

Waste as a resource – a story of governance

Politics and sustainability

Ivaylo Hlebarov

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ABSTRACT

Sustainable waste management system which focuses on prevention, reuse and re-cycle instead of burn and bury is difficult to agree upon, design and implement. I look at why after 8 years of development the city of Sofia chose to burn and bury most of its municipal waste despite a better though more difficult to implement alternative based on the Zero Waste concept was presented. I focused on the dynamics around the decision-making process to find the drivers which impede the implementation of sustainable solution. I relied on theories and concepts about governance, Europeanisation, politics to construct a model of the decision-making process. I tested the model by collecting data via interviews, documentation and some observation. I found that politics driven by political and economic interests, weak and non transparent administration are major hurdles when sustainable solutions must be found and agreed. Additionally proponents of Zero Waste were marginalised while a policy network influenced the choice of waste system. If one is aiming at sustainability then politics should be taken into account. Finally I put forward some suggestions for further democratisation and citizens involvement in order to overcome such impediments and support sustainable solutions.

Key words: deliberation, democracy, politics, zero waste, networks

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List of Abbreviations and Symbols

CF	Cohesion Fund
CMRB	Council of Ministers of the Republic of Bulgaria
CSO	Civil Society Organisation
DG ENVI	Directorate-General for the Environment
DG REGIO	Directorate-General for Regional and Urban Policy
EC	European Commission
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EU	European Union
MBT	Mechanical Biological Treatment
MoEW	Ministry of Environment and Water
MSW	Municipal solid waste
MSWI	Municipal solid waste incineration
NGO	Non Governmental Organisation
PRO	Packaging (Waste) Recovery Organisation
RDF/SRF	Refuse Derived Fuel / Solid Recovered Fuel
RIEW	Regional Inspectorate of Environment and Water
SEA	Strategic Environmental Assessment
SM	Sofia Municipality
SMC	Sofia Municipal Council
MWMS	Municipal Waste Management Strategy
WFD	Waste Framework Directive
ZW	Zero Waste

1 Introduction, aim and research question

More than 25 years ago Brundtland commission stated in its report that “time has come to take the decisions needed to secure the resources to sustain this and coming generations” pointing that “[h]umanity's inability to fit its activities into the pattern is changing planetary systems, fundamentally” (WCED 1987, p. 18). It also emphasised the that it impossible to separate economic development from the environment since many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. As a solution sustainable development was then presented as a concept trying to reconcile the clash between preserving the environment and economic development. Since then Roskström et al. (2009) reminded us that we are still pushing the ecological limits of our planet and go beyond its save operational space. In developed countries "economies are based on high level resources consumption" and "about one third of resources used are turned into waste and emissions" (McElhatton & Pizzuto, 2012, p. 4). Part of that waste is coming from households and despite the Brundtland message that we have to preserve resources in Europe still 58% of it was landfilled or incinerated in 2009 (Blumenthal, 2011). Shouldn't then be the priority to generate less waste, reuse and recycle to fit within the ecological limits and if yes, why their support is rather an exclusion than the rule? My aim is to understand how sustainable solutions can be agreed and implemented. Therefore I will use the case of Sofia Waste management system which was approved in 2012 after almost 8 years of development. I will compare two waste management approaches to show that a more sustainable option falling under the notion of Zero Waste was possible and will try to answer why it was not chosen by the city authorities. To do that I will focus on the governance of waste and shed light on the drives behind the actors involved in the decision-making process. Finally drawing from the theory on deliberative democracy I will discuss how to improve the governance so sustainable waste management can take place.

My main research question is: Why sustainable solutions like zero waste are not implemented despite the understanding that we need to preserve resources and burning is not a sustainable option? In my discussion I will look into suggestion for changes in the governance for sustainable waste management.

1.1 Background of Sofia waste case

Until 2005 the city of Sofia was disposing of all its household waste into the only landfill in Suhodol. That year residents living nearby the landfill blocked the access to it and the waste piled on the streets for a week. After a decision by the municipal council the landfill was closed (DEC1/2005) and the waste was shredded and put in plastic bales stored under the open sky, thus representing an environmental and health risk (ECLetter1). The municipality has neglected for years some of its legal duties related to waste and the lack of timely agreed and implemented strategic documents impedes its environmental effectiveness (OSI-S, 2005). There is no information system about waste activities which can support decision-making, the information of waste generation and characteristics is old and there is no system for periodic assessments and analysis (MSWProgramme2005). Despite the need to set up an adequate system to handle the waste the authorities were preoccupied with finding places where to store or dispose of the bales. The municipality and the council develop and implements plans as response to the existing crisis instead of preventing it by adequate environmental policy (OSI-S, 2005). The preparation of environmental programmes are contracted ad hoc to consultancy companies and non-governmental organisations under non-transparent procedures and circumstances, and lack of public terms of reference (OSI-S, 2005. p. 61).

The importance and relevance for sustainability of this case is coming from the fact that a waste management system is set to operate for decades thus having an impact on the environmental, economical and social aspects of the life of more than 1.3 mln people in Sofia. As pointed by Zeemering (2009, p. 265) “discussions of sustainability is a balance of economic growth, environmental preservation, and social equity” therefore how a waste management system is designed and implemented is crucial.

With the accession of Bulgaria in European Union (EU) new legislative requirements are put forward such as greater partnership in environmental policy making, decrease in land-filling, improvement of resource efficiency, planning, implementation and monitoring of environmental strategies, plans and projects, usage of EU funds (see sections 4.1 and 4.2). Additionally “[s]ustainability poses significant challenges for local policy makers because the concept points to the need for coordinated action across governmental departments, as well as coordinated action between government and the private and nonprofit sectors” (Zeemering, 2009, p. 250). This has to be looked through the prism of post-communist transition of Bulgaria, where a process of state-capture by powerful elites resulted in weak administration (Ganev, 2007). When state structures are captured

and weekend they might be unable to provide public services, basic internal security and policy formulation and implementation (Dimitrova, 2011, p. 10).

This is the context in which I situated my analysis why sustainable waste management solutions are not implemented.

1.2 Contribution to sustainability science

From one side my research focuses on both the process and the outcome of governance hopefully contributing to better understanding of the governance for sustainability. From other I bring up the issue of politics and governance thus contributing to the sustainability science research agenda. Sustainability science “emerged from research and innovation activities connected to society’s efforts to support a transition toward sustainability” (Clark et al., 2010). Sustainability science is problem-solving and place based (Kates & Parris, 2003), “focuses on the dynamic interactions between nature and society” (Kates et al., 2001). It tries to bridge the natural and social sciences in seeking solutions how sustainability in society can be achieved by focusing on inter and transdisciplinary research (Jerneck et al., 2010, p. 69). It is here where my thesis aims to contribute.

2 Methodological and theoretical concepts

2.1 Ontology and epistemology

In my research question I’m interested in revealing why certain decision has been made. It implies that I look for some causal explanation. To search for the cause of the decision “is to ask ‘what makes it happen’, what ‘produces’, ‘generates’, ‘creates’ or ‘determines’ it, or, more weakly, what ‘enables’ or ‘leads to’ it” (Sayer as cited in Easton, 2010, p. 120). In the sense what caused or drove the municipality to select that system. An ontology that allows me to infer causality is the realist ontology or more precisely the critical realist ontology. Critical realist accept that the world is socially constructed though not entirely as sometimes “[r]eality kicks in” implying there is a world out there independent of our knowledge about it (Easton, 2010, p. 122; Sayer, 2000). According to Bhaskar a critical realist ontology views the world in 3 strata (in Sayer, 2000):

- real – where objects and their powers exist independent of our knowledge about it
- actual– where events happen if and when the powers are executed
- empirical – what we experience

What we see at the level of empirical however, does not mean the we fully understand what happens at the actual level which is a result of operational mechanisms at the real level. This view also have bearing on the way one tries to explain how things might have happened especially in the absence or falsifiability of an observations (Easton, 2010; Sayer, 2000). To do so realists also look for causal explanation and their ontology offers middle way of understanding causation than naturalism which seeks “law-finding science of society modelled on natural science methodology” or “interpretivist reductions of social science to the interpretation of meaning.” (Sayer, 2000, pp. 2–3). Critical realism is “simultaneously challenging common conceptions of both natural and social science, particularly as regards causation” which it sees not in regularity of events (how many time something happened) but in “identifying causal mechanism and how they work, and discovering if they have been activated and under what conditions” while recognising the “necessity of interpretive understanding of meaning in social life” (Sayer, 2000, pp. 3–14). For Sayer “events arise from the workings of mechanisms which derive from the structures of objects, and they take place within geo-historical contexts” (2000, p. 15).

Applying this to my research question it means to identify the conditions under which Sofia Municipality (the object) decided (the mechanism) for what I call not sustainable waste management option (the event). The SM has the power to decide – this depends on the knowledge, understanding, reasons, other mechanisms (or conditions) that influence its ability to execute that power. The outcome is dependant on context, on “spatio-temporal relations with other objects [actors] having their own causal power and liabilities which may trigger, block or modify” the way SM acts (Sayer, 2000, p. 15). Meaning in some other conditions the SM might decide differently. A realist ontology allows me to understand what happened, but also how things could be i.e. how sustainable solution can be made as the same mechanism could generate different outcomes (Sayer, 2000, pp. 12–15).

Realists do not provide a recipe for the ultimate truth that is why the researcher needs to collect and interpret data that enables one to distinguish between alternative explanations (Easton, 2010).

2.2 Theoretical concepts

My research draws upon several theoretical and analytical concepts like governance, multi-level governance, Europeanisation theory and concepts related to sustainability, and waste management. Moreover in the sense of sustainability science transdisciplinary approach to problems solving it also means applying knowledge from, but not limited to

other disciplines such as political, social and natural sciences. I also used some knowledge produced beyond academic realm like reports generated by consultants, NGOs and public authorities, and cooperated¹ to certain extent with other actors so my research is in a sense transdisciplinary (see Jerneck et al., 2010). Finally I draw upon theories of democracy to discuss citizens involvement in relation to sustainability.

2.3 Research approach and methods

I want to explain why a concrete decision happened in the case of Sofia waste management. This decision evolved over period of eight years. Therefore I designed my research approach as historical case-study containing both exploratory and explanatory features based on Yin's typology (2003, pp. 5–6). My units of analysis are the different actors involved in the decision-making process and their drivers as I search to understand the phenomena of unsustainable decision-making.

I used 3 methods (see Yin, 2011, p. 130) to collect data for my qualitative research: interviewing and conversing, observing – social interactions and collecting – documents, archival data, official decision, official correspondence.

For my interviews I used purposive sampling to determine the most relevant people² to my research question (see Bryman, 2008, p. 376). I aim to obtain broad information and perspective on the topic, and also deliberately sought respondents who may have different views (Yin, 2011). My interviews were qualitative as I was interested in “interviewee's point of view” (Bryman, 2008, p. 437) about the topic. My interviews were semi-structured with open-ending questions depending on the interviewee, but there were common areas I want to explore in all, thus I followed an interview guide (Bryman, 2008).

Conducting observations for this particular research is not a particularity suitable method for a historical case-study as I could not observe how the administration worked at the time of interest to me. However I was able to observe how the administration handles nowadays official requests for information from NGOs working on waste, which enriched my understanding of administration's attitude. I also observed how a civic society groups work interact with Sofia Municipality through an informal body called Sofia Civic Council. Though valuable I do not refer directly to the data gathered through observation in my thesis.

¹ For example the research question emerged from discussions with environmental NGOs

² List of the interviewees is presented in Appendix IV

I relied extensively on documentation such as archival data, official decisions, official correspondence, reports and analysis from private and state sources (Bryman, 2008, pp. 514–526) as they “represent another form of primary evidence” (Yin, 2011, p. 148), but also to corroborate or challenge the information gathered from interviews.

Half of my interviews were fully or partially transcribed, while for the rest important notes were recorded in memos.

Due to the big amount of data acquired for this research I disassembled my data applying only selective coding to generate core categories (Bryman, 2008, p. 543). I relied on the production of diagrams, chronologies, list of categories and writing an extensive substantive notes, to which I constantly return and refine (see Yin, 2011, pp. 186–188). Through constant comparisons I looked for similarities and emerging patterns and then searched for alternative explanations of my initial observations (Yin, 2011). For my documents I used qualitative content analysis – thematic analysis, while for my interviews I relied on narrative analysis - “emphasizes the stories that people employ to account for events

My analysis relies on interpretations and I combine descriptive and explanatory modes. I examine a process over time and I present my research as a narrative where thick description is used to provide detail account of the dynamics (Yin, 2011). Since my question aims at “explaining how or why events came about” I use explanatory interpretations by engaging with theory and original research (Yin, 2011, p. 216).

Discovering the drivers behind the decision for the waste management of Sofia is both challenging and intriguing. Challenging as there is rarely a single reason that can explain how things unfold, but rather a web of reasons and it is a challenge to distinguish which are the most plausible ones. It is intriguing as through the research I can discover the multitude of views, understandings and reasons behind the different actors and again challenging in interpreting what they all mean for a particular decision. It is of no purpose to me and perhaps even not possible giving the limits of a master thesis to find the most precise explanation why things are like they are. Moreover I do not intend to pinpoint who, what and how exactly did something. Although it may be useful, this is very difficult to find as the proof may be out of reach. Nevertheless this does not prevent me to hypothesise as long as I can demonstrate plausibility and trustworthiness in answering my research question.

3 Sustainability and waste

3.1.1 *The emergence of sustainable development*

The industrial revolution resulted in large amount of people migrating to cities and today more than half of the people live in urban areas putting pressure both on the resources used and the management of the discards after (Louis, 2004; United Nations, 2012). Lettenmeier (2009, p. 9) report that around 90% of all biomass collected and more than 90% of the non-renewable materials used are wasted in the making of products available to the end-user while “20% of all people, the ones living in industrialised countries, are using 80% of all natural resources”.

These problems were recognised and communicated as early as 1970 in *The Limits to Growth* book by the Club of Rome who then wrote “if the present growth trends in world population, pollution... resource depletion continue unchanged the limits to growth on this planet will be reached sometime in the next one hundred years” (as cited in Hou, Al-Tabbaa, Guthrie, & Watanabe, 2012, p. 2494). How to tackle this came with the Brundland Commission report in 1987 which introduced the idea of sustainable development as development “that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987, p. 47).

Its aim was to show that the world can do both develop and protect the environment. It did not question the economic growth per se as it was needed for developing country to alleviate poverty while for the developed countries it meant more 'eco-friendly' growth with efficient usage of energy, resources. The concept shifted the debate from environmental protection towards sustainability where the process of trade off between social, economical and environmental priorities becomes more complex (Carter, 2007, pp. 207–211).

The idea of sustainable development however is thought to allow fairly broad views of how it can be achieved from radical ideas about anti-growth and anti-capitalist, self-sufficiency and bioregionalism, through behavioural change and lifestyles, green consumerism, democratisation of institutions to hi-technology societies fed with genetically modified crops (Carter, 2007). Such views are reflected in different typologies about sustainable development (for short overview see Appendix 1) but here I will use the one presented by Susan Baker.

Baker (2006, p. 30) defines four major types of sustainable development the characteristics are adapted from Carter (2007, pp. 215–216):

-
- Ideal model – steady–state economy; self-reliance; redistributed property rights;
 - Strong sustainable development model – environmental protection as precondition for development
 - Weak sustainable development model – integrate capitalist growth and environmental concerns
 - Pollution control – technology will solve all environmental problems

The ideal model is ecocentric oriented, while the Pollution control is anthropocentric, and the other two are in between. As Carter points despite the overlapping between the categories and the variation within so far “most countries have managed to make a tentative step onto the weak sustainable development” (2007, p. 216). At that level we can talk about aiming at “[d]ecoupling [of waste generation from economic growth]; reuse, recycling and repair of consumer goods; life-cycle management” (Baker, 2006, p. 30).

The views on sustainability have implications on the implementation of sustainable development as it is obvious that it can be interpreted of “being anything from almost meaningless to of extreme importance to humanity” (Hopwood, Mellor, & O’Brien, 2005, p. 40).

As Buttel (2000) points these shortcoming in providing real guidance towards environmental policies and the notion that sustainable development and sustainability were originally suggested in regard policies towards the rural South had little to suggest for the Northern countries. Therefore the concept of “ecological modernization provided a template for new thinking about the problems and their solutions that are most urgent to address in ... the advanced industrial nations.” (Buttel, 2000, p. 60).

3.1.2 Ecological modernisation the answer for developed world

Ecological modernisation while recognising that environmental problems are structural result of capitalist society, rejects the radical demands to restructure both the market economy and the liberal state by proposing greener industrialisation so economic growth and preserving the environment are reconciled (Carter, 2007). Main ideas are 'decoupling of economic growth and resource use' through 'dematerialisation' or more efficient use of resources, thus reducing the environmental degradation while improving living standards and income (ibid).

There is a weak version of ecological modernisation which “focuses on the development of technical solutions to environmental problems through the partnership of economic, political and scientific elites in corporatist policy-making structures” (Hajer 1995

in Carter, 2001, p. 214) and “largely excludes consideration of development and democratic issues ” (Dryzek 1997 as cited in Carter, 2001, p. 214). The stronger version “adopts a much broader approach to the integration of environmental concerns across institutions and wider society which envisages extensive democratisation and concern for the international dimensions of environmental issues” (Hajer 1995 in Carter, 2001, p. 214).

