Netherlands Enterprise Agency

Holland Circular Hotspot: opportunities in seven Central Eastern European countries Bulgaria

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Holland Circular Hotspot: opportunities in seven Central Eastern European countries

Bulgaria

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Compiled by Freek van Eijk & Jamie Patton, Acceleratio, December 2016
Updated and reviewed by RVO & Dutch Embassy Sofia in June 2017

Disclaimer

This report contains information gathered in the process of organising trade missions on waste management and circular economy matters in 2016. Although it has been gathered with care, it is not and cannot be a full account of the state of development in these areas in the selected country. Rather than discarding the information collected, it has been deemed useful to bundle it, to serve as a first orientation for organisations considering doing business in central and eastern Europe.

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Introduction

Holland Circular Hotspot ambitions

We are just starting our journey towards a circular economy (CE): a transition in which the use and reuse of resources takes on central importance; a transition that makes us look differently at the design, manufacturing and usage of products. It is an exciting transition full of welfare enhancing possibilities, and the world looks to The Netherlands for leadership.

In the first half of 2016, while the Dutch held the Presidency of the European Union, The Netherlands presented itself as a "circular hotspot" and "living lab" to the world; Amsterdam was voted European Capital of Innovation. Our government-wide ambition is to have a full CE in The Netherlands by 2050. Economic growth will rise in parallel with sustainable gains. The Netherlands, with its dense population and water management challenges, has historically been built on a foundation of collaboration and innovation. As such, the country has prided itself on smart resource management. Nowadays, The Netherlands is a global water management hub, the second highest dairy food exporter in the world – and among the world's leaders in waste management.

The most important lesson Dutch organisations have learned, to date, is that a CE is first and foremost an economy where working together is the key to success. Businesses, governments, municipalities, universities, research institutes and NGOs all need to find ways to cooperate more intensely – with more focus – than they have ever done before.

With Holland Circular Hotspot[1] (HCH) we combine forces. We demonstrate and extend our leading CE position internationally, to inspire others to create their own Hotspots, accelerated by Dutch ingenuity.

HCH focuses on companies and knowledge institutions in the waste and recycling sector that have an interest in expanding internationally ("often the first step in a circular economy"), as well as those that focus on the CE transition by engaging with other parts of the value-chain.

HCH's role will be to stimulate international ambition and to match it with Dutch knowledge and expertise. The Hotspot will promote the visibility of the CE transition, and Dutch efforts to accelerate it. We combine and extend existing networks and platforms for CE, waste management and recycling, with a particular drive to collaboratively explore new international opportunities.

Participation in HCH is open to businesses, educational institutions, NGOs and governments, provided they contribute to the further development and operation of the platform.

Initiating parties are part of the so-called golden triangle: companies, knowledge institutions and government. Participants include ENVAQUA, representatives of the associations of the waste and recycling sector (VA, BRBS, NVRD), VNO-NCW, Netherlands Circular Hotspot, Circle Economy, INSID, Delta Development Group, MVO Netherlands – as well as representatives of knowledge institutes, provinces, municipalities, the governmental agencies RWS and RVO, and representatives of the Ministries Infrastructure and the Environment, Economic Affairs and Foreign Affairs.

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[1] https://www.rijksoverheid.nl/actueel/nieuws/2016/11/09/bedrijven-gaan-grens-over-met-innovaties-recycle-economie

Specific missions and objectives

HCH took its first concrete action in November 2016 – a fact-finding mission to Bulgaria and Romania. These countries have the furthest to travel to comply with European standards. But the challenge is met with ambition: in the coming years, with the support of European funds, they will pursue swift progress – above all, in waste management infrastructure. There is great interest in Dutch technology and expertise, offering mutual business opportunities. More broadly, the ambition in the Central and Eastern European region offers opportunities in fields where the circular economy transition is most urgent: agro-food, bio-based economy, logistics, energy transition and, indeed, smart & sustainable cities. Bulgaria wants to make CE a priority issue during its EU presidency in 2018, and Romania is expected to do the same in 2019. HCH will seek to leverage this enthusiasm from the beginning.

The delegation travelled to the region between November 8 and 11, 2016. In the company of, among others, Bart van Bolhuis, International Director for the Ministry of Infrastructure and the Environment, it explored opportunities to do business – as well as for Government2Government ("G2G") and Knowledge2Knowledge ("K2K") collaboration.

Follow-up actions and missions – both inbound and outbound – are being organised for the year 2017. Building on opportunities and learnings from Bulgaria and Romania, the net will be cast wider, to include Poland, Hungary, Slovakia, Croatia and Slovenia.

Eastern Europe: overview

Waste management

Central and Eastern European countries (so-called "CEEs") are at different stages in the development of their waste management infrastructure; broadly speaking, their journeys are just beginning. Some start more or less from scratch. As Member States (MS) they are obliged to adopt the CE Package; implementation is the challenge, particularly given – in some cases – resistance from local stakeholders.

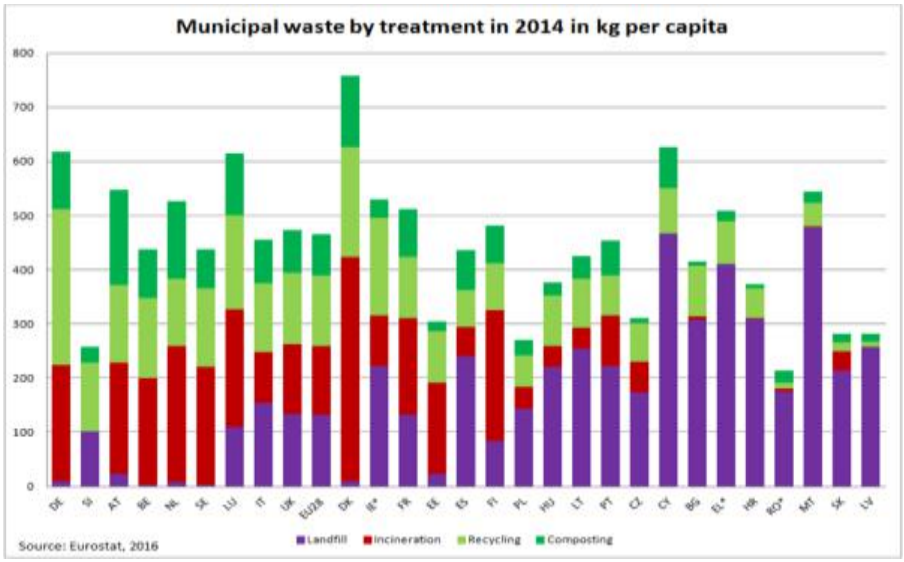

Figure 1: MSW treatment in Europe, 2014

There is a perception that CEEs had little involvement in policies created by Brussels – and that the corresponding waste management legislation betrayed too heavy a focus on top performing MS. A counter-argument holds that CEE governments have not been as active as they might have, in making waste management a top priority – and channelling resources and attention accordingly. Whatever perspective, eastern European actors throughout the value chain (including public sector departments) will really have to make an effort, if they are to hit the targets their governments have set and release the benefits of a CE. European structural funds offer financing support, but this can only be unlocked once certain advancements have been achieved, and needs to be complemented by technology and expertise.

