-compliance but also to its broader societal impacts.

Measures for Strengthening Compliance and Combating Illegal Waste Management

Respondents’ proposed measures can be grouped into two broad categories: those targeting the incentive structure of market actors and those aimed at strengthening oversight. A clear pattern,

however, is that proposals are heavily skewed toward enforcement, with comparatively limited attention given to underlying incentive structures.

With regards to incentives, respondents stressed the need to lower the costs of compliance, both in financial terms and in organizational effort. Reducing regulatory complexity and closing the gap between regulations and technical and organizational capacity (such as enabling the non-landfill treatment of waste currently prohibited from landfill) were seen as essential to reducing demand for non-compliant services. However, proposals in this domain were generally vague and underspecified. A notable exception was a proposal from the police to reduce disposal fees and finance waste treatment through taxation rather than charging waste producers directly, thereby eliminating the cost advantage of illegal alternatives.

“[...]if fees are lowered to the point where turning to illegal waste handlers is simply not worthwhile, the problem could perhaps be eliminated entirely” (Police).

In contrast, proposals related to enforcement were both more numerous and more concrete. A central concern was the limited visibility of actors operating in the sector, particularly smaller firms that fall outside existing permitting and reporting requirements. Expanding mandatory licensing and reporting obligations was therefore widely seen as a prerequisite for effective enforcement. As one respondent noted, “many companies [...] are so small that they are not required to obtain permits [...] we often don’t even know about their existence” (Municipality East). Respondents further emphasized the need for more proactive and adaptive enforcement strategies. Given that non-compliant actors continuously adjust their practices, effective oversight requires increased use of unannounced inspections and earlier intervention in the waste management chain. As one interviewee put it, intervening upstream—before waste enters broader distribution channels—is both more effective and efficient than attempting to intercept illegal flows at later stages (Municipality South).

Improving information flows across authorities was identified as another critical priority. Current oversight is fragmented, with no single authority maintaining a comprehensive overview of waste generation, transport, and treatment. As a result, discrepancies in waste flows often go undetected. A coordinated system for information-sharing would enable authorities to track waste throughout the management chain and identify irregularities more effectively: “no authority has a complete picture of the process” (CAB 5).

Relatedly, respondents identified strengthening inter-agency coordination as a key priority for effective enforcement. Effective enforcement requires cooperation across municipalities, regions, and national authorities, as well as across regulatory domains. However, such collaboration remains limited, considerably constraining the ability of authorities to respond to increasingly mobile and adaptive forms of illegal activity.

Several respondents also pointed to structural weaknesses in the financing of oversight. Because enforcement activities are largely funded through fees paid by compliant firms, actors operating outside the formal system do not contribute to the costs of monitoring. This creates a resource gap that further weakens enforcement capacity. As one respondent observed, “because these actors don’t pay [...] there are no funds available for their monitoring” (Municipality South). Public investment in proactive enforcement was therefore seen as necessary both to strengthen oversight and to level the playing field for compliant firms.

Finally, respondents emphasized the role of awareness among policymakers, businesses, and the public. Limited political attention to illegal waste management was seen as a barrier to resource allocation, with funding often increasing only after major incidents. However, awareness-raising was primarily framed as a means of securing greater resources for enforcement, rather than as a tool for reshaping underlying incentives.

Taken together, respondents' proposals suggest that practitioners recognize the role of market incentives in driving non-compliance, but focus predominantly on strengthening enforcement as the primary solution, underprioritizing the importance of finding a more appropriate regulatory framework design.

Discussion

The interview data can be interpreted through the two types of governance failure identified by Howlett & Ramesh (2014): design mismatches and capacity deficits. The findings indicate that both are present in the Swedish commercial waste market, and, importantly, that they reinforce one another in ways that are not always recognized by the officials responsible for addressing them.

An analytically important pattern in the data is that respondents tend to frame governance failure primarily in terms of capacity deficits. While they recognize that market incentives contribute to non-compliance, their proposed remedies focus overwhelmingly on strengthening enforcement through additional resources, improved cooperation, and more proactive monitoring. In contrast, comparatively little attention is given to reforming the underlying market incentives. This is consistent with Howlett & Ramesh's (2014) observation that practitioners often interpret governance failure as an implementation problem rather than questioning the suitability of the chosen governance mode. The result is a systematic bias toward enforcement-based solutions, even in cases where the underlying drivers of non-compliance are rooted in structural features of the market. One notable exception in our study is the proposal by the national police to lower legal disposal costs and finance them through taxation, which implicitly recognizes that enforcement alone cannot resolve the problem and that the incentive structure embedded in the market itself may require adjustment.

Indeed, several factors identified as problematic by the respondents point more directly to structural design mismatches than to implementation shortcomings. A central pattern is that high compliance costs create incentives for waste producers to seek lower-cost alternatives, with limited incentives, ability or both, to verify whether intermediaries comply with existing regulations. These costs are not merely a function of market dynamics but are also partly produced by the regulatory framework itself. Regulatory complexity increases compliance costs, as new rules are often introduced without timely guidance, leaving actors to navigate uncertainty. In addition, regulatory ambition at times exceeds available implementation capacity, as disposal methods mandated by law are not yet supported by adequate technical and organizational infrastructure.