So far I have outlined the ideas of sustainable development and sustainability, and the more practical ecological modernisation concept in order to set the ground for situating the waste management issue in relation to its ability for achieving some sort of sustainability. By comparing two waste management approaches namely the EU's approach and Zero Waste I want to suggest which one should be focused on if stronger sustainability is envisaged. This comparison is essential to assess the sustainability of Sofia waste management from one side and will also mark some of the challenges to put sustainability into operation.

3.2 Comparing the EU approach and Zero Waste

3.2.1 *The EU's approach towards waste*

European Union has developed its waste legislation, policies and practices over several decades and the current approach is summarised in the following lines (European Commission 2010, p. 2):

EU waste management policies aim to reduce the environmental and health impacts of waste and improve Europe's resource efficiency. The long-term goal is to turn Europe into a recycling society, avoiding waste and using unavoidable waste as a resource wherever possible. The aim is to achieve much higher levels of recycling and to minimise the extraction of additional natural resources. Proper waste management is a key element in ensuring resource efficiency and the sustainable growth of European economies.

By definition *EU approach* is rooted in the ecological modernisation paradigm outlined in previous chapter. EU is aiming at decoupling the economic growth from the waste generation meaning more growth the same or even less waste produced focusing on energy and resource efficiency. Interestingly it sees the waste as both something to be avoided and a resource, a dichotomy reconciled through the 5 step waste hierarchy where prevention is the top priority, then reuse, recycle, energy recovery and finally disposal as

a last resort (Corvellec & Hultman, 2012; European Commission 2010). The hierarchy is a recognition that there is general acceptance where we should focus our efforts, however it is described as guiding principle, hence not binding (Directive 98/2008/EC). Besides the hierarchy EU set mandatory European wide targets for 50% recycling of municipal waste and 70 % recycling of construction and demolition waste to be achieved by 2020. Additionally by 2015 there should be separate collection of at least metal, glass, paper, plastics (ibid). A major step forward is the introduction in the legislation of life-cycle thinking which “involves looking at all stages of a product’s life to find out where improvements can be made to reduce environmental impacts” from the extraction of raw materials, manufacture, distribution, use and disposal (European Commission 2010, p. 6).

3.2.2 Zero Waste

Zero Waste International Alliance defines Zero Waste (ZW) as a visionary goal that guides people in changing their lifestyle and practises to resemble natural cycles where all discarded materials become resources for others, requires products and processes systematically to avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resource, and not burn or bury them (ZWIA, 2009). By committing to Zero Waste a community is embracing an ethical, economical and efficient approach to eliminate all waste discharges that are a threat to planetary, human, animal or plant health (ibid). Zero waste emerged in the United States after communities opposing landfills or incineration of waste found a common ground to oppose both and promote ZW as a solution (Connett & Sheehan, 2001).

ZW is not simply a waste management concept as its scope is somewhat broader. Because “[w]aste is much more than a technical problem: [and] it is part of a larger web of health, equity, race, power, gender, poverty, and governance issues” (GAIA, n.d.). For the Zero Waste movement “No Community is Disposal”, solidarity and community engagement is essential and “the solution lies in decreasing the amount we consume” (“GAIA : Issues,” n.d.). This contrasts to the much more technological EU approach and the ecological modernisation in general which is silent on social justice or North – South issues, and does not question the level of consumption (Carter, 2001).

3.2.3 Comparing the EU approach and Zero Waste

While questions of equity, social justice, economic costs, consumption are very important, here I will narrow my comparison between ZW and EU approach to consider their impact on preserving resources in line with my research question.³

Europe has fairly straight message since 1975 that “the recovery of waste and the use of recovered materials should be encouraged in order to conserve natural resources” by prioritising measures for prevention and reduction of waste generation over re-use, recycling and energy recovery (Directive 75/442/EEC, p. 2-4). However it seems the focus was mainly to decrease land-filling. Corvellec & Hultman (2012) observe that less land-filling was a dominant narrative in Sweden for several decades which lead municipalities to rely on incineration as primary treatment method to reduce the volume of the waste. In 2010 nearly half of Sweden's waste was incinerated with energy recovery while only 3% went to landfills according to Avfall Sverige (cited in Corvellec & Hultman, 2012) and 36% was recycled in 2009 (Blumenthal, 2011). Corvellec & Hultman point that current changes in legislation, household and business behaviour and global environmental discourse create risk for Swedish waste management companies like SYSAV “heavily committed to energy recovery by incineration”, “to get stuck at the second, least preferred step of the European Union’s Waste Hierarchy Model: energy recovery” (2012, p. 305). This is especially true in the light of a recent development of the company who opened a 4th incineration line in 2008 justified by 25 years ahead expectation for increase of waste volumes. The assumption proved to be uncertain and the company its experiencing difficulties to fulfil its increased capacity and imports waste from Norway and UK (Corvellec & Hultman, 2012; SYSAV, 2012).

This situation is not unique to Sweden. As recent report shows despite similar overcapacity problems in Denmark, Germany, Switzerland, the Netherlands new facilities are further being planned (Jofra Sora, 2013). This may be described as a sort of technological path dependence resulting in a lock-in phase – “the dominant pattern gets fixed and even gains a quasi-deterministic character” (Schreyögg, Sydow, & Holtmann, 2011, p. 85). The lock-in is best illustrated by SYSAV “managers [who] admit to an impuissance for SYSAV, as a waste management company, to move up to the two higher steps of the waste hierarchy: product re-use and prevention.” (Corvellec & Hultman, 2012, p. 305). In contrast ZW by definition is excluding incineration of any kind as a viable option and

³ I mainly refer to environmental and social sustainability, however recycling which is main part of ZW is providing more jobs than incineration and land filling, and its economic value is now recognised in EU as well see (European Environment Agency, 2011)

focuses its efforts further up the hierarchy to ensure that as little waste as possible is left for disposal.

An example of the benefits of Zero Waste is provided by Zaman and Lehmann (2013, in press). They compared three cities in high consuming countries which have a zero waste visions - San Francisco, Adelaide and Stockholm on the level of their advance towards achieving these visions. They used a zero waste index which measures the “potentiality of virgin materials to be offset by zero waste management” (in press Zaman & Lehmann, 2013, p. 1) or how much resources will be saved. According to the results San Francisco where no incineration is used and 72% of the waste is either recycled or composted ranks better because “[v]irgin materials substitution, energy savings, emissions saving and water savings were also higher than [Adelaide and Stockholm]” (ibid 2013, p. 9).

The general message is that Zero Waste is more sustainable approach in addressing waste than the current EU approach as it saves more virgin materials. Therefore I argue that a ZW option for Sofia put forward by NGOs is better from sustainability point of view. Next I do a basic comparison with the other official alternatives put forward for Sofia. For more detailed discussions on Zero Waste approach, practical implementation and challenges see also (Allen et al., 2012; Phillips, Tudor, Bird, & Bates, 2011).

3.3 The officials' choice and the Zero Waste alternative - comparison

Here I present a simplified comparison between the official 4 alternatives developed by Fichtner Consortium⁴ and the one by NGOs (for more detailed one see Appendix I). I argue that the official alternatives are less sustainable as they save less materials than the Zero Waste one. None of the official options considers different waste management scenarios for the whole waste. They all have also almost identical parts related to prevention, reuse and recycling which renders any ranking between the options based on this as irrelevant. However these are the activities which can bring most in terms of saving resources and reducing green-house gas emissions (see EPA, 2006; Michaud, Farrant, Jan, Kjær, & Bakas, 2010; Wenzel, 2006). The difference is only in technologies applied to treat the residual part of the waste. However their high treatment capacity represent a potential risk for a technological lock-in. In contrast NGO proposal is more sustainable as it is based on Zero Waste principles, it saves more virgin materials mainly due to high separate collection, recycling and composting rates and has lower risk to lead to a technologic-

⁴ The consortium is lead by the German Fichtner GmbH while BT-Engineering and Aqua Consult are the Bulgarian partners of it

al lock-in due to modular facilities. The final alternative chosen by the municipality is Alt. 2 based on Mechanical-Biological Treatment facility to produce refuse-derived fuel (RDF) to be burnt in cement kilns or power plants.

I also asked my interviewees about their view on the officially selected alternative and some say: “One incinerator would have been better” (int. Hristova); “I do not see how this system will be economically viable and effective [...] This [system] is an enormous stupidity for me” (waste expert1).⁵ The director of the waste department of Sofia Municipality describes it “as one level above the average” while considering the ZW as “very positive, but at that time [was] assessed as unrealistic. This is the future.” (int. Traykov). However many of my respondents – councillors, waste experts, though recognising separate collection and recycling as important are in favour or at least not against incineration (int. Skinner, int. Hristova, int. waste expert1, int. Lilkov, int. Krasteva, int. Zhelev). Such diversity of opinions in regard the official alternative casts further doubt on its sustainability but also shows the different views on sustainability of waste. A point I will recurrently come to through my thesis.

I showed that incineration (or burning RDF) and energy recovery should not be the focus of sustainable waste management systems, something which is strongly advocated by Zero Waste and to lesser extent by the EU waste approaches. I also showed that the Zero Waste alternative advocated by NGOs is more sustainable than the official one. I can now turn to answer my research question:

Why sustainable solutions like zero waste are not implemented despite the understanding that we need to preserve resources and burning is not a sustainable option?

4 The governance of waste: concepts, maps and drivers

4.1 How is waste dealt with in Bulgaria

In Bulgaria the mayor representing the municipality is responsible for the organisation of the waste management system (Waste Management Act). The system itself should be part of thorough municipal waste management strategy (MWMS) which sets the goal and outlines the path to achieve it. More operational documents are the waste management programmes or plans, which usually include concrete measures, time-line and budgets allocated for reaching the strategy's goal. These all are guided by and subordinated to a Na-

⁵ Few of my respondents requested to preserve their anonymity.

tional Waste management strategy which is similar to the municipal one, but covers the whole country. Moreover beside national goals it has to address the requirements descending from the EU waste legislation.

As Dragneva (2012, pp. 198–233) report EU’s impact on Bulgarian waste legislation was significant before the accession treaty signed in 2005 and was characterised by a top-down relationship, while after 2005 the dynamics shifted from “pre-accession conditionality pressure to legal compliance pressure”. “[T]he impact of the EU on its member states” is defined by Jordan & Liefferink (2004, p. 2) as Europeanization. According to Dragneva (2012, p. 265) “Europeanization of the Bulgarian waste policy constitutes an uneven, problematic and ongoing process, [...] subject to the intense influence of mutually reinforcing endogenous factors (domestic and ‘domesticated’)”. She points to domestic factors as multiple veto points, mediating formal institutions, political and organizational cultures, differential empowerment of actors, learning, and political and partisan contestation which “have had significant implications for implementation and change in Bulgarian waste management” (Dragneva, 2012, p. 244). The author applies law and politics perspective to research the Europeanisation of Bulgaria waste policy and does not focus, though she provides examples on its actual implementation. My contribution is coming from the focus on the implementation, the outcome or what waste management system is negotiated and agreed upon and the factors behind.

4.2 Defining governance

Besides Europeanization of the waste policies the accession to EU also brought new demands to improve partnership between state actors and EU, and between state and non-state actors. Non-state actors should be involved in policy and strategy design (in waste as well), programming and monitoring of EU funds spending, public participation in environmental impacts assessments which are carried out at the level of projects or in strategic environmental assessments which are carried at the level of strategies, plans and programmes (Council Directive 85/337/EEC, Directive 2001/42/EC, Regulation (EC) no. 1083/2006, Directive 98/2008/EC). Waste management practices also evolved into involving private sector in collecting municipal waste - since late 90s - or packaging waste since 2005. Consultants are used to do analysis and design of waste management systems, draft laws and strategies⁶ which are no longer the strict domain of the government. Environmental NGOs and local communities are also putting additional pressure opposing landfills and incinerator constructions (see chapter 5).

⁶ These are based on observations during my work as waste campaigner for an NGO in Bulgaria.

Many of the above practices may fall under what Rhodes (1997, pp. 53–54) describes as “hollowing-out of the state”. A “fragmentation” and “loss of central capacity” (Rhodes, 1994), resulting in emergence of policy networks complicating policy coordination and governmental control (Hay and Richards, 2000), in core activities been undertaken by “think tanks and consultants” (Bakvis, 1997) or in bringing “changes in local government wrought by privatisation, through the practice of compulsory competitive tendering” Patterson and Pinch (1995) (all cited in Marinetto, 2007, pp. 59–60).

What combines all these practices and actors is the notion of **governance** since it represents a shift from a traditional “top-down” management or government with “nation-states as dominating actors” towards a “new, modern, way of management or government” where there is a “change in the institutional position of the nation state” (Eckerberg & Joas, 2004, pp. 405–406). There are many definitions about governance (see Rhodes, 2000), but it can be seen both “as the process of steering and coordination” and as structure like hierarchies, networks, communities (Pierre & Peters, 2000, p. 14). The first “seeking to understand how actors, public and private, control economic activities and produce desired outcomes” while the latter looks how to change the structures within it is generated if governance is to be 'right' (ibid, p. 22-23).

Useful is also Pierre's view of governance as “the erosion of traditional bases of political power” (cited in Eckerberg & Joas, 2004, p. 406) which is a result of three main processes: “deregulation of financial markets” causing shift of governmental control towards international and individual actors; change in the interaction between different political actors allowing political networks that are independent from the state and thirdly the strengthening position of local and regional actors. As a result “[a] simultaneous movement of political power is occurring up to trans-national levels of government and down to local communities, but in a coordinated manner.” (cited in Eckerberg & Joas, 2004, p. 407). This expands the concept of governance vertically and it is usually described as multi-level governance.

Multi-level governance emerged from the works of Gary Marks (1992, 1993) who was studying the processes of integration of new members states in EU and the underlying structural policy reform needed to complete the single market of EU. These reforms required the effective use of funds provided to poorer new comers to develop and for EC along with EP and some member states this was to be achieved through the introduction of partnerships within the countries gathering representatives form national, regional and local actors as well as supra-national such as EC (Bache & Flinders, 2004). “Multi-level’

referred to the increased interdependence of governments operating at different territorial levels, while ‘governance’ signalled the growing interdependence between governments and non-governmental actors at various territorial levels” (Bache & Flinders, 2004, p. 3)

It is applicable to the case of Sofia waste management project as the responsibilities for its development, assessment, approval and funding are spread among multiple actors from different tiers as part of the management of EU's Cohesion policy (see Regulation (EC) no. 1083/2006).

Finally as Chhotray and Stoker argue “governance seeks to understand the way we construct collective decision-making” (2009, p. 2). And perhaps the answer to my question why sustainable waste option was not decided is because “the crisis of unsustainability is, first and foremost, a crisis in *governance*” (Adger & Jordan, 2009a, p. xvii, emphasis in original).⁷ In their review of governance perspectives and sustainability Adger and Jordan (2009b) point to governance being used as an empirical or normative concept.⁸ The empirical one focuses on explaining how the decision-making happened – the process - while the normative one suggests how governance should be organised if sustainability – the outcome - has to be pursued. Waste management is a result of collective decision-making and it is part of the broader process of sustainable development as already outlined above. Therefore my main perspective through the thesis is governance as both process and outcome. So far I outlined governance and multi-level governance concepts in an attempt to conceptualise the problem of waste in Sofia. Next I will present a diagram based on these concept which guided me in finding the answers to my research questions.