While the state of waste management is in general below EU averages, most CEEs have made a start in catching up with EU waste legislation. Countries like Romania are an exception, where landfill diversion measures still haven't made it past parliament (status December 2016). Enforcement typically lags behind. Occasionally end-of-waste declarations ("technological construction material") are made, unchallenged, for large quantities of waste landfilled – to avoid paying charges to the local community or a landfill fee.

Problems have also arisen due to less adequate planning and project discipline.

In order to be successful, efforts to develop CEE waste management infrastructure will need to have regard to the economic disparities that exist, both between the CEEs and within them. There is a natural Government2Government angle in cases like this, but also a role for knowledge institutions and companies. How can fees for MSW services that aim to divert from landfilling, for example, be designed to fit with average monthly incomes? In meeting challenges like this, the Dutch have experience and knowledge to share and good stories to tell.

Refuse Derived Fuel (RDF) imports are a pressing issue in some countries. RDF is exported from MS with high landfill fees (or bans) to CEEs, for whom import is cheaper than local production. Little or no

domestic capacity exists because it's too difficult to compete with low landfill prices. Of the RDF that is produced, much is too poor quality to be used by cement manufacturers. New strategies are needed.[2]

Landfill fees are another problematic issue. Municipalities – often co-owners that charge by the ton – oppose them, as raising fees is unpopular with local constituencies. Resistance to change is also felt from multi-national private waste management companies, the first investors in CEEs after the collapse of the Soviet Union.[3] These companies tend to operate large numbers of landfills, and hold a tight grip on local waste markets.

Other circular economy dimensions

So far, a lot of attention has been going to waste management. This is a very good and essential first step towards a transition towards the Circular Economy but only part of the story. Action will be needed in the whole value chain, covering material sourcing, the production, consumption and waste phase, as illustrated in the Dutch transition from a linear economy to an economy with recycling to a circular economy.

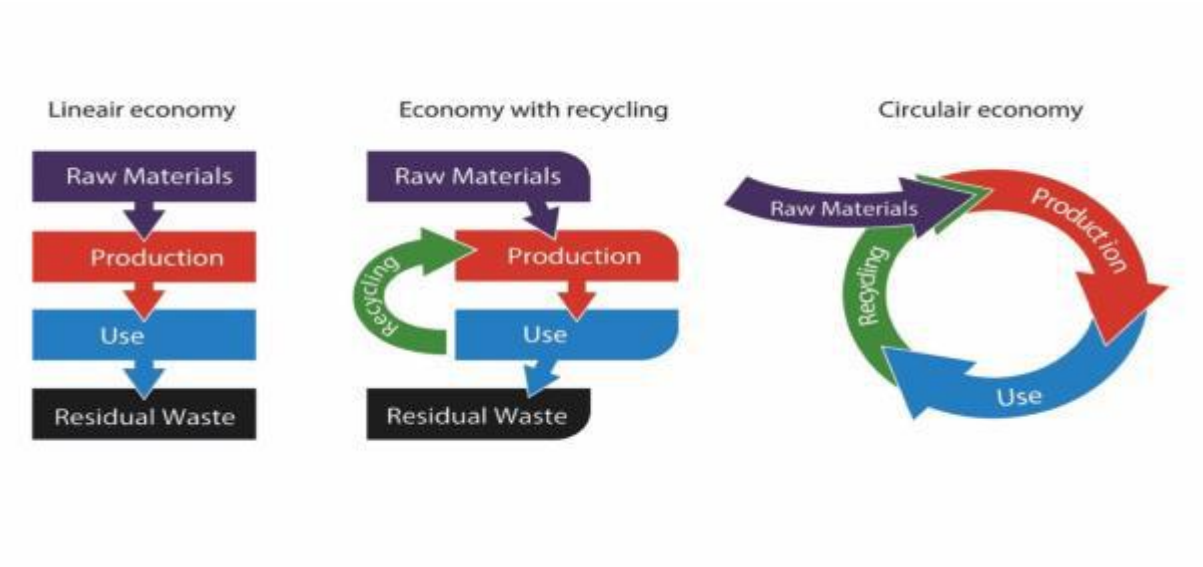

Figure 2: Transition from a Linear to a Circular Economy

Broader CE challenges are a magnified reflection of the waste management challenges above. With the weight of the EU behind it, there is official enthusiasm for the CE Package[4] and glimpses of private sector initiative. However, CEE countries lack not only the infrastructure but the awareness and technology learning that their western counterparts have built up over time. Catching up is a tall order.

Governments are very interested in expertise and experience from other countries. These governments are open to creating open G2G, K2K and B2B channels with international expertise. G2G actions typically create the conditions for future business opportunities.

EU presidencies (Slovakia 2016; Bulgaria 2018; Romania 2019) are acting as a helpful catalyst, turning lofty ambitions into concrete actions.

[2] Notably, in Slovenia, the opposite is the case. Its largest waste processing facility produces RDF with similar calorific value to brown coal. Currently, given aversion to incineration, this is not burned. There is an opportunity to export it – to The Netherlands.
[3] Peter Hodecek & Christian Abl, "Dynamic Potential of a Circular Economy," Presentation to FEAD Biennial Conference, London, 23 June 2015, slide 15
[4] http://europa.eu/rapid/press-release_IP-15-6203_en.htm

Most importantly, funding is available for the CEE region to accelerate its CE transition. Funding programmes reflect a broad range of priorities, going beyond basic waste management – although that is a significant priority – towards topics like resource efficiency, renewable energy, wastewater management and sustainable building. Some of these topics are steered by climate actions as well, or linked with UN SDG (Sustainable Development Goals). Combining CE actions with ongoing efforts in these fields can be effective. Governments will be keen to leverage the learnings of others to ensure that those investments have maximum impact.

Most interesting opportunities

Against this backdrop, there are evident opportunities for Dutch businesses, as well as for G2G and K2K exchanges. Some of the most fertile topics have been highlighted in the report, in the country-specific profiles. These came sharper into focus during the first trade mission – to Romania and Bulgaria – and no doubt will continue to emerge during upcoming missions and follow-up interactions.

At a high level, the most interesting opportunities appear to fall in these areas:

- **Bio-energy** (Romania, Bulgaria, Slovakia, Hungary, Poland, Slovenia)
- **MSW separate collection and treatment** (Romania, Bulgaria, Slovakia, Hungary, Poland)
- **Recycling and waste prevention** (Romania, Hungary)
- **Soil and groundwater remediation** (Romania, Hungary, Slovenia, Croatia)
- **Water treatment and re-use** (Poland)
- **Extended Producer Responsibility** (Romania, Bulgaria, Slovakia)
- **RDF production** (Romania, Slovakia, Poland)
- **Green public transport** (Slovenia)

- A wild card can be given to **remanufacturing** combing a manufacturing tradition, skills and low wages with a central European position and the additional advantage that it is not regulatory driven

Other topics like water management and agro-food solutions are already being explored.

Romania and Bulgaria to take the biggest steps, starting with the design, implementation and operation of integrated waste management systems. Romania's capital Bucharest is starting to develop, but Romania has a long way to go in rolling this out across its 41 counties. Dutch government – national and local – has valuable expertise to share in waste management but also in relation to wider CE actions such as green public procurement (GPP) or eco-design.

(Consultancy) opportunities according to the European Bank of Reconstruction and Development (EBRD)

The EBRD fosters transition to market economies in countries from Central and Eastern Europe to Central Asia and the Southern and Eastern Mediterranean region. On May 3, 2017 they organised a seminar in The Hague on merging opportunities for consultants in the CEE area amongst other aimed the transition to low-carbon and climate resilient economies.