Regulatory complexity also generates information asymmetries. Many waste producers lack clarity about what compliance entails, leading them to rely on external providers without the ability to assess whether these operate within the law. Even waste-producing companies that intend to comply face difficulties in identifying trustworthy, compliant operators. This creates opportunities for unscrupulous actors to compete in price by cutting regulatory corners, thereby placing compliant service providers at a disadvantage. In this sense, the problem is not simply weak enforcement. It also reflects a regulatory design that does not fully account for the credence-good character of waste services and the moral hazard this creates. The 2026 amendments partly address this problem by requiring waste holders to ensure that the recipient has the necessary permit or has made the required notification. However, the requirement remains limited in scope. It concerns only the recipient's administrative status rather than how the waste is actually handled, does not extend to subsequent holders, and is enforced only through a fine. The updated law therefore acknowledges the verification problem, but its practical effect is likely to be limited.

A further design issue concerns the institutional design of oversight. The current financing model, which relies on fees from registered companies, excludes non-compliant actors from contributing to the costs of monitoring, thereby weakening enforcement capacity. Similarly, the absence of sanctions for certain violations, such as the transport of hazardous waste without required notification, reflects gaps in the legal framework that reduce deterrence independently of enforcement effort.

At the same time, the findings point to capacity deficits that systematically constrain the effectiveness of oversight. Consistent with Davidsson (2026), the results show that resource constraints and fragmented institutional responsibilities reduce authorities' ability to detect and sanction non-compliant behaviour. These constraints are particularly salient in a sector where waste flows routinely cross administrative boundaries, allowing actors to exploit fragmentation in the allocation of authority between national, regional and municipal governments. Even when violations are identified, enforcement outcomes are not always effective. This is a clear instance of a capacity deficit (Howlett & Ramesh 2014): governance arrangements that are appropriate in principle fail due to insufficient resources and coordination.

Conclusion

This paper examines how market structure and institutional design interact to enable illegal waste handling in Sweden's commercial waste market. We draw on market governance theory and analyze interview data with public officials involved in enforcement. Based on this material, we identify key structural vulnerabilities and governance failures underlying such practices.

Our main finding is that governance failure in the Swedish commercial waste market reflects both design mismatches and capacity deficits, following the terminology of Howlett and Ramesh (2014). At its core, this market has the characteristics of a credence goods market. It is shaped by asymmetric information and negative externalities. Such markets rarely function well without extensive and well-designed governance. Despite this, the comprehensive view from this study is that the market for commercial waste is lightly regulated and embedded in a trust-based system with limited enforcement capacity, both in terms of available tools and resources. In short, the institutional design does not reflect the complexity of the market. Instead, the system appears to treat it as an ordinary market.

Respondents often describe credence good characteristics as a major challenge. However, they rarely connect these challenges to the adequacy of the institutional design. Instead, they tend to frame illegal waste handling primarily as a problem of insufficient enforcement.

Our analysis, however, suggests a broader issue. Design mismatches also create structural incentives for non-compliance. This pattern aligns with Howlett and Ramesh (2014), who note that practitioners often interpret governance failures as implementation problems rather than questioning the governance mode itself. Reforms focused solely on enforcement are therefore unlikely to succeed if the underlying incentive structure remains unchanged. For example, low barriers to entry, weak sanctions, and oversight systems that depend on voluntary compliance are poorly suited to this type of market.

More broadly, our findings suggest that illegal waste management is not an anomaly. It is a predictable outcome in markets with strong information asymmetries, externalized costs, and misaligned incentives. In such contexts, market-based governance is unlikely to function effectively. Addressing the problem therefore requires not only stronger oversight, but a reconsideration of the institutional arrangements through which waste markets are organized. An open-minded evaluation of whether market governance is an appropriate mode for the most problematic waste streams, and whether selective re-municipalization of negative-value waste streams or fundamentally restructured accountability mechanisms would better align institutional design with the structural realities of the commercial waste market, is warranted.

The findings also contribute to broader debates on market-based governance. Sweden's shift from a municipal monopoly to a competitive waste market mirrors developments in many other countries, suggesting that the challenges identified here are not unique to this case. More generally, market liberalization in sectors marked by information asymmetries and externalities may give rise to governance problems that are difficult to remedy in retrospect. Careful institutional design should

therefore be treated as a precondition for successful marketization rather than as a subsequent corrective measure.

While this paper offers important insights into the understudied topic of market governance failure, more research is needed to understand the extent to which these findings generalize to other markets and contexts. Future studies should, first of all, assess the extent to which deficiencies in market design and enforcement capacity enable illegal waste handling in other countries of varying institutional design. In addition, market governance failure is generally an understudied topic at the intersection between economics and political science which needs more attention. Finally, the role and actions of organized crime in relation to environmental crime warrants closer investigation in general, particularly how criminal networks adapt to regulatory change and exploit governance weaknesses.

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Appendix A: Interview guide

Background Questions

1. What is your job and what is your role?
2. Can you describe your experience with waste management?
3. How would you describe the problem of illegal waste management from your professional perspective?

Causes

4. Which factors do you believe contribute most to the problem of illegal waste management?
5. How do you think the current legislation/regulations affect the occurrence of illegal waste management?

Consequences

6. What are the most serious negative effects of illegal waste management?
7. How do you think illegal waste management impacts society and why?

Measures and Solutions

8. Have you observed any measures taken to combat illegal waste management, and if so, how effective do you think they have been?
9. Can you think of any potential solutions/strategies that could reduce or eliminate illegal waste management? What would be required to enable such solutions/strategies?

Future Outlook

10. What trends do you see in waste management that could affect the problem of illegal waste management in the future?
11. How do you view the future of waste management and the fight against illegal waste management?

Closing Questions

12. Is there anything else you would like to add regarding illegal waste management?
13. Are there any areas or aspects you think we have missed concerning illegal waste management specifically or the waste market in general?
14. Is there any researcher or expert you think we should contact and invite for an interview for this study?