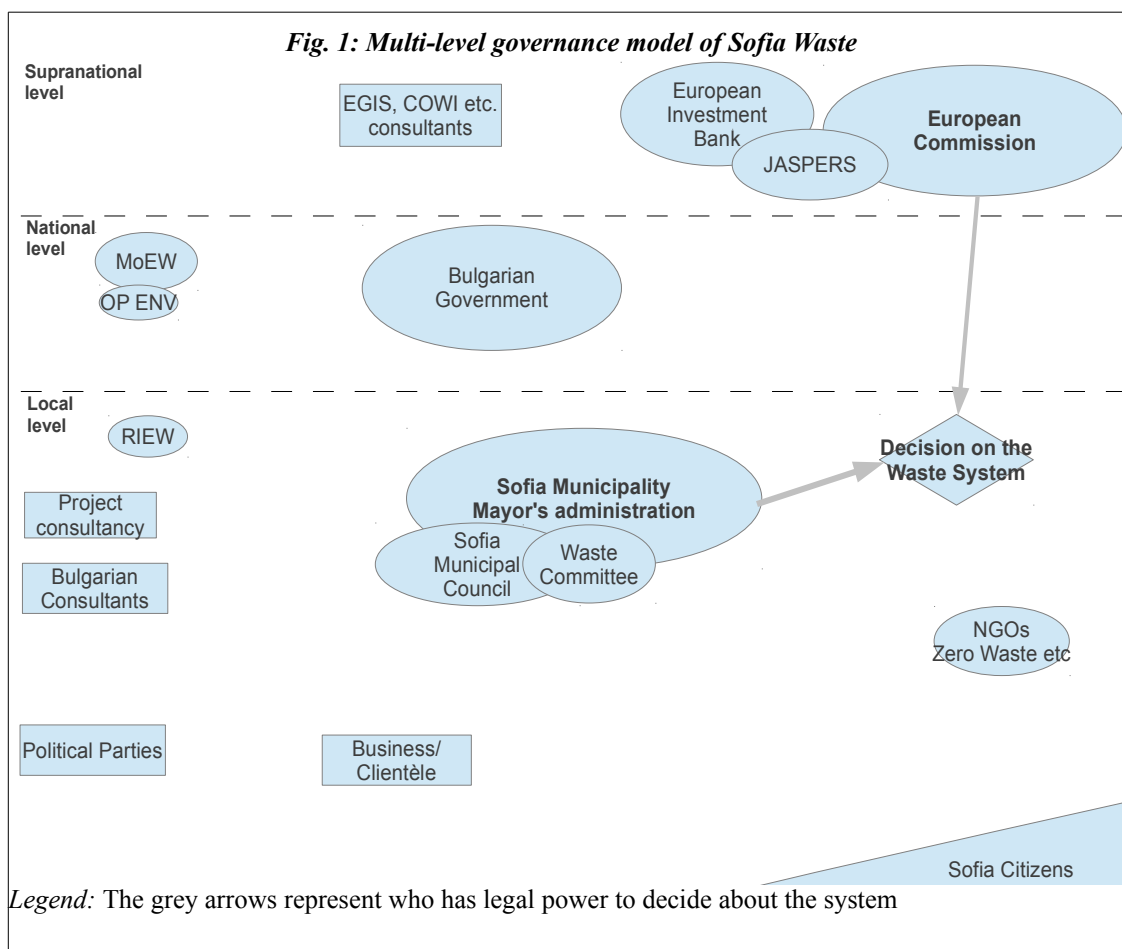
4.3 The construction of Sofia Waste governance diagram

I base my conceptual diagram on the theory above and on the logic which actors can influence the decision for the waste management system. At local and national level it includes Sofia Municipality (including Sofia Municipal Council - SMC) which has legal power to decide, as well as state actors such as the government, the Ministry of Environment and Water (MoEW) and non-state actors such as business, NGOs, consultants, political parties and citizens. European Commission (EC), the European Investment Bank (EIB) and JASPERS mechanism are part of the decision-making process as well and constitute the supra-national level. European Commission also has a legal power to decide

⁷ It has to be noted that Adger and Jordan (2009) are using sustainability and sustainable development as interchangeable terms thus referring governance to the broad process of sustainable development not on waste in particular.

⁸ This perspective is somehow similar to the one of Pierre and Peters (2000)

on the project as part of the legal requirements for providing funding (Regulation (EC) no. 1083/2006). EIB as a loan providing institution to Sofia also has some influence through its due diligence and contractual procedures. JASPERS provides technical assistance to applicants such as Sofia Municipality to ensure the projects they prepare are of quality that fits the requirements for EU funding (European Commission, n.d.). The resulting model is an example of multi-level governance scheme as shown on Figure 1.



4.4 Identifying the drivers of (un)sustainability

All the actors involved have some interest in the decision and could exert certain pressure. My next step in building the model is to present the main drivers behind the actors which I initially identified.

The first two of the main drivers I identified are **political and private gains**. I suggest that mayors, individual councillors, companies, consultants and even political parties could gain depending on which direction the decision-making process goes. For companies and consultants this can include direct financial gains through securing contracts from

the municipality. Political figures (or administrative ones) could also gain financially through promoting particular company. These can be defined as “corrupt acts” and “are characterised by a holder of public office violating non-discrimination norms in order to gain a private advantage” (Kurer, 2005, p. 227). In chapter 6 I will point to few examples which are the most obvious, while others like corruption through public procurement (Pashev, 2011) need additional research.

Political gains can be associated with individual politician or parties being elected or re-elected. I argue that Sofia waste problems were used between rival parties in the local government and between local and central government especially in election periods. Hence waste was used in politics which can be defined as “a struggle over power” (Marsh & Stoker, 2002, p. 10). Politics affect the political process of collective choice (ibid) and since the decision about Sofia waste is a result of such process I argue that politics do play a role in it.

There is however an underlying dynamic influencing politics, but also the administration capacity and it can be attributed to the **post-communist transition** of Bulgaria. A characteristic of that transition that holds value for my research is a process which Ganev defines as an “extraction from the state” by powerful elites who prey upon the wealth accumulated in the state during the 40 years of communist appropriations and “have no incentive to develop administrative-bureaucratic instruments of governance.” (2005, p. 432).⁹ Preying on the state assets, both tangible as money, equipment, resources and intangible as information, loyalty of civil servants, administrative capacity or as Michael Mann calls them “the logistical resources of the state,” in fact extracts state's ability “to organize and control people, materials and territories” in the pursuit of communal goals (as cited in Ganev, 2005, p. 436). I argue that this process shapes the informal and formal institutional frameworks or the context of decision-making of Sofia waste in a similar way. From one side it affects politics but from appropriations other it results in weak administrative capacity of Sofia municipality. This has an impact on the governance of waste, in terms of organisation and steering, but also in terms of outcome.

The effects of post-communist dynamics on the administration are partially counteracted¹⁰ by the process of **Europeanization**. However Europeanization effects not only “do-

⁹ My reference is to article that does not speak about Bulgaria, however Ganev published the book . *Preying on the state: the transformation of Bulgaria after 1989*. Ithaca: Cornell University Press. 2007, where he is developing this argument specifically for Bulgaria.

¹⁰ EU accession has put rather technical requirements for improving the administration, without taking into account politics and democratic transition, which are part of the post-communism transition, thus Europeanisation could only partially counteract. See Dimitrova, 2011 on administrative reform and democratisation in Central and Eastern Europe

mestic structures” like “public administration”, but also “public policy” (i.e. waste policy) and “cognitive and normative structures” like “discourse”, “norms and values”, “understanding of governance” (Featherstone & Radaelli, 2003, p. 37). Therefore here I use a bit more nuanced definition of it as the process of diffusion and institutionalisation¹¹ of EU's “formal and informal rules, procedures, policy paradigms, styles, ‘ways of doing things’” and EU's “shared beliefs and norms” (Radaelli, 2004, p. 3) into domestic level. This definition allows me to argue that Europeanization effects the whole governance process. The main actors who push Europeanization forward¹² in this case are the European Commission and EIB thus advancing the EU waste approach.

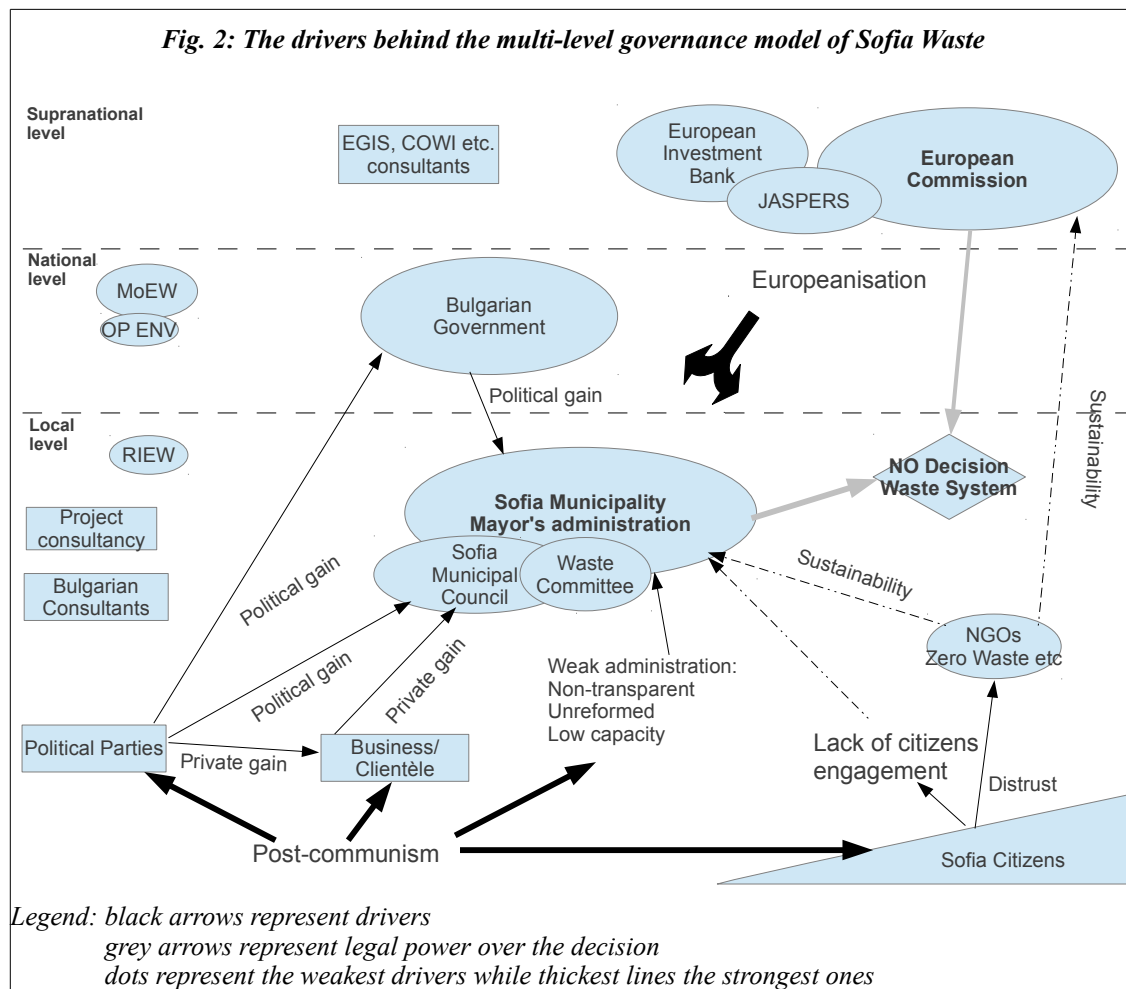
The driver for **sustainability** of Sofia waste management or the notion for preserving resources through Zero Waste is represented by the efforts of NGOs. Finally there is a **distrust** of Sofia citizens in public institutions and in NGOs resulting in lack of citizens engagement in civic activism (CSI 2011). On one hand I suggest it hampered NGO efforts to push for sustainability as it did not provide them with broad public support. And on the other it allowed Sofia Municipality to proceed with their intention without being challenged by its citizens, hence marginalising NGOs.

The emerging model of governance (Figure 2) combines the drivers, the different actors, and the levels at which they act and their relation to the decision of Sofia's waste management. Since the final approval of the project took place in the end of 2012 which extends the period analysed here over 8 years¹³ not all drivers were dominant at the same time. Therefore I divide the period into three chronological sub-periods and present models emphasising the prevailing dynamics.

¹¹ Radaelli defines three processes – construction, diffusion and institutionalisation (Radaelli, 2004).

¹² I know this is very simplified account how Europeanization works, but it should suffice for the scope of the thesis.

¹³ I am aware that there were developments before 2005 which had an important impact, however due to the limits of a master thesis I will not look into it in details. However I will present some historical contextualisation in the next section.



4.5 The dynamics of waste governance

I look at the governance both as a process concerned with the outcomes and interactions between social and political actors, but also as structure since the institutional arrangement remains important (Pierre & Peters, 2000, pp. 22–24). Moreover as Marsh and Furlong point from a realist perspective “institutional frameworks have a primary effect in shaping decision-making through their formal rules, their formal procedures, their value structures” and are not “a sum of countless individual choices” therefore I provide an “analysis and explanation which recognise[s] the weight of the long term structural and institutional context” (2002, pp. 38–39). The sections below provide short preliminary explanations of the dynamics of governance, which I used to build my models. In chapter 5 I provide further explanations and thick description to support the models.

4.5.1 *Local governance and preying on the state 2005-2006*

According to Pierre and Peters (2000) public policy in as appropriate instrument to resolve societal problems and interventions can be designed to solve problems efficiently without causing new problems. The state was assumed to have all the formal and legal powers, capabilities and knowledge required to play that intervening role and was “the epitome of the collective interest and [was] built on the normative image of collective action as the superior model for defining goals of societal transformation” (ibid, p. 56). However not very likely to be successful especially in post-communist countries where there was shift from “traditional authority” a top down and collectivist governance approach towards “individualistic political culture” as part of the ideological shifts towards markets (Pierre & Peters, 2000, pp. 37, 55). Additionally “[p]olitics was not part of the solution but part of the problem” thus “[t]he support for collective action was eroding” (ibid, p. 56). Struggles over political and private interest might be one explanation why no solution for the waste management was agreed during this period.

Besides political and private interests my preliminary research allows me to suggest that there is weak administrative capacity both in the administration and the council in regards environmental issues. One explanation about the weak administration in Bulgaria seeks its roots in a process which Ganev (2005, pp. 432, 435–436) defines as an “extraction from the state” done by powerful elites who “prey upon the wealth accumulated in the state” during the 40 years of communist appropriations. The process “is inimical to the creation and maintenance of effective and strong state structures” as it is lead by “logistically well-endowed groups that have no incentive to develop administrative-bureaucratic instruments of governance.” (2005, p. 432). For Ganev “the task of establishing the mechanisms and institutions of effective governance was the most daunting challenge facing the fledgling democracies in Eastern Europe” since the predatory project of the elite entails “the destruction of the administration” (Ganev, 2005, p. 441).

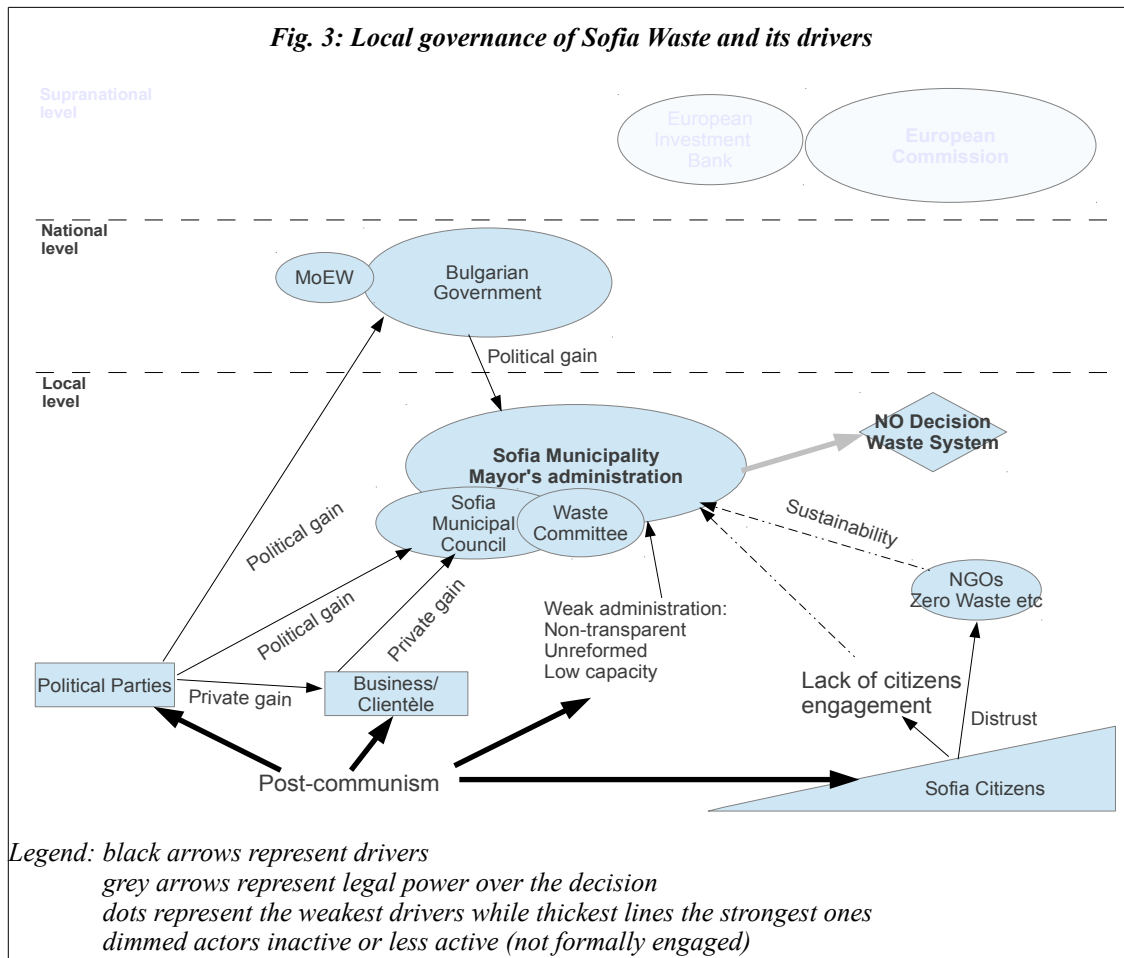
I assume that a process similar to “the extraction from the state” has happened at the level of Sofia municipality. My assumption is partially based on the description of the work of the Council provided by one of my interviewees. He describes a model that “provides something for everybody's economic interests”, a model where there is “no clear party opposition to decisions within the council”, but rather a “groupings between councillors from different parties depending on economic interests” (int. Todorov). Whereas for the administrative capacity OSI-S (2005, p.8) report that SMC have not developed sufficient capacity to determine the long term policies for development of the

municipality, through processes of elaboration, discussion with stakeholders and final agreement of strategies, plans and programmes. Moreover SMC depends on the proposal of the municipal administration which also “does not have the capacity to develop similar strategic documents” (ibid). The above allows me to assume that “the extraction from the state” happened at the level of Sofia municipality as well.