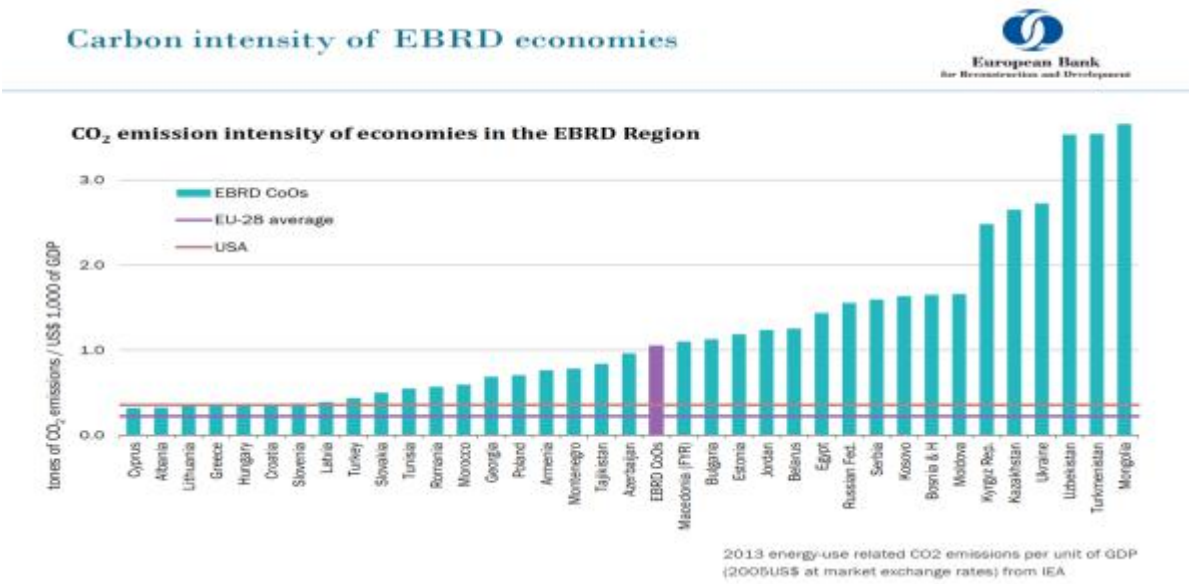

Figure 3: Carbon Intensity of Economies in the EBRD

International context strengthening the case for a Circular Economy approach

The EBRD mentioned several factors why a green and circular economy transition is more than likely:

- COP21 Paris : universal and ambitious agreement to limit the increase in global average temperatures to +2ºC; also, "to pursue efforts" to limit to 1.5ºC
- The Sustainable Development Goals, adopted in 2015, provided increased focus on environmental sustainability
- G7 Summit Leader's Declaration in June 2015: MDBs need to maximise their balance sheets in delivering climate finance and helping countries transition to low carbon economies

EBRD is at the forefront of efforts to channel resources from existing and emerging global climate finance funds to projects on the ground.

EBRD transition context

The EBRD has a special mandate to foster transition to market economies – this implies that resources are used efficiently; EBRD focus is placed at the crossroad between sustainability and market development and private sector support. There is a legacy that big enterprises and utilities having developed that are not reflective of costs and environmental externalities. Several EBRD economies display some of the highest energy and carbon emissions intensity levels in the world. It is also imperative to increase energy security.

EBRD focus areas since 2006

The focus of the EBRD since 2006 has been on the Sustainable Energy Initiative covering Energy Efficiency and Renewable Energy. In 2013, a focus on Sustainable Resources was added with a.o. water efficiency, material efficiency and adaptation to Climate Change. Since 2015 a transition to a green economy has come on top of the two earlier mentioned activities. The green Economy Initiative comprises on Environmental protection and Technology Transfer.

A green economy is a market economy where investments are made taking account of their environmental impact and with concern for the sustainable use of natural resources.

Examples of Consultancy Service needs

Green economy projects, or project components, fall in the following areas:

- Energy efficiency
- Renewable energy
- Water efficiency
- Resilience to climate change
- Waste minimisation and materials efficiency
- Pollution control and environmental compliance

Examples of Consultancy Services in the EBRD Sector Municipal & Environmental Infrastructure

- Technical studies
- Market studies
- Feasibility study
- Technical, financial & environmental/social due diligence
- Environmental and Social Impact Assessments (ESIA)
- Lender's monitor/engineer
- Project implementation support
- Stakeholder participation programme
- Corporate, financial and operational
- performance improvement programmes
- Capacity building and training

Green economy projects, or project components under the scope of Green Economy Transition, falling in the following segments

- Water
- Wastewater
- District heating
- Solid waste
- Busses/trams
- Metro
- Ferries
- Parking
- Urban roads
- e-ticketing
- Traffic management
- Street lighting
- Tariffs
- Regulators

Examples of Consultancy Services in the EBRD Sector: Green Economy Transition

- Technical studies
- Market studies for new technologies
- Feasibility studies
- Technical, financial & environmental/social due diligence
- Energy audits
- Resource audits
- Project implementation support (e.g. advice to local banks on how to on-lend to local clients)
- Policy dialogue to address environmental market failures, strengthen the institutional or regulatory context
- Climate change action plans
- Tariff methodology advice

- Corporate policies
- Renewable energy
- Resource efficiency (water, materials)
- EBRD sustainable energy & resource finance facilities (SEFFs)
- (Residential) buildings
- Industrial & corporate sector
- Technology transfer
- Energy Service Companies (ESCOs)
- Recycling

Examples of required non-transactional consultancy services or for EBRD's institutional needs

- Policy dialogue and reform in all sectors
- Legal reform (access to finance,
- corporate governance, public
- procurement, PPP etc.)
- Capital market development
- Environmental studies
- Gender & social assessments
- Capacity building / training
- Institution building
- Economic studies
- Political analysis
- Research
- Legal advice on investments (outside counsel)
- Evaluation
- IT design and implementation

Existing support programmes

The Netherlands Enterprise Agency, RVO, encourages entrepreneurs in sustainable, innovative and international business. It helps with grants, finding business partners, know-how and compliance with laws and regulations.

The aim is to improve opportunities for entrepreneurs and strengthen their position. The Agency works at the instigation of ministries and the EU. RVO is part of the Ministry of Economic Affairs.

RVO focuses on providing services to entrepreneurs. It aims to make it easier to do business using smart organisation and digital communication. The Agency works in The Netherlands and abroad with governments, knowledge centres, international organisations and countless other partners.

RVO organises international cooperation under the flag of G2Gand K2K programmes.

The Ministry of Foreign Affairs will create favourable conditions for doing business with countries that are interesting for Dutch entrepreneurs. Some markets might be commercially interesting, but still not accessible enough. International cooperation can make a difference.

Knowledge exchange

In G2G- and K2K projects exchange Dutch government organisations and research institutes exchange knowledge with their foreign counterparts. This creates a comprehensive network that supports the Dutch business community doing business internationally. G2G projects, especially, create the conditions that allow for future business, for example by cultivating a favourable regulatory environment.

Sustainable economic development

The Ministry of Foreign Affairs develops projects that contribute to achieving sustainable economic development in various (developing) countries. Sustainable growth and economic independence start with the promotion of a good business climate. These are the conditions under which the local private sector in developing countries, as an engine of growth and employment, can function. The Netherlands has a lot of knowledge on core issues such as environment, energy, food and water that are useful in these projects.

Creating favourable conditions for doing business

The success of a Dutch business abroad depends on more than courage, a good network and a business plan. Some markets are commercially interesting, but still not accessible enough. This is something that can be enhanced by collaboration.

RVO organises and coordinates numerous G2G and K2K projects. The aim is to create favourable conditions for doing business with countries that are interesting for Dutch entrepreneurs. These projects facilitate exchange of Dutch knowledge – from government organisations and research institutes – with knowledge held by foreign counterparts. They work together to solve problems for business and an extensive network of Dutch knowledge institutions, businesses and governments.

Starters in International Business (www.rvo.nl/sib)

Coaching voucher are available for SME's with limited experience in international business that want to start to export. For a period of (on average) 4 months you and your coach can investigate opportunities and identify risks abroad.

Mission vouchers

Mission Vouchers are available for participation on trade missions or exhibitions up to 50% of the costs with a maximum of € 1.500 (excluding VAT). The travel and staying costs will have to be paid individually.

Knowledge vouchers

Do you want to establish or enhance your company's position on a foreign market, but you need fiscal or legal support to do so? A knowledge voucher will help you cover the cost of hiring an international lawyer or tax consultant.

The business partner scan

The business partner scan involves drawing up a list of active contacts for a company for a specific country. A list of active contacts are provided and a mission employee conducts an introduction to the foreign parties on behalf of the Dutch entrepreneur.

Subsidy for demonstration projects, feasibility studies and studies aimed at the preparation of investments (DHI) (www.rvo.nl/dhi)

The subsidy for demonstration projects, feasibility studies and studies aimed at the preparation of investments (DHI) is meant for entrepreneurs that want to carry out projects abroad, invest in a company or convince local counterparts of their technology.

With this instrument he Ministery of Foreign Affairs hopes that more Dutch companies will be successful in doing business in upcoming markets and developing countries.

This "DHI" arrangement consists of a tender programme with tender rounds on average lasting 6 weeks. Entrepreneurs can apply only during a tender round. The second tender round of 2017 opens on Augustus 8, 2017 and closes on September 19, 2017 at 15.00 uur CET.

SME Instruments

The SME Instrument supports market-creating innovation in small and medium-sized businesses (SMEs) with significant growth potential and global ambitions. As part of Horizon 2020 – the EU's €80 billion Research and Innovation funding programme – it will invest €3 billion in 7,500 companies until 2020.

The instrument consists of 3 phases.

- Phase 1: Concept & Feasibility Assessment, from idea to concept (6 months). SME's will receive a lump sum of €50 000 in funding to carry out a feasibility study to verify the viability of the proposed disruptive innovation or concept. In this phase the SME will draft an initial business proposal (around 10 pages).
- Phase 2: Demonstration, Market Replication, R&D, Concept to Market-Maturity (1-2 years). In this phase the SME will further develop its proposal through innovation activities, such as demonstration, testing, piloting, scaling up, and miniaturisation. It will also draft a more developed business plan (around 30 pages). The funding is 70% of the eligible costs, up until €2.5 million .
- Phase 3. Commercialisation, Prepare for Market Launch. SMEs will receive extensive support, training, mentorship and facilitating access to risk finance as the project is further polished into a marketable product.

Contact: Elke van de Graaf (E: elke.vandegraaf@rvo.nl, M: +31 6 50447467 T: +31 (0)88 6025193.

Partners for International Business (PIB)

The Dutch government has a programme for businesses that want to develop a certain market in a certain geographical area but encounter barriers or lack intelligence or access to decision makers. The Partners for International Business (PIB) programme aims, for a cluster of companies and knowledge institutes (Min. 5) and with the assistance of the government, to promote Dutch capabilities in promising international markets. Together with the RVO a 2 or 3-year business programme will be established, with activities that include:

- Promotion and matchmaking[5]
- Knowledge exchange and networking[6]
- Economic diplomacy[7]

The government will make use of its extensive foreign network[8] with embassies, consulates and NBSO's. Since 2012 more than 70 programmes[9] have started (for example: water management projects are abundant in Eastern Europe). The PIB programme is available for a large number of countries.[10] To be accepted for the PIB programme your cluster must fulfil a number of criteria.[11] The overall annual PIB budget is €8 million. The basis for collaboration with PIB participants is a similar contribution (financial and in kind, for example hours committed by cluster participants). The maximum public contribution for an individual PIB is €350.000. A PIB is not a subsidy and as such not directly available or spendable by the cluster participants. To qualify for a PIB you will have to go through a number of steps.[12]

Mission support

RVO can also facilitate incoming missions for "influentials" and support Fact-finding missions or Innovation missions. Contact for further information: teamiris@rvo.nl

Financing

[5] http://www.rvo.nl/subsidies-regelingen/partners-international-business/promotie-en-matchmaking
[6] http://www.rvo.nl/subsidies-regelingen/partners-international-business/kennisuitwisseling-en-netwerken
[7] http://www.rvo.nl/subsidies-regelingen/partners-international-business/economische-diplomatie
[8] http://www.rvo.nl/onderwerpen/internationaal-ondernemen/wegwijzer-internationaal-zakendoen/buitenlandnetwerk
[9] http://www.rvo.nl/subsidies-regelingen/projecten?f%5B0%5D=subsidies%3A3993
[10] http://www.rvo.nl/subsidies-regelingen/partners-international-business/landen
[11] http://www.rvo.nl/subsidies-regelingen/partners-for-international-business/kom-ik-in-aanmerking
[12] http://www.rvo.nl/subsidies-regelingen/partners-international-business/aanvraaginformatie

RVO can also offers support and advice for several programmes that provide financing support. Below readers will find links from a RVO presentation given on 3 October 2016. For more information on these and other programmes that exist, please visit www.rvo.nl (Dutch).

Research and innovation programmes

- **Horizon2020**[13] is the biggest EU Research and Innovation programme ever, with nearly €80 billion of funding available over 7 years (2014 to 2020) – not including the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market. A .pdf-presentation can be found here.[14] Contact persons for Societal Challenge 5; Climate Action, Environment, Resource Efficiency and Raw Materials (including Circular Economy topics): John.Heynen@rvo.nl; Corinne.vanvoorden@rvo.nl;
- **Life**[15] is the EU's financial instrument supporting environmental, nature conservation and climate action projects. Since 1992, LIFE has co-financed 4306 projects. For the 2014-2020 funding period, LIFE will contribute approximately €3.4 billion to the protection of the environment and climate. A .pdf-presentation can be found here[16]. Contact person: John.Heynen@rvo.nl
- **Eurostars**[17] supports international innovative projects led by R&D- performing small- and medium-sized enterprises. It is an ideal first step in international cooperation, enabling small businesses to combine and share expertise and benefit from working beyond national borders. Eurostars is a joint programme between EUREKA and the European Commission, co-funded from the national budgets of 36 Eurostars Participating States and Partner Countries and by the European Union through Horizon 2020. In the 2014-2020 period, it has a total public budget of €1.14 billion. Contact person: arnold.meijer@rvo.nl
- The **Enterprise Europe Network**[18] is the world's largest support network for small and medium sized businesses (SMEs) with international ambitions. It has 3,000 experts across 600 member organisations in more than 60 countries. Member organisations include chambers of commerce and industry, technology centres, and research institutes. The Network helps ambitious SMEs innovate and grow internationally. It provides international business expertise with local knowledge across a range of targeted services: partnership, advisory and innovation support. The Network also offers specialised industry expertise across 17 sectors. Contact person: Janine.Kaya@rvo.nl
- More information on CE financing possibilities for SMEs can be found here.[19]