As mentioned earlier one of the characteristics of the governance process is to involve the private sector more into providing services and designing policies. Since late 90s, private companies collect the waste of Sofia and consultants are hired to develop environmental programmes (OSI-S, 2005). However other characteristic of governance “the role of the public as a source of policy ideas and the need for broader citizens engagement in making policy” (Pierre & Peters, 2000, p. 49) seems not to be recognised by Sofia municipality as OSI-S (2005) report suggest. Therefore in chapter 5 I will explore to what extent NGOs and local protesters were involved in the discussions about solving the waste problem and what was the effect on the decision.

In argue that this period can be characterised by the dominance of political and private gain drivers. In combination with weak administration the task to organise a waste management system is a daunting challenge. These counteracted NGOs efforts for pushing for sustainable solution.

The model representing the actors and the drivers during this period is shown at Figure 3.



4.5.2 Normalisation, Europeanisation and networking, decision for unsustainability, 2007-2008

This is the period when the waste management system of Sofia was designed and agreed at local level and the model of governance that led to that decision has different dynamics compared to the previous period. Firstly there was a change in the leadership as new mayor was elected after the resignation of the previous one. Secondly the involvement of EIB and EC expands the governance from local and national level to include the supra-national level. Their involvement brings both technical assistance but also new requirements towards the municipality especially since EC is offering financial support for establishing a waste management system. Europeanisation – becomes a driver for the municipality and is resulting in adopting practices as planning, analysing, evaluating options and preparing a project proposal to be eligible for EU funding. This requires that political and private interests dominant in the council are reduced or restricted if the rules of the game of EU funding should be respected. A new deputy mayor responsible for the

environment is appointed who comes from the Ministry of environment plays a significant role in. Additionally in 2007 the mayor's party got a majority in the council so any struggles or oppositions are almost eliminated. I call this process normalisation as a rational approach with clear steps for solving the problem was agreed and the contradicting decisions of the municipality and council were reduced. This represents a strengthening of the municipality's central role in steering and coordination of the governance process in comparison to the previous period.

Here I need to make a clarification between two governance approaches I use in the sections below - governance network (GN) and policy network (PN). GN tries to analyse the shift from 'government to governance' and the comparison between governance paradigms such as hierarchies, markets, networks. It focuses on analysing "innovation in modes of governance" thus concentrating on policy areas such as "environmental sustainability", "social inclusion" or "neighbourhood regeneration" (Blanco, Lowndes, & Pratchett, 2011, pp. 300–301). PN on the other hand "aims to explain variation between networks" and "to link the impact of policy networks to the nature of policy outcome" focusing on traditional policy areas at national level (ibid).

To put it more simply GN in my case is concerned with governance structure while PN is looking at the actors, their rather informal links with other actors with which they form specific networks – single issue, policy or epistemic communities etc. and their impact on the final decision. The actors in the governance network themselves may be part of policy networks. In fact as I will argue further there is evidence that such policy networks exist and may have impact on the decision-making.

The governance structure in this period resembles more a network where the municipality is one of the actors while others are consultants, state institutions, organised interest in a given policy sector, policy communities, single issue coalitions - ZW NGOs (Pierre & Peters, 2000, pp. 19–20). It is important that I use the word resemblance as according to Rhodes (1997, pp. 47, 52) networks governance is characterised by "trust and mutual adjustment" between government and private, and voluntary actor to provide services, but also networks are an "alternative to [...] hierarchies" or "co-ordination by administrative order". Governance network literature claims that networks and partnerships "open up decision-making processes to interest groups and to citizens themselves" (Blanco et al., 2011, p. 304). However the governance of waste in this period is more like a corporatist model "a sub-type of policy network" (Rhodes, 1997, p. 32) where "only limited number of actors can play the game, and those that do are bound closely with the power

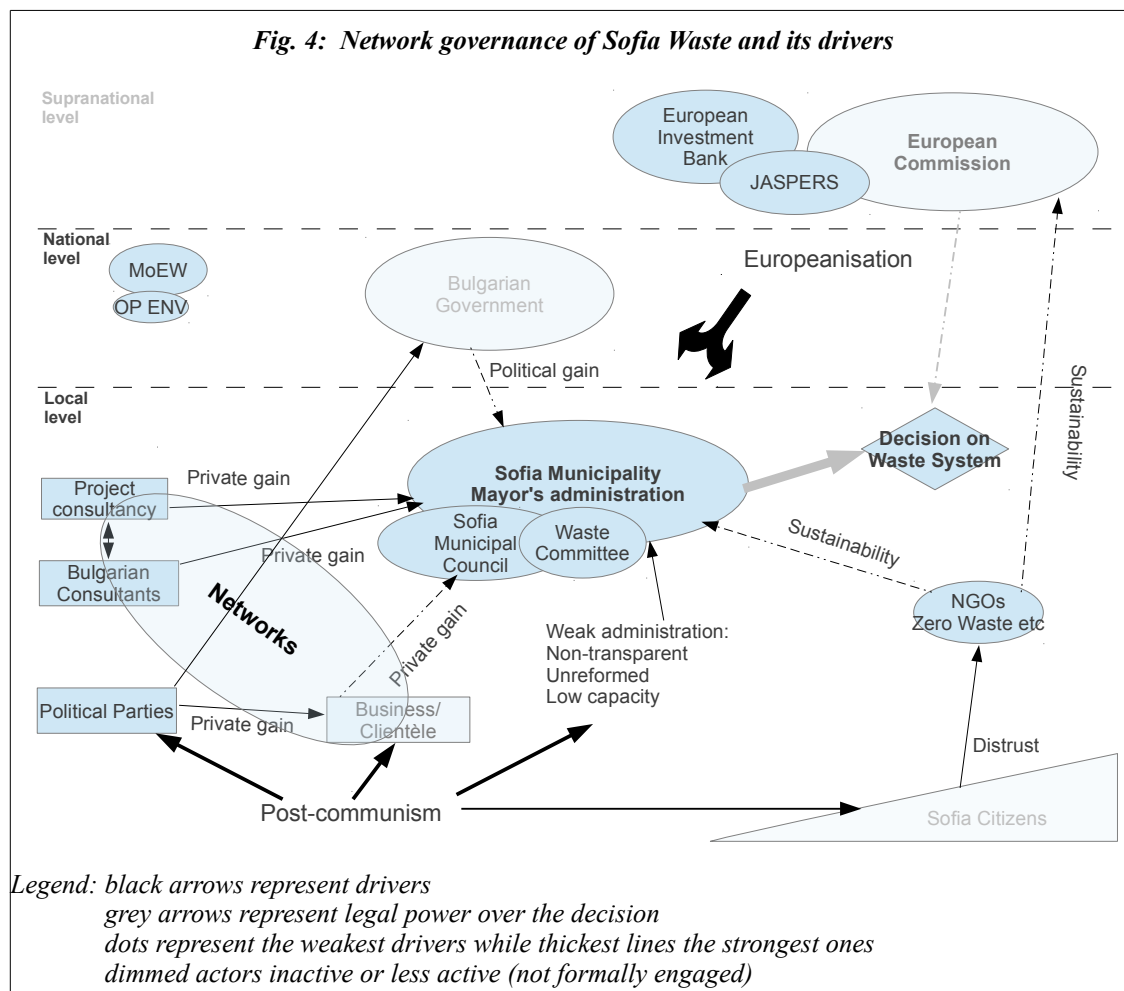
of the [municipality]” (Pierre & Peters, 2000, p. 35). Limited number as civil society groups as local protesters or NGOs are excluded, thus effectively shunting the driver of sustainability mainly represented by their positions.¹⁴ The ones that can play the game are different consultants, representatives of different local and national administrative bodies, JASPERS and EC. While further research is needed I consider that some of the participants are also part of a policy network. Marsh and Rhodes (1992, p. 265) argue that policy networks “destroy political responsibility by shutting out the public; create privileged oligarchies; and are conservative in their impact because, for example, the rules of the game and access favour established interest”.

In short the major difference to the previous period is that the municipality administration strengthens its steering and coordinating role in the governance process. However the planning, strategising, analysing functions are outsourced to consultants who have the necessary capacity, but who also have their view how a waste system should look like. Some of them form a policy network that may have impacted the decision-making process in their interest. The exclusion of NGOs and local protesters from the discussions about the waste system results in a governance structure that does not allow sustainability to be articulated, defended and taken into account. In fact my main argument is that policy networks¹⁵ have affected mostly the decision about the waste management of Sofia and the democratic deficit of the network governance model is the main barrier for sustainability.

The model representing the actors, the drivers and the policy network during this period is shown at Figure 4.

¹⁴ Though EC also emphasises the role of recycling and GHG in waste management (see ECLetter8June2010Annex).

¹⁵ To what extent the decision reflects the will of the municipality or the will of the policy network and whether there is other connections between them is a matter of further research into informal links and relations.



4.5.3 Multi-level governance, now only the big ones talk, 2009-2012

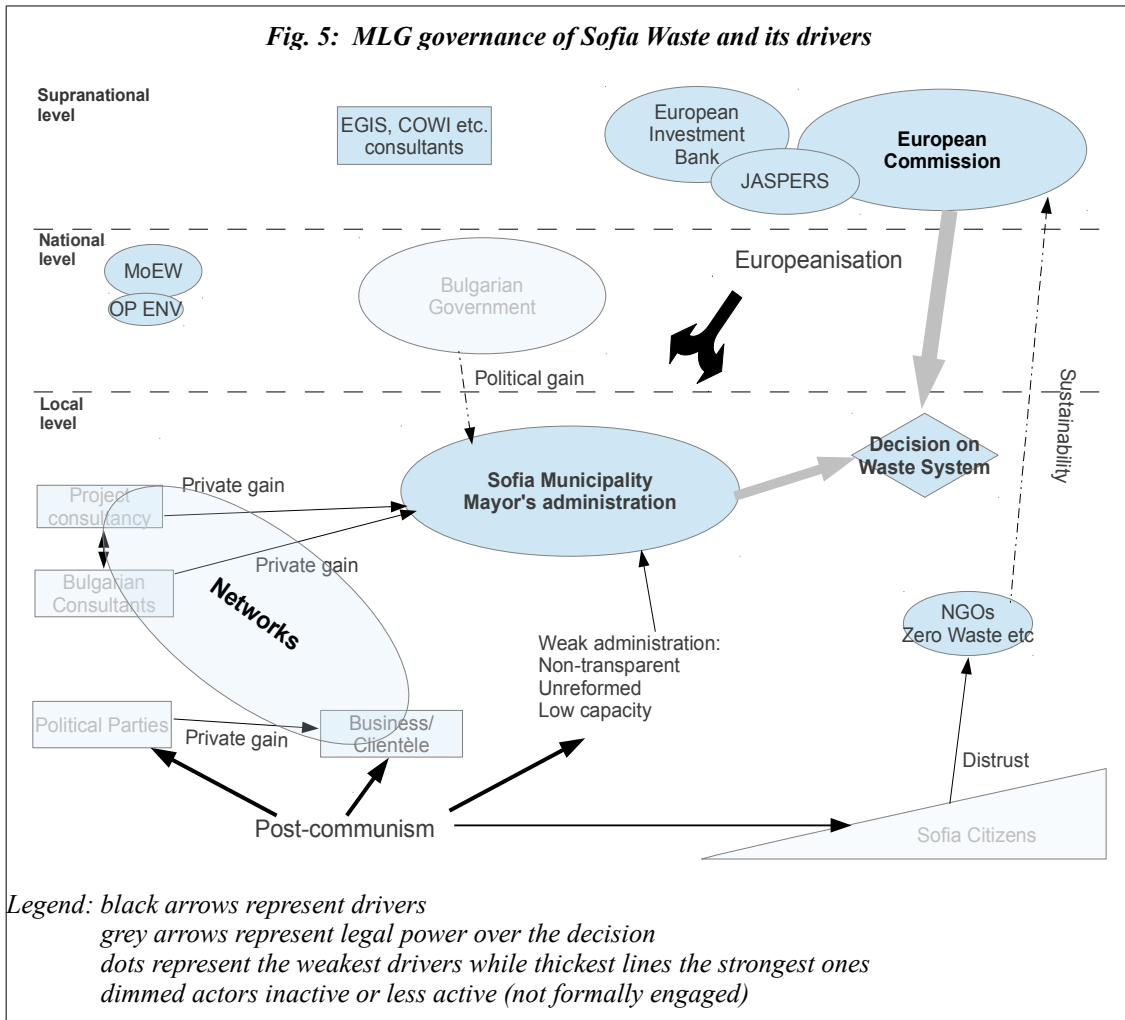
The third period is a clear example of multi-level governance as we have an expansion of the governance from local towards supra-national level once Sofia municipality submits the project for appraisal by EC.

It is worth reminding that “collective interests are defined and pursued” through the governance process which also “serves to bridge the public–private border in the pursuit of the collective interests” and hence one “should expect a significant diversity of actors to be involved in governance” (Pierre & Peters, 2004, pp. 78, 82). Indeed new actors step in as international consultants, to assist EC or EIB in the decision making process rather than being distinct players with own agenda. Hence one group of actors forms around EC and another around the municipality which also consists of the consultants helping it and the managing authority of OP Environment situated in the ministry of Environment and Water. Now actors, arenas and institutions are vertically and horizontally linked in a com-

plex and contextual relationship (Pierre & Peters, 2004). However an important element are the institutions who manage and coordinate the governance process, and in this case the multi-level one being simultaneously part of the process itself. Koch (1996) and Scharpf (1997) say there are no strict legal frameworks how MLG should be ordered, thus the set up is more of a negotiated one (cited in Pierre & Peters, 2004), then it is no surprise that for example NGOs are not part of any official discussions about the project though they communicate with EC in attempts to influence their decision towards more sustainable solution.

Pierre and Peter point that MLG “largely defies, or ignores, structure” and its “focus is clearly on process and outcomes” (2004, p. 84). The issue here is that MLG being more informal set up – lacks legal frameworks - avoids political accountability and it “is incumbent upon the actors themselves to permit different actors to participate and to de facto define their relative leverage” (ibid, p. 87). Then the question is “to what extent informality entails outcomes reflecting the status quo and/or the interests of dominant players” (ibid). The negotiations in MLG set up tend to be either conflictual so need to be resolved elsewhere or lead to “pork barrel” solution in which everybody gets something, but the fundamental policy problems that produced the need for the bargaining may not have been necessarily resolved (ibid). These are some of the “perils and dangers associated with such governance in terms of participation, accountability, transparency, and inclusion” (Pierre & Peters, 2004, p. 77).

The question for this period is can MLG really provide the governance we need – steering society towards common goals. My answer is no because the determination of the “common goals” happened before at local and national level, though they were partially altered during the negotiation process towards a less unsustainable ones this happened in a process closed to political accountability. Hence the result could've been in opposite direction. EC holds the final decision about the project and through the MLG process it actually lead to further Europeanisation of Bulgaria by accepting some of EU's conditions. However the MLG process was not open notably to the actors advocating for stronger sustainability. The model of governance is shown at Figure 5.



5 Thick description of the governance of waste in Sofia

5.1 Dealing with the waste crisis and its aftermath 2005-2006

“Institutions reveal much about themselves when under stress or in crisis, when they face the unexpected as well as the routine” (Burawoy, 1998, p. 14).

The landfill blockade by Suhodol citizens in early January 2005 and mayor Sofianski's 2003 promise to close the landfill are the catalyst that made Sofia Municipal Council (SMC) to decide to close the landfill by the end of September 2005 (see DEC1/2005).¹⁶ For some years it was clear to the SMC that the landfill may be reaching its capacity and something needed to be done as the former councillor Zhelev told me in an interview.

¹⁶ All decisions (ref as DECnumber/year) of the council are in Bulgarian language, and at the moment are not included in the bibliography.

The citizens of Suhodol hold similar view along with environmental and health concerns (personal communication). Others like the consultant Mr. Skinner,¹⁷ however, argue that these were perceived problems since the landfill was well managed and it had free capacity when it was closed (int Skinner). I approached the landfill operator in an attempt to clarify whether there were problems with the capacity and he answered: “It can be answered yes and no. The closure was on 80 % due to external pressure...and if one continues to play politics with Sofia waste, this is very bad” (int. Gramatikov).

5.1.1 Waste as resource in politics

But who can gain from politics with the waste? Mayors for example could gain politically. In general mayors are elected and try to respond to at least some of the expectations of their voters if they want to be re-elected. So keeping the promise to close the landfill seems to be the right thing to do for a politician, however the waste crisis that emerged caused him his resignation. For him there were concrete people from concrete party behind the protests for the closure of Suhodol (int. Sofianski).¹⁸ He also suspects that his efforts to find suitable sites for the waste after the landfill closure was blocked by political forces and in his words “there was political interference and part of the political forces did not want me as mayor” (int. Sofianski). Between 2001 and 2009 the mayors and the leading parties in the council were in opposition to the parties in the government. The government holds the Ministry of Environment who has regulatory functions related to waste management, thus has the potential to interfere.