[13] http://www.rvo.nl/subsidies-regelingen/horizon-2020
[14] http://www.rvo.nl/sites/default/files/2016/10/Circulaire%20economie%20Horizon%202020.pdf
[15] http://www.rvo.nl/subsidies-regelingen/life
[16] http://www.rvo.nl/sites/default/files/2016/10/Circulaire%20economie%20LIFE.pdf
[17] http://www.rvo.nl/subsidies-regelingen/eurostars-%E2%80%93-subsidie-internationale-marktgerichte-rd
[18] http://www.rvo.nl/onderwerpen/innovatief-ondernemen/research--development/enterprise-europe-network
[19] http://www.rvo.nl/sites/default/files/2016/10/Circulaire%20economie%20en%20financieringsmogelijkheden%20voor%20MKB.pdf

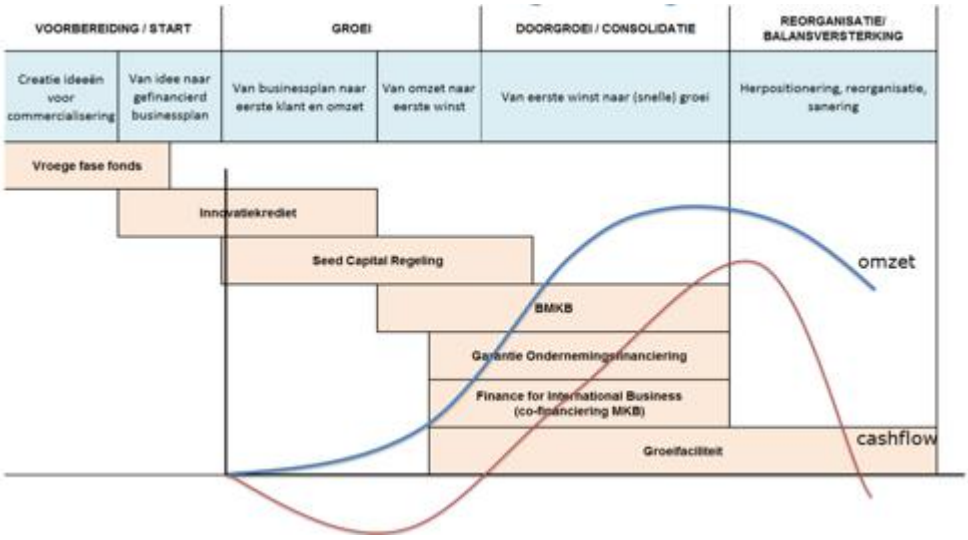

Figure 4: CE financing possibilities for Dutch SMEs

- Although not a financing programme *per se*, **NederlandCirculair!**[20] is a very useful online community. It stimulates people and organisations to do circular business and to produce, consume, finance and organise more innovatively. Besides community building, useful tools and practical activities are offered that help the entrepreneurs to become more circular. Nederland circulair! is supported by the Ministry of Infrastructure and Environment and carried out by MVO Nederland, Circle Economy, De Groene Zaak, ClickNL Design, Het Groene Brein, Sustainable Finance Lab and RVO, in collaboration with a large number of other organisations like TNO, Acceleratio and ICE Amsterdam. A presentation on NederlandCirculair! activities can be found here.[21] Contact person: Herman.Bavinck@minienm.nl
- The Netherlands Circular Hotspot[22] campaign site provides useful information as well, including on a wealth of circular best practices. Positioning The Netherlands as a circular hotspot is an ambition that will inspire and connect Dutch actors with each other and with the rest of the world. The Netherlands is spearheading the CE movement and has become a "living lab" that provides the rest of the world with examples to learn from. Being a frontrunner in the CE will create benefits for the Dutch economy and society as a whole. The campaign is particularly urgent and timely, promoting Dutch capabilities during the Dutch presidency of the EU in 2016.

[20] http://www.circulairondernemen.nl/
[21] http://www.rvo.nl/sites/default/files/2016/10/NLCirculair_Basispresentatie.pptx
[22] http://www.netherlandscircularhotspot.nl/home.html

Country profiles

Bulgaria

Opportunities snapshot

State of play	Although Bulgaria is still the poorest country in the EU, the economic growth has been steady over the last years (3,4 % in 2016). The investment climate is slowly improving; main assets are a high skilled work force, excellent digital infrastructure and a corporate flat tax (10%). According to the Dutch Embassy Bulgaria is one of the best outsourcing destinations in the world and there is a rapidly growing start-up infrastructure. The Dutch are among the largest investors in Bulgaria. Overall relations between the Netherlands and Bulgaria are very good and broadening. After the parliamentary elections on 26 March of this year, a government shaped by the centre-right GERB and, as a junior coalition partner, the United Patriots was installed on 4 May. The predominance of GERB over the governmental program means a continuation of the policies carried out over the last years. The media are free but sometimes seem dependent on the political agendas of their owners. One of the main challenges of Bulgaria is to improve the rule of law including for example judicial independence. The Bulgarians are very positive about the EU (highest percentage in the EU) and at the same time have sympathy for Russia, which can be explained by historical and cultural ties. Bulgaria is the only country in the EU that is both Christian-Orthodox and has a Slavonic language. Dependence on Russian energy is high. Relations with Turkey are sensitive. Bulgarians are friendly, modest and eager to learn and highly interested to get acquainted with Dutch technological solutions.
Priority topics	- **Separate municipal collections** systems are a key focus. 55 regional **MSW treatment** centres are being established. - **Biodegradable waste recovery** is prioritised in a national strategy. - Design and construction of **waste reuse** centres (2017 budget: €22 million) - **EPR** is growing.
Catalysts	- **EU pressure** and very large **funding options** for a.o., waste management - The momentum of the Bulgarian EU Presidency **(January - July 2018)**, with **circular economy** being a Bulgarian **priority.** - **Varna** (twinned with Dordrecht) will be the **European Youth Capital** in 2017. - 31 March 2017 deadline set for implementation of **municipal waste taxes**.[23]
Waste management outlook and opportunities	Regulation is more developed than for example in Romania, but decentralised power also makes uniform progress difficult. Municipalities, EPR schemes and the informal sector compete, instead of collaborating. Source separation is only beginning (priority: bio-waste). EPR is in place but there is no national coverage and it competes with the municipal and informal sectors. MBT attracted €200m of EU investment (Sofia) as preferred means to hit landfill diversion targets (questionable wisdom). - **Source separation technology** and **bio-waste recovery** (e.g., composting) - **Tendering of MSW separate collection and treatment** (& awareness raising) - **Technology** providers for **recycling**, especially **EPR** flows. EPR should move quickly because fining risks are a live issue; Dutch business should look to **partner** with locals.
Other circular	Circular economy is well received as a concept but is yet to translate into action.

[23] Huisman, above, p.14

economy initiatives: outlook and opportunities	- Promote **synergies**, particularly with **water and wastewater treatment** systems - Save the Planet: Waste Management and Recycling conference[24] (March 2017) - Promote **remanufacturing** (less potential than Romania but some) - Support idea of wider resource exchange for example the development of **Black Sea Resources Roundabout** vision (longer-term)
Follow-up priorities – summary	*G2G*: support **Presidency** preparations, **WMP implementation** and **capacity building** efforts; facilitate **public-private dialogue** and **awareness raising** *K2K*: catalogue and explore **tender** and **H2020** opportunities; facilitate **inbound missions** to The Netherlands *B2B*: explore **waste management tenders**; target **Sofia** and possibly **Varna**

Market overview

General state of play

Bulgaria is the poorest country in the EU and is anxious to try to diminish the (technological) gap with other EU member states. Bulgaria is very interested getting acquainted with The Netherlands' technological and organisational development record.

Real GDP growth is 3,4%. Unemployment is declining but emigration has caused demographic decline: a marked drop from 8 million in 2000 to 7,4 million inhabitants now. Money is however also flowing back in the form of remittances.

Bulgaria is a loyal and constructive EU member, though it is yet to implement the various EU Directives. Five governments in three years, a weak Parliament and often dependent media have made it difficult to build momentum to implement necessary reforms.

The Netherlands is the largest investor in Bulgaria (though this is partly explained by the use of Dutch letterbox companies). Active large Dutch companies are Shell, Philips, Heineken, ING, TNT, De Giro and De Rijk (transport). A lot of Dutch SME's are also present, but there are little Dutch manufacturing industries.

Other countries active in Bulgaria are Germany, Austria, Spain, Italy and the UK. Investment is also courted from Russia and from southern neighbour, Turkey.

The Bulgarian mind-set is modest, friendly and sympathetic. Bulgarians are also self-critical, and open to ideas from outside. That said, residues of the country's communist past remain; the shift towards a solution- and results-oriented culture may take some time still.

The centre-right GERB forms the government together with junior coalition partner United Patriots, a combination of three parties with some nationalistic ideas. GERB's Boyko Borissov leads his third government. In November 2016, the Bulgarians elected Rumen Radev as president, a non-partisan candidate albeit supported by the Bulgarian Socialist Party, currently the biggest opposition party.

In Parliament, continuous wheeling and dealing by opportunistic coalitions makes progress in any direction fickle.

The judicial system is prone to political influence. Contrary to Romania, where corruption is being seriously tackled, in Bulgaria there have not been any high-level convictions related to corruption. It is a very slow reform process, even under sustained foreign pressure. Other areas where serious reform is needed is education and health care.

There is a strong Russian influence in Bulgaria, partly driven by Bulgaria's total energy dependency on Russia. South Stream, the abandoned pipeline project to transport natural gas of the Russian Federation through the Black Sea to Bulgaria – and through Serbia, Hungary and Slovenia, further on to Austria – was to be a big success. Its abandonment was a big blow for the country. Bulgaria, despite being located along the former Silk Road, has old infrastructure that is in need of upgrade.

[24] http://viaexpo.com/en/pages/waste-management-recycling-exhibition

Bulgaria has flat income and company taxes. The banking system is functional.

The capital Sofia makes good progress in city development. Other urban areas are Burgas, Varna (twinned with Dordrecht with a wide range of serious cooperation activities, especially in the maritime sector) and Plovdiv. Beyond these, Bulgaria is a predominantly rural country.

There are few knowledge institutes. There is no "golden triangle" collaboration between knowledge institutes, public and private actors. Universities provide education but not R&D. Dutch business should expect to train staff themselves and manage relations with partners in Bulgaria. Bulgaria is increasingly courting support to close the gap with the rest of the EU. The Minister of Environment and Water, looking ahead to Bulgaria's EU Presidency in H1 2018, has made clear that CE is a priority – and an ideal topic to kick the country into gear.

During his recent visit to the Netherlands (25-26 August 2016), Bulgaria's former **Minister of Economy**, Bojidar Loukarsky,[25] met the Dutch Minister of Foreign Trade Lilianne Ploumen. The ministers discussed CE themes and, according to the Bulgarian ministry, this topic will be among the key priorities of the Bulgarian EU presidency. The Netherlands embassy in Sofia maintains excellent relations with all relevant Bulgarian ministers and ministries including the ministries of Economy, regional Development and Infrastructure and Environment.

Waste management: market

Like its neighbour Romania, the country has still quite a lot to do in order to comply with EU standards.

A joint EEA-ETC/SCP 2013 report[26] notes that, in 2010, Bulgaria landfilled 98% of MSW generated. No material and organic recycling of MSW was reported between 2001 and 2010. The packaging recycling rate for 2012 was reported as 23%[27]: less than half way towards the 50% 2020 target prescribed by the WFD.

Data quality remains challenging. Regardless of the statistics, Bulgaria clearly faces an uphill task if it is to implement the CE Package in line with its obligations. There are rumours of calls for a 5-year derogation period, at least in relation to recycling and landfilling threshold targets.

In the meantime, Bulgaria is nearing the end of its EU-subsidised project to close down non-compliant landfill sites and eliminate illegal dumping sites.[28]

Despite lagging behind its western European counterparts, Bulgaria has made significant improvements over the past 20 years, for example in municipal waste collection. In 1995, just 77% of the population benefited from regular collection; by 2009 it was 96.7%.[29] More recent improvements can be seen in the chart below. [30]

[25] https://www.mi.government.bg/en/teams-minister-1/bojidar-loukarsky-31.html
[26] Tamas Kallay (ETC/SP) and Almut Reichel (EEA), "Municipal Waste Management in Bulgaria", Feb 2013, p.4
[27] Draft Chapter on Bulgarian waste management by senior expert, Mr Herman Huisman (RWS) in the Environmental Performance Review, p.4
[28] Huisman, above, p.5
[29] CMS Cameron McKenna LLP, "Waste Management in Central and Eastern Europe," September 2013, p.19
[30] Bogdanovic, J. (EEA) "Waste prevention in Member States: high level workshop 'improving municipal waste management – lessons learned from the compliance-promotion exercise 2014-2015," 13 Jan 2016, slide 22