The next mayor Borisov could also gain by solving the problem as it would raise his public image and would increase the chances of his newly established party (2006) to gain popularity and political power in later elections. Hence becoming a political threat to the governmental coalition. After a week after Borisov officially took the mayor office¹⁹ the Council of Ministers tried to take over the local government responsibilities in 2005 pointing what and where Sofia Municipality should do with the waste.²⁰ This was

¹⁷ Mr. Michael Skinner is from the consultancy company Fichtner GmbH which was contracted to design the Sofia waste management system in the period 2007-2008. He was team leader for this project. (see TASK 4, 2008)

¹⁸ That party (BSP) won the parliamentary elections on 25 June 2005 few days before Sofianski resignation on 30 June 2003.

¹⁹ Borissov oath-taking ceremony was on 10 November 2005 at council meeting No 62 <http://sofiacouncil.bg/index.php?page=sessions&id=78>

²⁰ Council of Ministers of Republic of Bulgaria decision 883/18.11.2005

later revoked by the court²¹ however it may well be an attack on the mayor Borisov as similar attempt by the government happened prior 2009 elections (Goranova, 2009).

However besides political gain there are also economic interests seeking private gain. The lobbyism for infrastructural contracts were the most obvious cases mentioned by some officials (int. Zhelev, int. Kadiev, int. Lilkov). Though proof for such practices could hardly be expected to be found in official documents I did find some support for such claims in official decisions of the council where concrete companies are mentioned as potential contractors (DEC211/2004, DEC145/2007). It also seems that companies around Sofianski can gain from the closure of the landfill. Sofianski told me he had a plan to construct an incinerator in Kremikovci and the idea to put the waste in plastic bales as future fuel for the plant was part of that plan (int. Sofianski). The baling was suggested “by my people who deal with such things” (int. Sofianski), and was not part of any official waste strategy. Later when the blockades started the mayor convinced the council to take (DEC1/2005) the “hastily decision to close the landfill” (int. Zhelev). Then the baling starts entering an “epic” (int. Zhelev)²² period of struggles.

The above seems to support the claim of some councillors that heavy lobbying resulted in many wrong decisions of the council (int. Zhelev, int. Lilkov). While I cannot point which are right or wrong I found evidence that the council is giving contradictory directions to the administration. For example asking simultaneously to search for more companies that can manage the waste and to start an EIA procedure for two concrete ones for the Kremikovci plant (DEC211/2004). Another example is asking the administration to start a tender for selecting waste technology and investor (DEC 462/2005) while two months later the council accepts a waste management programme and demands the mayor to follow it (DEC586/2005). Just few months later the council wants to decide on the technologies (DEC74/2006). Zhelev (int.) describes this very clear: “The council is the political body [...] and it should define concepts, strategies, programmes, policies. He has to initiate these things”, “[but] we don't make policies. We intervene in all types of decisions of the administration, contrariwise the administration does not follow [council] decisions all in all it is a vicious circle”.

²¹ Decision 4107/18.04.2006 of Supreme Administrative Court on court case 11317/2005. The court case was launched by environmental NGO Ecoglasnost

²² Zhelev used the world *epopeya* - epic is about the struggles in finding suitable places where to store or dispose of the waste in bales, including negotiations with other municipalities to take Sofia's waste in return to financial remuneration. Struggles to find places for the major waste treatment facilities which were not defined at that time. These occupied much of Sofia's municipality attention for at least two years until the reopening of Suhodol landfill in 2007.

5.1.2 *The administrative capacity to solve the problem*

Besides the private and political interests resulting in contradictory decisions how to handle the waste of Sofia I suggest that the both the SMC and the administration do not have capacity to counteract such interests and pursue the common good.

For example in 2003 the control and monitoring of the work of the private waste collection companies which is done by an independent department subordinate directly to Sofia Municipality is assessed as poor (ACCESS, p. 45). But in 2006 there are still only 3 people working in the waste department of the municipality (int Traykov), which can oversee the work of the other. Additionally the waste management programme for 2005 points that “there is no unified system to report waste management activities, which can support decision-making for their improvement”, “information about waste generation does not reach the directorate”, “Sofia municipality does not have a system for conducting regular waste assessments” (MSWProgramme2005, p. 26) and “the municipal administration does not have enough English speaking servants” to deal with EU funds and programmes (MSWP2 2005, p. 25, p. 26, p. 41). In an letter from the municipality to NGOs one can read.

“the Zero Waste strategy which you propose is known to our experts – it is available on internet. The introduction of such a system requires years and enormous organisation starting from citizens' consciousness, then pilot projects and the usage of recovery, disposal and treatment technologies. At the current stage even the pilot introduction of separate collection of packaging waste faces numerous difficulties.” (SMLetter1)

To respond to this administrative challenge a waste committee was established²³ where representatives of both the administration and the council were discussing the waste problem with support from external experts, including the ministry of environment and some businesses (RD1981/2005). The only group of actors which was not there were environmental NGOs and representatives of local protesters (see below).²⁴ However the committee struggled for more than 3 months²⁵ to agree what steps to be followed to solve the problem. Whether first to define the technologies or find suitable sites for waste facilities, whether to select an investor to build a plant or first design a waste management system, or whether feasibility studies should be conducted or rely on expert opinion

²³ There were at least 3 such waste committees functioning from 2004 until 2010

²⁴ Though in 2006 some NGOs were allowed to observe the meetings, for some period

²⁵ The 16 meetings protocols I've gained access to cover 3 months only, the committee existed at least from March 2005 until March 2006, though it is unclear how many meetings it had overall,

(PROT3/2006, PROT4/2006, PROT9/2006). A study of the protocols alone could fill another master thesis, but what is essential is that sustainability or environmental issues are generally not discussed at the meetings of the committee. Waste is seen as something to be managed and it is discussed in terms of technologies, procedures to be followed, capital and operational cost (PROT3/2006, PROT4/2006, PROT9/2006).

I suggest that while it was set to ease the work of the council and the administration by employing also external expert capacity in general it contributed to the confusion. Some councillors claim there was enough information to take a decision (int Lilkov), however a participant in external monitoring of the council operations suggests that in general the quality of discussions in the council on different subjects including environmental ones “was low” and “one cannot understand from the talks which are the facts the important facts for taking a decision” (int Kodjabashev). Taking also into account the contradictory decisions of the council I can conclude that the council had limited capacity and knowledge to address the waste problem.

5.1.3 Local protesters and NGOs carriers for sustainability

Finally I come to the role of NGOs and local protesters as carriers for sustainability. “The obvious role of members of society is to present their 'wants and demands' and to press for adoption of their own agendas through the political process” (Pierre & Peters, 2000, p. 32). It can be argued that the protesters were successful in the initial closure of the landfill of Suhodol and NGOs in general managed to challenge the dubious practice of baling. However NGOs demands for participation in the discussions over the waste system of Sofia or their written statements were mainly disregarded. An elucidating discussion is held in one of the waste committee meetings during which the role of NGOs was discussed. “NGOs cannot be part of a system where decisions are made” (Tasev as cited in PROT9/2006, p. 2), or NGOs can be part of a separate Public Commission, despite the fact that the Municipal Environmental Commission disagrees on the establishment of such public commission at first place (PROT9/2006). While some members of the waste committee suggest they are to decide whether NGOs can be part of it others remind that the mayor wants NGOs in and can amend the necessary order (PROT9/2006). NGOs were present at that meeting but after this discussion are requested to leave. Later the mayor himself explained his proposal for including representatives of the protesters in front of waste committee members:

first what Sofia Municipality seeks is a population, which accepts SM intentions to be accomplished at their territory, therefore the NGO participation in the committee will contribute to form supportive public opinion. [I suggest] NGO representatives to take part in the committee meetings listening to its resolutions... (Borisov as cited in PROT9/2006, p. 4)

As final decision one can read “[o]nce a month the waste committee to conduct meetings with NGOs [...] at which to inform them about its work and the decisions taken” (PROT9/2006, p. 6). What is important is that sustainability was not put on the agenda for discussion as NGOs are not recognised as legitimate actor in the governance of waste. NGO and citizen were to be informed and consulted only. These types of participation fall under the “degree of tokenism” according to Arnstein's ladder of participation where “citizens may indeed hear and be heard” but they have “no 'muscle,' hence no assurance of changing the status quo” (1969, p. 217).

In this first period the politics were the main game in town and in combination with the weak administration effectively prevented any meaningful discussion and decision on waste management to be agreed. Moreover the contradictory decision contributed to the emergence of a waste crisis.

5.2 The “normalisation” of the process, marginalisation of the NGOs and the illusion of choice 2007-2008

“The catalyst to manage the problem eventuates when the waste disposal impacts (polluted air, water or full landfills) affect people.” Seadon (2010, p. 1639)

I refer to this period as normalisation because as I argue a more rational and systematic approach to solve the waste problem of Sofia was taken. There are three main reasons for that: firstly there was a real waste crisis posing health and environmental risks; secondly EU accession gave the municipality an opportunity to apply for EU funds, however it required certain steps to be followed; thirdly a change in the administration of the municipality strengthened its capacity to manage the problem further enhanced by securing a majority within the council. From one side there was a determination or 'political will', or as Rhodes puts it “[s]trong, directive, and above all persistent, executive leadership” and from the other once the administration decides something it “could force it through” (1997, p. 88). Although these can explain why the process normalised they can-

not account for the type of waste management system agreed in this period. I provide evidence that the governance process did not allow the sustainability advocates to influence the decision and I suggest a professionalised policy network among the consultants influenced the decision towards a technological solution.

5.2.1 Help is coming...under conditions

In the beginning of 2006 experts from JASPERS and EIB visited Sofia and witnessed the practice of baling of the waste and its temporary storage under the open sky. They concluded that “the current waste management is unsustainable”, “does not comply with the environmental legislation” and with the upcoming increase in temperatures “the situation will become unbearable” and will “represent a health risk” (LetterJASP2006, p. 2). They also offered assistance to the Bulgarian authorities in developing the most appropriate waste management and easing finance from EC, but put some conditions to the institutions at local and national level such as to cooperate and agree on a site for a future landfill and to consider the reopening of Suhodol landfill (LetterJASP2006). Such conditionality is quite similar to the conditionality refereed as the demand from EU pre-accession countries, like Bulgaria, to align their legislation and institutions with the EU *acquis* prior accession (Sedelmeier, 2008). If accepted it means the rules of the game have to change towards what is required by EU.

But still in 2007 for some councillors potential private gain was still a driver and they lobbied for a Swedish company TEKNISKA VERKEN to manage Sofia waste without public procurement (int. Lilkov). This time however, the council rejected the lobbying initiative (DEC145/2007) after the newly appointed deputy mayor for the environment Boyadjijska convinced it that if EU funds are anticipated then there is a need for feasibility studies (int. Zhelev). Later in 2007 the EC initiated a procedure against Bulgaria for infringement of the EU legislation pointing that:

[t]he identified deficiencies include lack of system and installations for recovery and disposal of the household waste generated, lack and where available inadequate storage sites and lack of adequate pre-treatment of waste. The latter represent a serious risk for the human health and the environment and thus constitute a clear breach of the aforementioned provision of the Waste Directive (ECLetter1, p. 5)

According to rationalist explanations how Europeanization works, actors change their domestic practices to receive funding or to comply with the EU *acquis* (Bache, Andreou,

Atanasova, & Tomsic, 2011). Clearly the Europeanisation is pushing for changes at local level.

5.2.2 *New dynamics - old structures?*

Indeed SM follows EIB recommendations and decides to reopen the closed landfill (DEC787/2006) and to procure feasibility studies (DEC65/2007). Though the appointment of Boyadjiyska strengthens the municipality's capacity to manage and coordinate, external consultants are still needed. Some are needed to produce new waste analysis since the available data is old and unreliable (MSWProgramme2005, MSWStrategy2007) others like the consultant consortium lead by the German company Fichtner is hired to “assist [Sofia Municipality] in the selection, designing and preparation of the integrated system of facilities for management of the *municipal solid household waste*² and the *green waste*”²⁶.

Further in October 2007 SM establishes a Steering Committee to “discuss and adopt” the reports produced under the consortium project (RD333/2007). This committee has very strong though informal decision making power as its decision are used to backup the administration's proposals to the council. Its members are consultants, representatives from the council and the municipal administration, several ministries and sometimes JASPERS. However why this governance structure decided for waste system may be considered unsustainable?

One explanation comes if I look at the municipality's attitude towards partnership. Ms Kroumova for the Ministry of Environment points that in general municipalities in Bulgaria “do not see the added value in a partnership” and for Sofia it depends on the “human factor” since different “deputy mayors have different approach towards partnership with other institutions”, affecting to “what extend one should listen or not external people” (int.). Moreover “there is a serious political opposition between the mayor and the management of the ministry” (ibid). However while management of EU funds requires formal cooperation between institutions the participation in the Steering Committee is not obligatory though the ministry representatives are there. Similarly to the previous period NGOs and local protesters are again not recognised and not involved as partners in it.

²⁶ The quote is from a two-pager I received from Fichtner, which I was told refers to TASK 4, 2008 p. 16, however I think it is from the Contract or ToR of Fichtner as TASK 4 p. 16 reads as follows: “The Objective of the Study are: To develop a MWM plan regarding the future Sofia household waste management integrating activities of **prevention, recycling, collection, transfer, treatment and disposal of the waste** under consideration of technical, environmental, financial, economic and social aspects.” Later I was told that the initial task quoted above has changed (Skinner, e-mail)

There seems to be a pattern in non involvement of the public. None of the waste strategies and programmes of Sofia Municipality between 2005 and 2012 were publicly announced and discussed with NGOs and the public in general. They were also not subject of Strategic Environmental Assessment, which is mandatory and requires public consultations (Directive 2001/42/EC). Hence the public has effectively been prevented to influence this founding documents. Even today only few outdated strategic documents are available online (see Sofia Municipality, 2009).

Still on 11 March 2008 the municipality announced its draft plans for the waste system and invited comments (Sofia Municipality, 2008). Though the deputy mayor Boyadjyska acknowledged that “the published information from Sofia municipality [...] was insufficient, because [NGOs] conclude not on the basis of the complete report, but on fragments of it“ (PROT9/2008, p. 4). Consequently NGOs requested additional information about the cost-benefits of the project, the conceptual design and the financial analysis, but they were refused and it took NGOs two years in court to get access to them²⁷.

5.2.3 *The illusion of choice*

It seems the municipality deliberately provided limited information as it did not seek any involvement from the public. This argument is also supported by the fact that the consultation mentioned above was conducted in rushed manner and coincided with several other processes. The plans were published few days before the announcement of the Environmental Impact Assessment procedure on 17 March (Sofia Municipality, 2008). It already proposes Alt 2 as main and Alt 4 as an alternative to be assessed (ibid) and consulted with the public (art. 95 EPA). NGOs statement demanding Zero Waste alternative to be assessed is registered the same day as the Municipality officially initiated the EIA procedure – 19 March, 2008.²⁸ Several of my interviewees expressed the opinion that involving the citizens at the stage of EIA, is very late in the process and could not change anything (int. Zhelev, int. Kroumova).

Nevertheless NGOs statements prompted some discussion. On April 1 2008 at a meeting initiated by EC with representatives of NGOs, JASPERS, Sofia municipality, MoEW, Fichtner and hosted in MoEW²⁹ the NGOs statement is the main discussion point. While

²⁷ Court Decisions on case 11136/2009,V,2, Court case 13928/2009,V,2 of Supreme Administrative Court (available on request in Bulgarian)

²⁸ Formal letters were sent to MoEW/RIEW on 19 March, 2008 (No 3200-14/19.03.08) and to relevant municipalities on 18 March, 2008 (No 0822-48/18.03.2008)

²⁹ Official protocol of the meeting is not kept by MoEW - MoEW official responded to NGOs (ZDOI-216-18.07.2012)

this meeting gives some indications³⁰ that changes might be possible in fact the municipality has already made up their mind. The previous day the Steering Committee already have met and decided that alternative 2 should be realised with an option to develop into alternative 3 (PROT9/2008). The committee also discussed NGOs statement but one of the consultants regards the suggested 50-75 % recycling as “hard to be achieved”. The JASPERS expert adds: “[I do] not know a country with 75% recycling and even 55% is too high”, while the municipality's waste department director acknowledges that “[m]aybe in the course of time these targets will be achieved” (PROT9/2008, pp. 4-5). It concludes that: “The presented comments do not necessitate modification of the present alternatives, as well as to exclude or include new alternative” (PROT9/2008). Though the Zero Waste alternative is deemed unrealistic and dismissed. Despite the result of both meetings perhaps the council could have had some stand on that, but the mayor Borissov in his report to the councillors only mentions that NGOs statements were discussed by the Committee without announcing its decisions or NGO critiques to the project. Similarly for the meeting initiated by EC he describes it as a working meeting and only mentions NGOs names (VIDEO1, min 13-16). Unfortunately no one from the council asked any questions about any of the two meetings.

Although there were some consultations I conclude they were rushed, designed rather to inform than to collect and use the input³¹ and NGOs involvement is used to legitimise SM intentions or in fact decisions that have been already made. However I think that a policy network of consultants have determined or at least influenced substantially the outcome. I will provide some evidence to backup my claim however I realise there is a need for further research.

5.2.4 Policy network behind the choice

I have found that few of the consultant companies employed by the municipality share common owners or governors or have equity in other companies providing consultancy. What is important is that relatively closed network of formally linked people provided the analysis, designed the strategies and activities, and took part in the design of the waste management system. Some of them later implement some activities under different company names (see Appendix III). Most of the people from these companies were also present at one or another time in the Steering Committee thus having additional leverage

³⁰ According to a memo of the NGO Za Zemiata, EC proposed to set a mandatory target of minimum 50% recycling to be achieved by the waste project (Memo1).

³¹ Despite the fact that the SC discuss the statements there is no debate especially when the advocates of the high recycling rates are excluded.

over the decision. Pierre and Peter suggest that networks “regulate and coordinate policy sectors more according to the preferences of the actors involved than with consideration to public policy” (2000, p. 20). What seems to be a common preference, also evident in all strategic documents after 2005 is that the waste management of Sofia is seen as a technological solution emphasising on thermal treatment of the waste either through pure incineration or MBT plant producing RDF at the expense of separate collection³² and high recycling rates (see MSWConcept2005, MSWProgramme2005, MSWProgramme2006, MSWStrategy2007, TASK 4/2008, PROT). I mean common not only for the policy network of consultants, but also for the Steering Committee and the municipality as they officially adopt all the documents.

Finally the impartiality of the EIA team is questionable insofar members of it were firstly contracted by the municipality in 2007 to publish a reference book on waste treatment methods in attempt to “overcome some deep-rooted nonargued prejudices in the society regarding certain technologies” (GUIDE 2007 , p3). The authors praise different incineration technologies while waste prevention, reuse and separate collection are not mentioned and recycling is limited to bio-waste management. One of the EIA experts Dombalov was also a member of the earlier Waste Committee proposing thermal treatment claiming that “at this stage separate collection is a dream in Bulgaria” (as cited in PROT7/2005, p. 2).

It is this alignment of the major actors' preferences towards a technological solution I consider to be a confirmation of policy network influence over the final decision.

5.3 Now only the big ones talk 2009-2012

The outcome of the governance process at local level is clear at the end of 2008, 2009 passes in the consultants consortium finalising its tasks and on April 2010 the project application form was officially submitted (ECLetter23Apr2010) to EC for appraisal and what followed is a two and half years of a multi-level governance process.

As described in section 4.5.3 multi-level governance involves actors from local, national and supra-national level. It is focused on processes and outcomes rather structures. However its informal set up is prone to avoid political accountability and depending on the participants involved the outcomes may reflect the status quo or the interests of dominant players. This “bleak and pessimistic” account of MLG by Pierre and Peter (2004, p.

³² MSWConcept2005 set plans until 2020 but do not even analyse the waste collection as part of the waste management concept. The document states that “The solid waste collection is not part of the concept.” (MSWConcept2005, p. 39)

88) fits better the evidence about the final outcome of the negotiations between Sofia Municipality and European Commission

5.3.1 Rivals from abroad assisting governance?

The expansion to supra-national level means not only stronger involvement for EC, but at that level means greater cooperation between EC, EIB and Jaspers, and the inclusion of more private actors – mainly consultants. The Commission itself relies on external expertise from private actors but sometimes it may be problematic.

Mr Skinner from Fichtner points to the consultants from COWI which reviewed the project application. He claims they “advocated incineration despite not understanding [...] that you could not have incineration here because of the laws in Bulgaria” and they also claimed “we chose the wrong technology”, “[d]espite the fact it was agreed with the European Union, it was agreed with the Steering Committee, it was agreed with the municipality” (int Skinner). COWI's strong opposition and their important position as evaluators caused at least 6 months project delay (int Skinner) thus having an impact on the governance process.³³

It is hard to assess COWI's influence but EC has strong critiques to the project and comments submitted by Sofia Municipality which “do not meet the standards necessary for the European Commission Services to take a favourable opinion on the above project” (ECLetter12Aug2010Annex). As a consequence of this EC splits the project into two phases allowing Sofia to bring its waste management system into compliance with the EU acquis by approving the construction of a landfill and composting facilities while additional studies are developed (ECLetter12Aug2010Annex, LetterBarrosoNov2010, ECLetterNov2010). Additionally EC “[i]n view of the strategic importance of this project and its technical complexity [...] decided to make use of independent expertise for the analysis of particular aspects of the application (ECLetter8June2010).

By laying conditions EC clearly demonstrates its potency to force further the Europeanisation of Bulgaria. If accepted “these efforts would be taken into account in a positive sense while taking a decision on the fate of the pending infringement procedure against Bulgaria” (ECLetterNov2010, p. 3). EC is a dominant actor with a significant power, which is able to drive the governance process in one or other directions. But if that is the case can it also push for more sustainable waste management project?

³³ I was unable to acquire a copy of COWI's report, to analyse which arguments in EC comments are COWI's and when they were made, nor I was able to get Fichtner's comments to COWI report, therefore I cannot provide full account of COWI's role and impact on the project.

5.3.2 *European Commission, sustainability and the compromise*

A possible explanation is that EC has no legal leverage to ask for higher recycling targets beyond what is in the legislation. For example although EC supported mandatory 50% recycling target for the project to be set (Memo1), this might not be possible to enforce, as targets apply nationally (Directive 98/2008/EC). This is to illustrate that the inclusion of the stronger sustainability option of ZW to be assessed cannot be achieved through EC unless it has the legal means or the support of the municipality.

By looking at the additional options put forward for analysis which look only at the technological part of the system (see Appendix II:Note) it seems there is no such support. EC justifies its limited scope of options by “[c]onsidering the opinion of the experts involved and **the strong preference** of Sofia Municipality for a technical solution based on Mechanical-Biological Treatment” (ECLetterNov2010, p. 2, emphasis mine). A preference already pointed above but also confirmed by EC in a memo from a meeting with NGOs where one reads: “DG Regio is facing unwillingness by Sofia Municipality to introduce specific additional large-scale recycling measures in the major project application, moreover there are discussions with municipality what is recycling and what not, in the context of the application review BG authorities tried to present energy recovery as being equal to recycling” (Memo2, p. 1)

Of course there is also the possibility of EC not supporting ZW if considered unrealistic³⁴ an issue discussed between NGOs and EC. This is valid argument and NGOs did prepare elaborated ZW alternative, but unfortunately very late in the process. It is also a question whether NGOs have to develop it or the official consultants. In the end they were the ones contracted to design the future waste management system. However it is also important that NGOs interactions with EC were on NGOs initiative not on some legal basis for their involvement in the MLG process. As Pierre and Peter (2004, p. 87) argue formal arrangement makes political decision-making complex, but they “delineate power relationships and often provide the less powerful with formal means of combating the more powerful”. Informality of the MLG process “will respond to the interests of weaker constituencies if and when dominant players find a reason to do so” (ibid, p. 88).

The outcome of the MLG represents the interests of the dominant actors and its a compromise between them. After EC intervention there is some improvement of the waste management system (see Appendix II) pointing that the driver of Europeanization

³⁴ A point made by EC on 1 April 2008 and later in 2011 when DG Regio representatives requested additional information from Za Zemiata to clarify what is Zero Waste and how it can be achieved (Memo2), however I cannot verify EC's view on the matter

induced some change. However I suggest the effect of Europeanisation on the domestic actors is limited to “absorption” or accommodating of certain policy requirements, absorbing non-fundamental changes while keeping the 'core' (Featherstone & Radaelli, 2003, p. 38).

Finally relating back to the concepts of ecological modernisation and sustainability my analysis shows that the final waste management system is embarking on a weak ecological modernisation and weak sustainability path. This is because it is focused on technical solution to the waste problem and its development did not consider the integration of environmental concerns (i.e. resource efficiency or resources preservation among others), nor was done in a more democratic and transparent way. This contrasts to Hajer's (1995) stronger version of ecological modernisation which broadens the integration of environment concerns across institutions and society envisaging extensive democratisation and reflection on international aspects of environment problems (in Carter, 2001).

6 Discussion and suggestions for changes in the governance for sustainable waste management

6.1 Summary of the research findings

I sought the answer to my research question 'Why sustainable solutions like zero waste are not implemented despite the understanding that we need to preserve resources and burning is not the solution?' in the governance of waste. In discussing my results I relate my findings to two very important governance related questions regarding sustainability as pointed by Adger and Jordan (2009b, p. 7): “what is sustainability?” and “how is sustainability put into effect?” I answered the first one by positioning Zero Waste being a sustainable solution we should aim at by showing different views on sustainability, comparing EUs approach in waste and Zero Waste approach and finally by comparing the officially selected option for Sofia with Zero Waste option. I showed how the EU's approach does not actively discourage incineration of waste. Hence it had limited leverage to improve the system by demanding more waste prevention and recycling which can save more natural resources over using waste as fuel for burning. However it also became evident that Zero Waste is difficult and considered by some as even unrealistic. Which leads to the second question how to put it into effect?

The answer of Adger & Jordan (2009b, p. 7) it “needs to be carefully thought about, deliberated over and eventually implemented”. I showed that sustainability had difficulty to make it on the governance agenda and was seldom discussed during the researched

period. There are several explanations for that. In 2005-2006 political and private interests dominated the governance process. In 2007-2008 the time pressure to solve the crisis, the Europeanisation and policy networks pushed for fast and technocratic solution over sustainability goals. And finally between 2009-2012 the multi-level negotiations were dominated by the big actors and their agenda, and no major changes in the project were achieved. These drivers and structures lead to the marginalisation of sustainability during the process of governance by affecting for instance the information disclosure and the prospects for involvement of sustainability proponents in the decision-making processes. This allowed an instrumental and technocratic view on waste hold by most of the participating actors to continue unchallenged. Waste has to be managed through technologies – thermal treatment, MBT, land-filling and assessed through cost efficiency, better value for money (see Egis International, 2011a). Hence I suggest thinking and deliberation over sustainability was limited. The governance process at local level also became quite efficient when political will and administrative commitment, aligned with political comfort provided by the majority achieved in the council by the mayor's party. Therefore it took the municipality a year to design, agree and get a permit for the future waste management of Sofia. I also consider that when it comes to concrete projects the most appropriate level to focus on governance for sustainability of waste is at local and national level where waste management is implemented.

6.2 Improving governance

However “[g]overnance is not simply a technocratic exercise of finding 'the right tool for the job’”, but governance for sustainability “is an intensely political process of argumentation and interest group intermediation” (Adger & Jordan, 2009b, p. 23).

Zero Waste as here defined as sustainable approach in reality might be something different for the decision-makers, NGOs, citizens, businesses and science. Waste management affects everyone in a city and even beyond. However there is no space – temporal and physical – where the issue can be debated, deliberated and agreed upon with all interested parties. O' Riordan et al (2000) argue that the relevance of “participation arises especially where there is uncertainty, ambiguity or ignorance over the substantive implications of Sustainability” (as cited in Stirling, 2009, p. 195).

6.2.1 Improving participation as procedure

One way to address this is trough improving public participation through more transparency, accessibility, representativeness (Stirling, 2009, p. 208). It means involving the

critical and even radical voices in designing and implementing waste policies in Sofia Municipality. The participation should be legally defined and organised, so it is legitimate, recognised and respected by all parties. But it also has to be arranged and implemented in a way that allows the results to be taken into consideration prior any final decisions (int. Krouomova, int. Zhelev) so actors can feel that their participation is meaningful. Seemingly this was not the case with Sofia waste. Finally it has to be informed participation, which means there is enough information publicly and timely available so whoever is participating can prepare. If I use again Arnstein's (1969, pp. 219, 220) typology the described level of participation should go beyond “informing” and “consultation” and reach “placation” where “citizens begin to have some degree of influence though tokenism is still apparent”. For example the cultural strategy for Sofia have passed several rounds of discussions back and forwards between NGOs, citizens, municipality administration and the council. Drafts were available and distributed. City councillors were updated on progress and asked for guidance and in the end they approved it. Obviously satisfied with the result they raised the question: “Why don't all policies are developed like that?” (int. Lomeva). I suggest the answer lies in the power relations and the interests of policy networks, powerful politicians, NGOs, businesses and the administration which have to be confronted in a participatory process.

Pierre and Peters (2000, pp. 144, 145) argue that “political institutions and interest groups pursue their own goal rather than those of citizens or their members” and “there is a need for alternative forms of governance subject to more public control”. Along this lines Hristova-Kurzydowski reports that in Bulgairia “the [citizen's] trust in the institutions of the representative democracy and in the civil society organisations is low” (CSI 2011).

Additionally there is demand from citizen's for more public control over institutions and willingness to influence policies. Recent mass protests in Bulgaria in February 2013 and similar continuing more than 50 days in the summer of 2013 are linked to general dissatisfaction with the political system in Bulgaria. Moreover a “spontaneous grass-root movements appear in the civil society arena in Bulgaria able to mobilise civic participation and influence policy changes” representing “a trend in raising civic activism and sustaining participation” (Kabakchieva & Kurzydowski, 2012, p. 7). The point is that there seems to be a change in a dominant discourse of democracy in Bulgaria which “does not believe the Bulgarian people are up to the task of taking on responsibility and power and

thereby becoming the active citizenry that democracy requires” (Dryzek, Holmes, & Dimitrova, 2002, pp. 215–217).

I consider one way to address the democratic deficit in the governance and the willingness to participate is to turn to deliberative democracy. Deliberative democracy improves democracy since citizens themselves are part of the decision (Bohman, 1996). As pointed earlier the waste management system of Sofia has an impact on more than 1.3 mln citizens and as pointed by Eckersley (2004, p. 111) all “potentially affected by a risk should have some meaningful opportunity to participate” or “be represented in the making of the policies or decisions that generate the risk”. In this case the environmental concerns of local protesters, citizens or NGOs, or science could be presented.

If citizens are involved in decision-making than participation moves beyond the level of placation. It could reach “partnership” where “citizens and powerholders agree to share planning and decision-making responsibilities” or “delegated power” where “citizens achieving dominant decision-making authority over a particular plan or program” or even “citizen control” where for example citizens “can take full charge of policy or managerial aspects” (Arnstein, 1969, pp. 221–223).

6.2.2 *Improving the outcome of participation*

However if sustainability is important I suggest there is a need for a mode of governance that as Stirling (2009) describes sees participation not only as the right thing to do but as a means to better ends, hence the focus of participation is on the outcome of it. For example³⁵ through public deliberation over the sustainability of waste different views on it and hence different approaches for waste management can be distinguished. In this mode citizens themselves take part in forming the outcome which is a “collective decision”, “justified by public reasons—that is, reasons that are generally convincing to everyone participating in the process of deliberation” (Bohman, 1996, p. 5). Such a reasoning or “unconstrained dialogue” allows only justified arguments to be used to express proposals, reservations or objections, thus publicly testing and evaluating the opposing claims (Eckersley, 2004, p. 116). Of course there is a risk that Zero Waste may not “win” the deliberation or as Bohman puts it “[w]hether or not such a decision is ultimately for the good of everyone is another matter” (ibid). This could be caused by constrained dialogue due to insufficient time and information for deliberation, or participants being “swayed by consideration others than rational argument” (Eckersley, 2004, p. 116).

³⁵ Here I follow Stirling's example see (Stirling 2009, p. 208)

However I find one of Dahl's criteria for fully democratic procedure to address at least partially that problem. He defines it as an “[e]nlightened understanding: In the time permitted by the need for decision, each citizen ought to have adequate and equal opportunities for arriving at his or her considered judgement” (as cited in Lindgren & Persson, 2011, pp. 10–11). Indeed as Lindgren & Persson (2011, p. 11) point deliberative democracy “is not so much about the aggregation of preferences as about their formation” and this understanding of democracy “fastens” to the criterion. However I argue that its adherence to this enlightened understanding is what I consider to make deliberation more desirable from a sustainability point of view. Similarly Eckersley (2004) points that the ability of participants to change their positions by the most appropriately reasoned argument highlights one of the great strengths of deliberative democracy namely its educative and social learning potential. Practising it may increase the understanding of sustainability of waste, hence increase the responsibility in making decisions by all participants. I suggest that knowledge and responsibility gained through deliberation may help changing attitudes and behaviour towards sustainability (see O’Riordan, Burgess, & Szerszynski, 1999) when it comes to the implementation of sustainable waste management practices.

However there are also problems with this model, which need to be taken into account. For example citizens may not be willing to participate – either because of lack of time, resources or because they may not consider their opinion will matter. Perhaps here NGOs may have greater role in educating and activating the citizens, but institutions also have a role by organising meaningful participatory processes. Other problems might be how to select participants, how to incorporate the deliberation into the final decision-making and how to facilitate the process so no particular actors dominate the discussions allowing multiple voices to be heard and multiple positions to be argued. As pointed by Eckersley (2004, p. 131) the core ideals of the deliberative model – unconstrained dialogue, inclusiveness and social learning may need to be “*actively cultivated*” and sometimes “*imposed*” then simply assumed to be present before or emerging during the deliberation. Such problems are reflected in positions both for and against direct citizens participation. As summarised by Roberts (2008, pp. 10–13) some argue that it is “developmental”, “educative”, “legitimizing”, “realistic” while others consider it “inefficient”, “politically naive”, “disruptive”, “unrealistic” and even “dangerous”. Some ways to reduce such risk include better participation process and its characteristics were outlined above, while another way to reduce it is to turn to sustainability science.