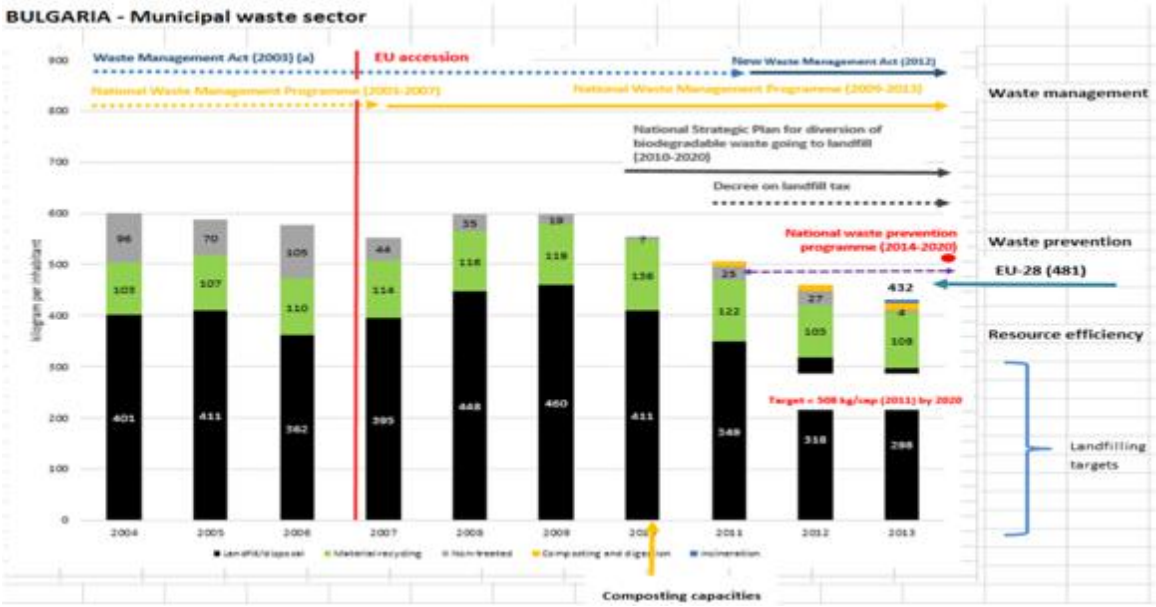

Figure 5: Evolution of MSW treatment, Bulgaria

Source separation is scarcely existent, albeit starting to grow after the passing of an ordinance. Implementation will be carried out on a county-by-county basis. 18 municipalities/counties have applied for EU funds related to organic waste collection and treatment, although none of the applications were granted due to poor quality.

EPR is in place for several flows: packaging, WEEE, ELV, batteries, used tyres and oils. There are several schemes for each flow. Most activity is in the large cities. As in Romania, theft by the informal sector is an issue.

The lack of MSW source separation, coupled with an aversion to incineration, means that EU funding has been channelled towards MBT. The business case for the Sofia plant (€200 million EU contribution) is far from solid. Despite being technologically advanced, the after-sorting of MSW creates only 5% recyclables; the rest is 60% RDF and 35 % residual waste, which still needs to be landfilled. Moreover, the low RDF quality prevents it from finding a place on the market, at forecast tariffs. Another €200 million of investment in emission control would be required to be able to use the RDF in the Sofia cogeneration plant. It is difficult to see, in this case, how MBT could offer a competitive advantage against incineration. With (2 x) €200 million, many containers for source separation could be financed.

Bulgaria aims to have 285 Kt less waste going to landfills by 2020. This is the waste-related target set in its Operational Programme for the Environment: 2014-2020[31] ("OPE 2020"). The €1,77 billion programme is 85% EU-funded. CMS estimates[32] that it will take around €370 million of investment – around 20% of the budget – just to reach baseline compliance with EU waste management standards.

Operations and OPE 2020's priority axes are listed here.[33]

Bulgaria's 2020 landfill diversion target for biodegradable municipal waste, like Romania's, is 35%. Its 2016 WEEE collection target is 41% of weight POM, moving up to 65% in 2020 (with different recovery and recycling rates for different categories).[34] For separate collection of municipal bio-waste it targets

[31] http://ope.moew.government.bg/en
[32] CMS Cameron McKenna LLP, above, p.18
[33] http://ope.moew.government.bg/en/pages/benefitsienti-opos-2014-2020/110#1
[34] Huisman, above, p.7

25% by the end of 2016; 50% in 2020; and 75% in 2025.[35] Minimum re-use, recycling and recovery rates have been set for construction and demolition waste: 35% by 2016; 55% by 2018; and 75% by 2020.[36]

Waste Management: legislation & planning

The Waste Management Act 2012 was passed to implement the Waste Framework Directive. It:

- incorporates the "polluter pays" and "extended producer responsibility" principles, as well as the waste management hierarchy
- introduces targeted operational goals for recycling of household and construction waste, together with requirements for waste management facilities and installations
- introduces economic and regulatory mechanisms, and instruments for application of the relevant legislation, as well as rules for management of widespread waste
- settles the "end of waste" and "by-products" approaches, and presents in detail the control functions of the institutions, as well as the specific fines and sanctions for non-compliance.[37]

As required by the WFD, Bulgaria promulgated a National Waste Management Plan: 2014-2020 (NWMP), which also contains the **National Waste Prevention Programme: 2014-2020**. The NWMP provides for the allocation and prioritisation of funding – EU and national – for waste management infrastructure development.

Components of the country's waste strategy are also contained in the National Development Programme: 2020 and the Third National Action Plan on Climate Change: 2013-2020[38].

A **landfill tax** was introduced in 2011. It applies to waste sent to non-hazardous landfills, MSW landfills and landfills for construction & demolition waste. Taxes for the first two are differentiated, based on whether the landfill is EU-compliant or not. Initially, they were €1,53/tonne (compliant) and €3,06/tonne (non-compliant); the tax for C&D waste was €0,26/tonne. The tax rose significantly in 2014, to **€18/tonne for non-hazardous/MSW**.

Steps have been taken towards development of a bio-waste strategy (latest available information, in English, comes from early 2014). The strategy aims to reduce the amount of municipal biodegradable waste being landfilled in period 2010-2020. Several MBT projects have been commissioned, the largest in 2014 in Sofia.

Public-private sector relations are provided for in:

- the Public-Private Partnerships Act
- the Public Procurement Act
- the Concessions Act

The Ministry's work plan allocated €5 million for demonstration and pilot waste management projects, in 2016 – and €22 million for the design and construction of waste reuse centres in 2017. Priority actions:

- Procedures for the construction of biodegradable waste installations
- Waste reuse centres
- Preliminary waste treatment centres
- Implementation of the third phase of the Sofia integrated waste treatment system

Waste management: EU Funding

The major channel for EU funding is OPE 2020. Of the €1,77 billion the EU has committed (Bulgaria must co-finance 15%, or €265 million):

- €1,13 billion comes from the Cohesion Fund

[35] Huisman, above, p.12
[36] Huisman, above, p.13
[37] Huisman, above, p.20
[38] https://www.eufunds.bg/archive/documents/1357828564.pdf

- €371 million comes from the Regional Development Fund

Construction of EU-compliant landfills has been a major effort, recently. By mid-2016, 44 regional landfills had been constructed. It is not clear how the other 11 will be financed, given there are no EU funds available for this task.

Similarly, by mid-2016, 29 pre-treatment facilities (for separation of plastics, glass, metals, paper/cardboard) and composting facilities for "green waste" have been constructed, together with another six MBT facilities. By the end of this year it is expected that 80% of MSW will go the regionally managed (compliant) landfills (currently this figure is 60-67%).[39] Of the regional landfills required, only one is in operation. This is a key area where further investment is needed.

Waste Management: key players & influencers

The Ministry of the Environment and Water[40] is the key CE player. It administers the €1,77 billion OPE 2020[41]. Minister Ivelina Vesselinova Vassileva[42] was Deputy Mayor of Burgas, twin city of Rotterdam, in 2009.

16 Regional Inspectorates of Environment and Water play a central role in the implementation of economic instruments for environmental protection. Included in this is the control of the implementation of waste management legislation. RIEW Varna (the city twinned with Dordrecht; European Youth Capital in 2017) is known for its progressive approach.

NSORB[43] is the National Association for Bulgarian Municipalities. It lobbies for their interests in legislative processes and negotiates with government.

Ecobulpack[44] is a leading packaging waste recovery organisation. It is a ~100-shareholder collective of producers and importers of packaging waste; serves 35 municipalities (only 10% of operations contracted out); and sorted 67% of Sofia's waste before the city opened its own treatment plant in September 2015. It has 1100 employees, and exports recyclables to BE, DE, IT, RO, PL, EL and Turkey.[45]

Makmetal is the largest of six collective schemes for WEEE and seven collective schemes for batteries collection.