6.2.3 *Roles for the sustainability scientist?*

I see a dual role for sustainability scientists. The first role is of mediators who can help shifting the focus from the dominant technocratic view on sustainability to more balanced one that includes the social and ecological aspects of sustainability. Hence contributing to the building of knowledge among deliberators and in fact improving the deliberation process. Nevertheless as Jill Jäger points more knowledge is not necessary leading to action (2009, p. 153). Although in response to strengthen the linkages between research and action sustainability science is developing “science-based, action-oriented partnerships for sustainability” (ibid, p. 154) sustainability scientists are “firmly grounded in the natural science [...] and may be less theoretically and methodologically versed in matters of justice, politics, power [...]” (Jerneck et al., 2010, p. 70) hence giving less space to social science research in sustainability. Therefore the second role is to better understand the role of politics and their implication for actions towards sustainability. While I hope my thesis contributes to this, however further research in this direction may also focus also on the tension and synergies between procedural and substantive aspects of deliberation which according to Jerneck et al. (2010) are of interest for sustainability science.

6.3 Conclusion as a call for action

In conclusion O’Riordan claims that “sustainability is supposed to be transformational” and “modern governance is proving to be too depended on non-sustainable models of human values and development goals to be suitable for sustainability” (2009, p. 307). I suggest then the modes of governance that promote rather than resist transition to sustainability should be pursued. Regardless of the final decision about the waste system of Sofia there is space for its development and improving, thus involving citizens through a deliberative practices is worth considering.

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Reference used in the text	Source document (title given in Bulgarian and/or English, ref numbers in original, hard copies available in Bulgarian on request, unless other indicated)
ACCESS	MUNICIPAL CONCESSIONS ON CLEANING SERVICES IN SOFIA Evaluation of the legitimacy of the procedures of concession granting to cleaning services in Sofia Municipality and the implementation of the concession contracts till 2003 Report of ACCESS-Sofia Foundation expert group http://www.access-sofia.org/en/docs/doklad_koncesii_home_en.doc
CEPA_Concept	Za Zemiata & Fundació Catalana per a la Prevenció de Residus i el Consum Responsable, (2012) Waste management concept. EXCEL tables available on request.
CSI 2011	Гражданското общество в България : Гражданска активност без участие : Индекс на гражданското общество 2008-2010 / Десислава Христова Кужидловски . - София : Институт Отворено о-во, 2011 Hristova-Kurzydowski, D. (2011). Civil Society Index for Bulgaria 2008-2010: Citizen Actions without Engagement. Open Society Institute – Sofia
EPAct	Environmental Protection Act of Bulgaria amended and supplemented, SG No. 42/3.06.2011, Retrieved http://www3.moew.government.bg/files/file/PNOOP/Acts_in_English/Environmental_Protection_Act.pdf document in English

GUIDE	<p>Й. Пеловски, Ив. Домбалов, Ек. Тодорова, В. Кьосева, Е. Соколовски, П. Петров, Г. Казълджиев, „Методи за третиране и оползотворяване на твърди битови отпадъци”, ISBN -978-954-92114-1-2, София, 2007 г.</p> <p>J. Pelovsky, I. Dombalov, Ek. Todorova, V. Kyoseva E. Sokolowski, P. Petrov, G. Kazaldzhiev (2007). <i>Methods for the treatment and recovery of municipal solid waste</i>, ISBN -978-954-92114-1-2,</p>
ILSR_Concept	<p>ПРИЛОЖЕНИЕ 1 Алтернативно предложение за системата за управление на отпадъци на Столична община. Да бъде включено за оценка в настоящата процедура по ОВОС. Към СТАНОВИЩЕ на Екологично сдружение За Земята относно обхвата, съдържанието и формата на Доклада по ОВОС за проект „Управление на битовите отпадъци на СО” за финансиране от фондовете на ЕС. Изходящ номер 117/16 май 2008 към документ номер 116/21 април 2008</p> <p>Za Zemiata. (2008). <i>APPENDIX 1: Alternative proposal for Sofia's municipal waste management system. To be included in the current EIA procedure for assessment. To STATEMENT regarding the scope, content and format of the environment impact report on the project Municipal Waste Management in Sofia municipality to be financed with EU funding</i>. Outgoing number 117/16 May, 2008 ref to letter 116/21 April, 2008</p>
Memol	<p>Za Zemiata. (2008). <i>Letter to European Commission DG Regio: Clarifying the meeting at MOEW on 1 April 2008</i>. Ref: 115/08.04.2008. Sofia.</p>
Memo2	<p>Za Zemiata & European Commission DG Regio (2011). <i>Memo Sofia Waste project meeting in CSM II DG Regio, Brussels, March 16, 2011 – 15:30h to 16:30h</i>.</p>
MSWConcept2005	<p>Концепция за управление на твърдите битови отпадъци на град София в средносрочен и дългосрочен план, Д-р Любка Костова, Ноември 2004 ХПК България ЕООД</p> <p>Kostova, L. (2004, November). <i>Concept for mid and long-term municipal waste management of Sofia</i>, HPC Bulgaria EOOD</p>
MSWPro-gramme2005	<p>ПРОГРАМА за управление на дейностите по отпадъците на територията на Столична община POVVIK-OOS Ltd. 01.01.2005-31.12.2009 - (July 2005)</p> <p>POVVIK-OOS Ltd. (2005, July). <i>Waste management programme for the territory of Sofia (01.01.2005-31.12.2009)</i>,</p>
MSWPro-gramme2006	<p>(2006). <i>Waste management programme for the territory of Sofia /revised, complemented and updated version/, operational for the period 2006-2010</i>. In Annex 1 in Decision 455 protocol N 81/15.06.2006 of Sofia Municipal Council. Retrieved from http://www.sofiacouncil.bg/content/docs/c_f7214.pdf</p>
MSWStrategy2007	<p>Стратегия за дългосрочно управление на битовите отпадъци на Столична община. София, Март 2007. София Консултинг Груп</p> <p>Sofia Consulting Group (2007, March 22). <i>Strategy for Long-term management of Sofia's municipal waste</i>. Sofia Consulting Group</p>
OSI-S 2005	<p>Годишен Доклад: Граждански мониторинг върху дейността на Столичния общински съвет 2004 – 2005. Институт Отворено общество София, София 2005</p> <p>Open Society Institute – Sofia (2005). <i>Annual Report: Civic monitoring of the activities of Sofia Municipal Council 2004-2005</i>. Open Society Institute – Sofia</p>

PROT1/2005	<p>Резюме 22.11.2005 от заседание на членове Комитет за разрешаване на кризата с управлението на твърдите битови отпадъци на територията на Столична община</p> <p>Summary 22.11.2005 of a meeting of the members of Committee for Solving the Solid Waste Management Crisis on the Territory of Sofia</p>
PROT2/2005	<p>Резюме от проведена среща с фирма “ГЕОКОМПЛЕКС” 22.11.2005</p> <p>Summary of a meeting in Sofia Municipality with representatives of the company GEO COMPLEX. 22.11.2005</p>
PROT3/2005	<p>ПРОТОКОЛ 28.11.2005 от проведено заседание на Комитета за разрешаване на кризата с отпадъците на територията на София</p> <p>PROTOCOL 28.11.2005 of a meeting of the Committee for Solving the Waste Management Crisis on the Territory of Sofia</p>
PROT4/2005	<p>ПРОТОКОЛ 29.11.2005 от проведено заседание на Комитета за разрешаване на кризата с отпадъците на територията на София</p> <p>PROTOCOL 29.11.2005 of a meeting of the Committee for Solving the Waste Management Crisis on the Territory of Sofia</p>
PROT7/2005	<p>ПРОТОКОЛ 19.12.2005 от проведено заседание на Комитета за разрешаване на кризата с отпадъците на територията на София</p> <p>PROTOCOL 19.12.2005 of a meeting of the Committee for Solving the Waste Management Crisis on the Territory of Sofia</p>
PROT8/2005	<p>ПРОТОКОЛ 27.12.2005 от проведено заседание на Комитета за разрешаване на кризата с отпадъците на територията на София</p> <p>PROTOCOL 27.12.2005 of a meeting of the Committee for Solving the Waste Management Crisis on the Territory of Sofia</p>
PROT9/2006	<p>ПРОТОКОЛ 13.01.2006 от проведено заседание на Комитета за разрешаване на кризата с отпадъците на територията на София</p> <p>PROTOCOL 13.01.2006 of a meeting of the Committee for Solving the Waste Management Crisis on the Territory of Sofia</p>
PROT9/2008	<p>Копие на Протокол от 31 Март 2008 г. от заседание на Комитета за управление на проект “Пред-проектно проучване и съпътстващи документи за проект 'Управление на битовите отпадъци на Столична община' за финансиране от фондовете на ЕС”</p> <p>Copy of Protocol of the meeting on March 31, 2008 of the Steering Committee for the project “Feasibility studies and supporting documents for project 'Management of household waste of Sofia Municipality' for financing by the EU funds”</p>
RD1981/2005	<p>Ordinance РД-09-1981/18.11.2005 of the mayor Boyko Borissov to appoint Committee for Solving the Solid Waste Management Crisis on the Territory of Sofia</p>
RD333/2007	<p>Ordinance РД-09-01-333/31.10.2007</p>

SAPM_Concept	Za Zemiata & Scuola Agraria del Parco di Monza (2010) Waste management concept. EXCEL tables available on request DRAFT_Concept_v03_kevi.xls
SMLetter1	2600-2466/22.07.2005. NGO letter 2600-2466/05.07.2005
VIDEO1	<p>Заседание No 10 от дата 10.04.2008 на Столичен общински съвет. Риквест ООД. http://62.73.115.26/SOSArchiveFiles/Archive_20080327_merged_2008_04_10.zip</p> <p>n.a. (2008, April 10). <i>Session 10 of Sofia Municipal Council</i>. Request OOD. Video retrieved from http://62.73.115.26/SOSArchiveFiles/Archive_20080327_merged_2008_04_10.zip</p>
Waste Management Act	<p>Waste Management Act</p> <p>Promulgated, SG No. 86/30.09.2003, amended SG 70/10.08.2004, effective 1.01.2005, amended and supplemented, SG No. 77/27.09.2005, amended, SG No. 87/1.11.2005, effective 1.05.2006, amended and supplemented, SG No. 88/4.11.2005, amended, SG No. 95/29.11.2005, effective 1.03.2006, SG No. 105/29.12.2005, effective 1.01.2006, SG No. 30/11.04.2006, effective 12.07.2006, SG No. 34/25.04.2006, effective 1.01.2008 (*) (**), SG No. 63/4.08.2006, effective 4.08.2006, SG No. 36/4.04.2008, SG No. 70/8.08.2008, amended and supplemented, SG No. 105/9.12.2008, amended, SG No. 82/16.10.2009, effective 16.10.2009, supplemented, SG No. 95/1.12.2009, effective 11.08.2006, amended and supplemented, SG No. 41/1.06.2010, amended, SG No. 63/13.08.2010, SG No. 98/14.12.2010, effective 1.01.2011, SG No. 8/25.01.2011, effective 25.01.2011, amended and supplemented, SG No.30/12.04.2011, amended, SG No. 33/26.04.2011, effective 27.05.2011, SG No. 99/16.12.2011, effective 1.01.2012</p> <p>Retrieved from http://www3.moew.government.bg/files/file/PNOOP/Acts_in_English/Waste_Management_Act.pdf</p>
ZDOI-216-18.07.2012	Answer to Za Zemiata on access to information request from the Ministry of Environment and Water, Subject: Copy of Protocol of meeting in MoEW held on 1 April 2008. rref ZDOI-216-18.07.2012
ZZLetter111	<p>Становище на Екологично сдружение За Земята относно междинен доклад на “Фихтнер ГмбХ Ко & КГ”, Германия, “БТ Инженеринг” ЕООД, България и “Аква Консулт АГ”, Германия по проект „Управление на битовите отпадъци на СО” за финансиране от фондовете на ЕС</p> <p>Za Zemiata. (2008). <i>Statement of Environmental Association Za Zemiata regarding interim report of “Fichtner GmbH Co & KG”, Germany, “BT Engineering” Ltd., Bulgaria and “Aqua Consult” AG, Germany” for the project “Management of household waste of Sofia Municipality” for financing by the EU funds</i>. Ref: 111/19.03.2008. Sofia.</p>

8 Appendices

8.1 Appendix I: Different views on sustainable development

A palette of approaches is mapped by Hopwood, Mellor, & O'Brien (2005) who present 3 major views on sustainable development in relation to the importance of environmental concerns and the socio-economic elements such as well-being and equality. According to these views the changes in political and socio-economic structures and the interactions between people and the environment to achieve sustainable development range from preserving the status quo; reform the system without changing the underlying structures or transform it as the economic and power structures are at the roots of the problems (Hopwood et al., 2005).

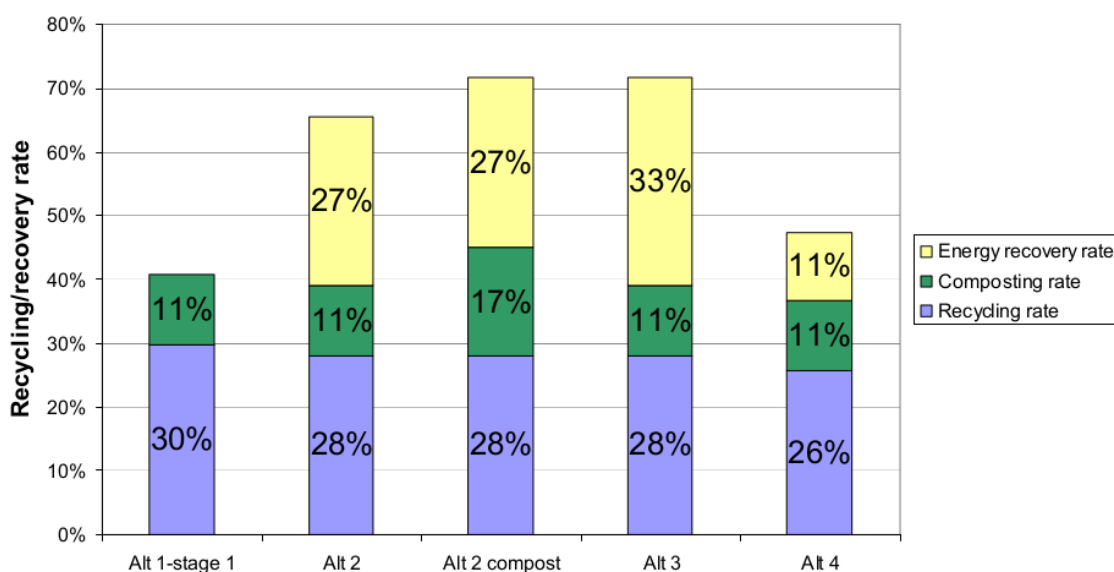
A similar debate is between weak sustainability and strong sustainability (Hopwood et al., 2005). Proponents of weak sustainability most notably Solow (1997) see no problem with environmental capital being depleted as long as society's overall capital (knowledge, technology) stays intact (or grows), therefore natural capital is interchangeable with human-made capital. Strong sustainability proponents argue that human and natural capital are not interchangeable and substitutable and have to be seen as complementary (Barry, 2011). As pointed by Rees and Roseland "processes vital for human existence such as the ozone layer, photosynthesis or the water cycle" cannot be replaced by human-made capital (as cited in Hopwood et al., 2005, p. 40).

8.2 Appendix II: Comparison of the alternatives for Sofia waste management (including the final one approved by EC)

Current Sofia waste management system emerged from feasibility studies in 2008 where 4 main alternatives were developed and compared by a consortium of consultants shortly referred to Fichtner, while a fifth ZW alternative was outlined by NGOs.³⁶

The official alternatives by Fichtner consist of two parts “[a] general part related to prevention, recycling and composting, which is similar in all four alternatives; An alternative specific part, related to residual waste management, which is different in each alternative.” (TASK 4, 2008, p. 119, emphasis mine).

Fig. 6: Recycling and recovery rates for the official alternatives achieved in 2019



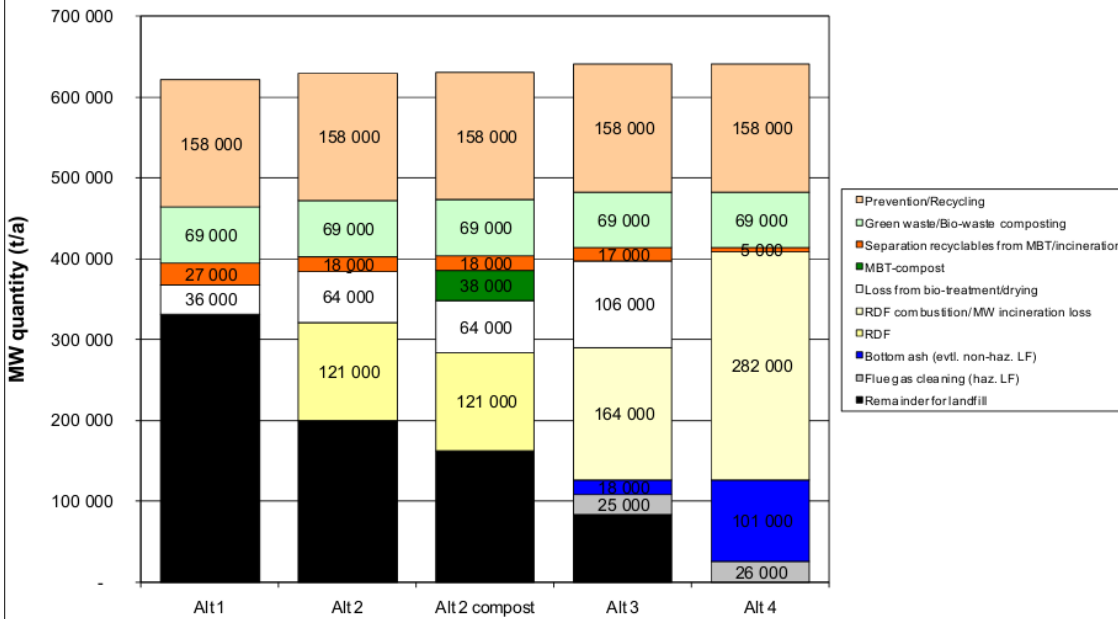
Source: *Final Report on Task 4 Future Waste Management System (Consortium FICHTNER/ BT-ENGINEERING/ AQUA CONSULT, 2008), p. 141.*

For all 4 alternatives the projected recycling will reach 30% of total waste produced in Sofia in 2019, while additional 11% will be composted. Three out of four alternatives include some sort of incineration and the resulting energy recovery is comparable to the level of recycling (Figure 2).³⁷ In terms of tonnage it means 158 000 t/a recycled, 69 000 t/a composted, incinerated between 121 000 to 282 000 t/a of around 630 000 tonnes generated (Figure 3). The option that was officially selected in 2008 (PROT9/2008) is Alt 2 which consists of Mechanical and biological treatment (MBT) facility for mixed solid waste, that will produce refuse derived fuel (RDF) to be burnt in cement kilns or power plants, a landfill and two composting facilities for food waste and garden waste (Figure 4)(for more details see Appendix, TASK 4, EIA report).

³⁶ NGOs suggested it for further development and assessment by consultants (ZZLetter111). Later NGOs had to develop it themselves.

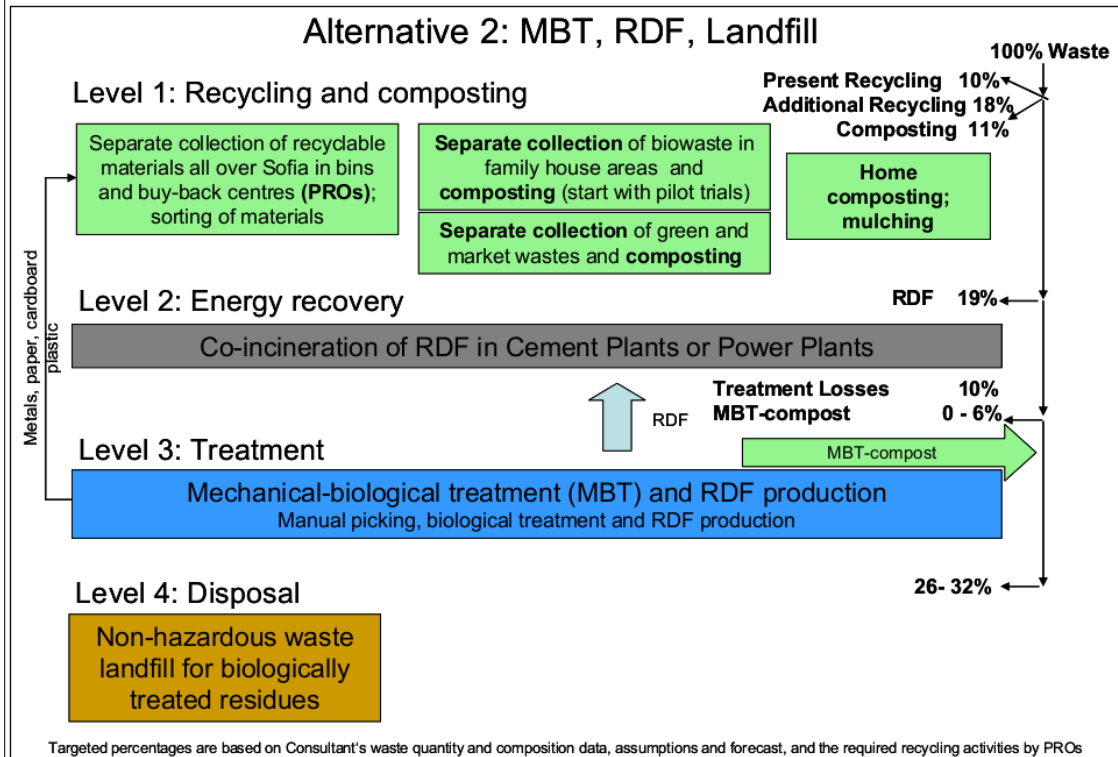
³⁷ For Alt. 4 only energy from electricity is considered (see TASK 4, 2008).

Fig. 7: Mass balances for the official alternatives in 2019



Source: Final Report on Task 4 Future Waste Management System (Consortium FICHTNER/ BT-ENGINEERING/AQUA CONSULT, 2008), p. 140.

Fig. 8: The officially selected alternative 2 for Sofia in 2008



Source: Final Report on Task 4 Future Waste Management System (Consortium FICHTNER/ BT-ENGINEERING/AQUA CONSULT, 2008), p. 13.

None of the 4 official options considers different waste management scenarios for the whole waste. Having also almost identical parts related to prevention, reuse and recycling it renders any ranking between the options based on this as irrelevant. If these

activities were prioritised then the parts would've had alternatives as well and would've affected the ranking. Instead the approach taken can be called end-of-pipe since it does not address the environmental problems at source by focusing on prevention, reuse, and even recycling, but focuses the residual waste management and its energy recovery. This positions the waste management approach for Sofia between pollution control and weak sustainability model (see section), moreover it is somehow less ambitious than the EU approach aiming at recycling society.

Indeed later in 2012 after additional studies (see note at end of the Appendix) requested by European Commission the finally chosen option became alternative 3. The basic difference is that the RDF quality and amount will be increased to be burnt in Sofia District heating instead transporting it to cement kilns. The MBT internal separation will be increased from 4 000 t/a to 14 000 t/a, resulting in 113 000 t/a to be landfilled – (Egis International, 2011b, p. 114). This change represents an improvement in terms of cost-efficiency and better energy recovery³⁸, however EC had limited impact in terms of environmental by pushing activities further up the hierarchy as there was a reluctance from the municipality (see chapter 6).

In fact the separate collection in Sofia is left to Producer Responsibility Organisations (PROs) who deal with packaging waste and it is up to the active role of Sofia Municipality in “influencing the system to achieve high recycling rates” (ibid, p. 2). This should suffice to mark the general attitude towards separate collection and recycling in the official proposal. Moreover among the three main criteria used by consultants and Sofia municipality to select the preferred options none is even environmental one:

- Early availability of the facility,
- Investment costs and co-financing costs and
- Operation and full costs (unit costs) to be covered by user charges (TASK 4, 2008, p. 12):

In contrast the NGO alternative focuses on higher recycling rates both before and within the MBT plant. Initially in NGOs conservative scenario the recycling rate proposed is 50% prior MBT to be achieved by working with the citizens and businesses of Sofia (ISLR_Concept). Additional 14.5% separation internally for the MBT was proposed, leading to only 20% to be landfilled (SAPM_Concept). Later in 2012 NGOs refined their concept (CEPA_Concept) reaching in 2020, 51% recycling, 38 % compost-

³⁸ Transport costs and gate fees at cement plants will be avoided if RDF is burnt in Sofia, though there will be higher capital costs for the MBT and also co-incineration facility for the district heating. It is expected reduced operational costs to offset the difference. (int Skinner)

ing and 1% reuse achieving 90% materials recovery, with only 10% land-filling or only 63 440 t/a compared to the latest official Alt. 3 of 113 000 t/a.

From the previous section it became clear that overcapacity and technological path dependence may occur when committing to huge plants. There is a risk for Sofia because similarly to SYSAV's case consultants predict constant growth in waste quantities until 2038 (both in total and per capita) on the basis of GDP and population growth (TASK 4, 2008; Egis International, 2011b). Consultants assume that Sofia will not manage to decouple GDP growth and waste, which is reflected by the lacking focus on prevention. On the basis of these projections the capacity of the plant is 410 000 t/y or 81% of the total waste in 2010 and 64% of 2020 (own calculations based on Egis International, 2011b, p. 40). The point is that if waste growth does not materialise than Sofia will have to still feed its MBT plant at the expense of separation and recycling. According to Ms Krouomov from the Ministry of Environment and Water (MoEW) the latest project design introduced modules within the plant precisely to counteract this. However the MBT will still have to produce RDF for Sofia district heating and hence might still be a clash between the demand for RDF and increase in recycling. This is also acknowledged by the consultants: “[i]f for example more plastic will be collected in recycling, this would have a direct impact on the capacity of the treatment plant and on the quantity of RDF or energy produced.” (TASK 4, 2008, p. 38). This also increases the risk of lock-in situation similar to the SYSAV case, whereas the MBT will have to produce RDF until the end of its lifetime in 2038. Hence any increase in EU recycling targets might be challenging for Sofia.

NGOs also propose modular MBT plant – meaning it can operate at reduced capacity, however their emphasis on separate collection makes its capacity smaller and since it does not produce RDF avoids the demand problem.³⁹ Instead it tries to separate even more within the plant for further recycling. Reviews of life cycle assessments studies conclude that recycling of paper and cardboard, glass, plastics, aluminium, steel, wood and aggregates, which are major part of municipal solid waste, offers more environmental benefits and lower environmental impacts than the other waste management options – land-filling and incineration (Michaud, Farrant, Jan, Kjær, & Bakas, 2010; Wenzel, 2006). An EEA report states that “[r]ecycling creates more jobs at higher income levels than landfilling or incinerating waste” and “Recycling can meet a large proportion of the economy's demand for resources, alleviating pressure on ecosystems to provide resources and assimilate waste” (2011, p. 7). Of course there are

³⁹ It however depends on the market for recyclables, but according to an European Environment Agency report (2011) the market recovered markedly after the crisis in 2008-2009.

limits to recycling both technological and in combating ever increasing demand for resources, therefore there needs to be focus on prevention and waste minimisation as well. Both NGO and the official alternatives are rather vague on this point, but the former has much higher recycling rate compared to the latter which focuses on energy recovery.

I also asked some of my interviewees about the options. For example the director of the waste department of Sofia Municipality describes the official “project as one level above the average” while considering the ZW as “Very positive, but at that time [was] assessed as unrealistic. This is the future.” (int Traykov). When discussing the official option some said “[o]ne incinerator would've been better” (int Hristova), “I do not see how this system will be economically viable and effective [...] This [system] is an enormous stupidity for me” (Waste Expert)⁴⁰, however in terms of alternatives many of my respondents – councillors, waste experts, were in favour or not against incineration (Skinner, Hristova, waste expert, Lilkov, Krasteva). Such diversity of opinions in regard the official alternative cast further doubt on its sustainability.

NOTE: additional studies requested by EC in-depth technical study of two additional options 1) MBT without the production of RDF and 2) MBT with the production of RDF to be combusted in the Sofia District Heating Plant; thorough review of the best available data of waste streams generated, collected and treated in Sofia; financial, economic and cost-benefit analysis of the two options and proposal for the most suitable option for waste treatment in Sofia. The project should also decisively contribute to meeting Bulgarian recycling targets. (Sofia Waste Phase II – MBT Option Analysis, ECLetterNov2010).

⁴⁰ Few of my respondents requested to preserve their anonymity among them are people working in waste related companies.

8.3 Appendix III: Formal links between companies involved in waste consultancy for Sofia waste management

This information is based on using a closed data base called Daxy Global Open Source Intelligence which allows following direct or indirect links between people and companies by viewing their ownership, governance structure and equity shares in other companies. The data base provides personal information like EGN (similar to personnummer in Sweden) therefore below I only sketch what I found without releasing personal information.

The description of the database is based on information from its website <http://www.daxy.com/cgi-bin/page.py?ind=products1#fr> in Bulgarian.

According to this I have found evidence that:

The deputy project coordinator for Fichtner is in fact a governor of one of the two companies conducting the morphology analysis of the waste. The owner of one of the Fichtner consortium companies is also involved in both companies that conduct the morphology analysis. He is also involved in a company whose owners also own the company which wrote the waste strategy for Sofia (WMStrategy 2007). The latter company through its daughter company is contracted in 2009 by the municipality as project management unit (PMU) to assist and provide technical advice in preparing the waste project to be implemented under the Operational Programmes.

8.4 Appendix IV: List of Interviewees

List of interviewees for the thesis			
Name	Title	Date – Time	
1	Nikolay Sidjimov	Director BAMEE /NGO/	25.02.2013 – 11:30
2	Nikolay Zhelev	former councillor, current expert employed by Sofia Municipality; UDF party	31.01.2013 – 18:00
3	Atanas Tasev	former councillor; National Movement for Stability and Progress party	07.02.2013 – 12:00
4	Milor Mihajlov	former deputy mayor	not contacted
5	Petar Traykov	Director Waste Management, Sofia Municipality	21.02.2013 – 14:30 and 16:00
6	Maria Boyadjijyska	Deputy Mayor for Ecology, Environment and Land Reform, Sofia Municipality	no answer
7	Svetlana Lomeva	Director of Sofia Development Association	06.02.2013 – 15:00
8	Lorita Radeva	Councillor, Head of Environmental Committee; Citizens for European Development of Bulgaria party	declined
9	Vily Lilkov	Councillor, DSB party	11.02.2013 – 13:15
10	Carsten Rasmussen	Responsible for Bulgaria, DG REGIO, European Commission	no answer
11	Zdravko Georgiev	Director SOFENA – energy agency	11.02.2013 – 10:00
12	Stefan Stefanov	Head of Waste Management Directorate in MoEW	22.02.2013 – 14:00
13	Aleksander Kodjabashev	Environmental lawyer	28.02.2013 – 11:00
14	Katerina Rakovska	Environmental NGOs representative in Monitoring Committee of Operational Programme Environment	15.02.2013 – 16:00
15	Georgi Kadiev	Councillor, BSP party	05.03.2013 – 11:00
16	Ljuba Hristova	Former Director of Cohesion Policy Directorate in MoEW	18.02.2013 – 13:30
17	Cvetan Kostov	company	not contacted
18	Anonymous - waste expert2	Packaging Waste Recovery Organisation	15.02.2013 – 12:00
19	Botjo Tabakov	Consultant, BT-Engineering	not contacted
20	Pavel Gramatikov	Director Chistota-Iskar, municipal waste management company	20.02.2013 – 10:30
21	Zheljo Boychev	Councillor, BSP party	dropped
22	Stefan Sofianski	Former Mayor of Sofia until mid 2005	11.02.2013 – 9:30
23	Anonymous – waste expert1	Waste management/consultancy company	14.02.2013 – 10:00
24	Evgenia Tasheva	Zero Waste coordinator in Za Zemiata /NGO/	14.02.2013 – 14:00
25	Elana Resnick*	anthropologist, research/sweeping in Sofia	18.02.2013 – 10:00
26	Antony Tonchevski	Manager, Enviro Consult Ltd	28.02.2013 – 16:00
27	Malina Kroumova	Director of Cohesion Policy for the Environment Directorate in MoEW	02.03.2013 – 15:00
28	Maria Krasteva	Former Director of Waste management Directorate in MoEW	06.03.2013 – 13:30
29	Michael Skinner	Team leader for Consortium lead by Fichtner GmbH	07.03.2013 – 11
LEGEND			
21 Interviewees – green			
3 Not contacted – white colour			
2 did not reply – red			
1 declined – red			
1 dropped – yellow			
*1 consulted only /Elana Resnick/ no recording			
Abbreviations			
BAMEE – Bulgarian Association of Municipal Environmental Experts			
MoEW – Ministry of Environment and Water			
NGO – Non-governmental organisation			
NOTE:			
All interviews are recorded in .WAV format; All but two interviews held in Bulgarian, others in English; Due to possible file size limits some audio files were automatically split in the middle of a sentence and there was some data loss. Where for that reason the sentence is not clear, it is not used in the analysis. Later some interviews are recorded in more than one audio files to reduce file size limit problem and data loss.			

8.5 Appendix V: Interview questions - sample

What was your stand on the problem of Sofia waste?

What was the role of the municipal administration in solving the waste problem/crisis?

How was the problem handled? Why? What was missing?

Was there enough information about their intentions/plans/decision?

How did the council and the administration work at that time?

What was the approach taken to find a solution? Why? Were there private/political interests interfering in the decisions? Was there lobbying?

What was the role of the council in solving the waste problem/crisis; finding solution?

What was the role of the waste committee/steering committee?

What was the role of institutions like ministries or international institutions in developing/evaluating the waste management system? Was there support to each other?

What was your involvement?

Did you have enough information to take a decision? What kind of information do you rely upon making decisions? What is the quality of information? How would you evaluate the strategic documents on waste – content, process of drafting and approval?

What is the role of such documents for the administration/council/decision making?

What was the role of consultants in defining waste policies/strategies others?

Why this decision was made? How did it come? Who proposed this model? Did you look into alternatives? What were the criteria for evaluation?

How would you evaluate the proposed waste management system? Can it be further developed, improved? What is the level/role/future of separate collection in Sofia?

What is sustainable waste management solution for Sofia according to you?

What was the reason to close the landfill?

Do you know about the NGO alternative? Why NGO alternative was not assessed?

How do you see the role of NGOs, citizens in decision-making, then/future?