Circular Economy beyond waste management

Circular economy is well received as a concept but is yet to translate into action. The State Energy and Water Regulatory Commission[46] shows most promise, in driving CE transition efforts.

The Dutch embassy in Sofia supports the idea of having a CE mission to Bulgaria, in 2017 as a follow-up to the successful fact-finding mission completed in November 2016.

Biomass cogeneration

In May 2011, the then Agriculture Minister, Miroslav Naidenov, announced that Bulgarian investments for producing heating energy, electricity and biofuel from biomass could reach 1 billion Bulgarian liva (~€511 million) by 2014. The announcement attracted over a hundred biomass projects by September 2013. GDF Suez was a major foreign investor, spending €100 million on biomass plants in four Bulgarian towns.[47]

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[39] Huisman, above, p.5
[40] http://www.moew.government.bg/?&lang=en
[41] http://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/bulgaria/2014bg16m1op002
[42] http://www.moew.government.bg/?show=12
[43] http://projects-namrb.org/index.php/en/
[44] http://www.ecobulpack.com/en
[45] Huisman, above, p.6
[46] http://www.dker.bg/indexen.php
[47] CMS Cameron McKenna LLP, above, p.18

The planned March 2017 trade mission will gauge future opportunities in this area.

Events in 2017

From **7-9 March 2017** an annual exhibition and conference called **Save the Planet**[48] has taken place in Sofia (with some Dutch speakers present). This annual meeting is the biggest event in the environmental sector; among its sub-themes are "Waste management and recycling" and "Smart Cities". The Dutch embassy in Sofia has participated in past editions of the expo, and has very good relations with the organisers. It proposes to link the CE mission to this event in order to profit from networking possibilities.

Dutch-Bulgarian relations

Using the momentum and existing collaboration between Dutch and Bulgarian regions can be fruitful.

Twinning cities

Dutch city	Bulgarian city	Activity
Dordrecht	Varná	Twinned since 2001. Both geared towards maritime, transportation and technology sectors. Varna will be European Youth Capital in 2017 (social innovation).
Rotterdam	Burgas	Twinned since 1976.

Looking forward: suggested priority areas for follow-up

G2G

- Align with the embassy to coordinate support for capacity building and initiating public-private dialogue, to lay the foundation for business opportunities and societal gains.
- Support preparations for the 2018 Bulgarian EU Presidency.
- Support WMP implementation, in collaboration with stakeholders.
- Gauge the 'appetite' of mayors and municipalities, whose support will be instrumental.
- Facilitate inbound missions to The Netherlands.

B2B

The Netherlands is a strong investor in Bulgaria, providing a sound platform to build on.

- Target dynamic local business clusters, leveraging:
  - Sofia ambitions as a living lab, building on existing partnerships and proposing new tools such as city scans and roadmaps
  - twin city relationships like Dordrecht and Varna (especially in 2017 when social innovation will be hot)
- Encourage the following groups to monitor market developments in EPR niche flows
  - recycling technology providers (plastic packaging, ELV)
  - container suppliers and developers of modular environmental street concepts (like Modulo)
- Pursue opportunities in agro-food collaborations and organic waste (organic waste is a significant component of MSW).

[48] http://viaexpo.com/en/pages/waste-management-recycling-exhibition

- Follow-up with the branches on the scale of opportunities in the construction & demolition and water sectors.
- Compile an inventory of joint tenders linked with regional implementation of EU funding.
    - Involve consultants with expertise in implementing regulation at local level – and answering to EU tenders (see the introduction chapter describing EBRD consultancy opportunities).
    - Promote the visibility of Dutch technology in collaboration with branches like FME-ENVAQUA.

Further information: Bulgaria

Ministry of the Environment and Water[49]

Operational Programme Environment: 2014-2020[50] (EU site)

Operational Programme for the Environment: 2014-2020[51] (Bulgarian operational site)

Information on EU Structural Funds at Bulgaria's disposal can be found here[52]

CMS[53], based in Sofia, is the largest international law firm in the Bulgarian market. Contact Kostadin Sirleshtov, partner, +359 2 92199 42, kostadin.sirleshtov@cms-cmck.com

[49] http://www.moew.government.bg/?&lang=en
[50] http://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/bulgaria/2014bg16m1op002
[51] http://ope.moew.government.bg/en
[52] http://www.eufunds.bg/en/
[53] https://cms.law/en/BGR/Office/Sofia

Appendix 1: Country and Capital Factsheets

Bulgaria

National Fact Sheet: Bulgaria

National factsheet on separate collection

Bulgaria

Note: This 'National factsheet' has been prepared within the EC study "**Assessment of separate collection schemes in the 28 capitals of the EU**". The document represents the status-quo of the EU Member State (MS) in September 2015. The information included in this document has been elaborated for all 28 EU-MS based on publically available documents, i.e. national legislation, Waste Management Plans, Waste Prevention Programmes, strategies, implementation reports, and statistics. All information is cited in the factsheet, a complete list of information sources can be found at the end of this document.

For quality assurance purposes the 'National factsheet' has been sent to the EU Technical Advisory Committee (TAC) Members on waste for verification and commenting, the comments received are included in this final version.

1 General requirements on separate collection based on national legislation

Bulgaria's Waste Management Act [BG WMA 2012] (promulgated in the State Gazette No 53 of 13 July 2012, effective 13 July 2012, amended in No 66 of 26 July 2013, effective 26 July 2013) is the main act transposing the requirements of the WFD. All of the requirements have been transposed into national legal requirements, **most of them directly and analogously** [BG WMA 2012]. Only the requirements of: Article 11 (1) WFD "by 2015 separate collection shall be set up for at least the following: paper, metal, plastic and glass" **is deviating, since it does not include the timeframe requirement**; and the requirement of Article 22 WFD is **deviating because the collection of bio-waste does not refer to household waste**. However, the separate collection of household bio-waste has been set as a requirement in [BG BWS 2010]

Additionally, Bulgaria has introduced ordinances, which give further instructions and information for the different waste streams, such as biodegradable and packaging waste, respectively [BG SCBW 2013], [BG PPW 2013].

Table 1: Overview of national law(s) that implement separate collection

Year and Abbreviation	Title of the law (translation)
[BG WMA 2012]	Закон за управление на отпадъците (Обн., ДВ, бр. 53 от 13.07.2012 г., в сила от 13.07.2012 г., изм., бр. 66 от 26.07.2013 г., в сила от 26.07.2013 г.; изм. с Решение № 11 от 10.07.2014 г. на КС на РБ - бр. 61 от 25.07.2014 г.) (The Waste Management Act, last modified in 2014)
[BG SCBW 2013]	Наредба за разделно събиране на биоотпадъците, приета с ПМС № 275 от 06.12.2013 г. (Обн. ДВ, бр. 107 от 13.12.2013 г.) (Ordinance for separate collection of bio-waste)
[BG PPW 2013]	Наредба за опаковките и отпадъците от опаковки, (обн., ДВ, бр. 85/06.11.2012 г., изм. и доп., бр. 76/30.08.2013 г.) (Ordinance on packaging and packaging waste)

Table 2: Overview on evaluation categories

Evaluation	Explanation
additional	The requirements of the WFD have been transposed and additional information or requirements are set out in the national legal requirement, i.e. additional definition, precision of requirement that goes beyond the text of the WFD
one:one	The requirement of the WFD has been transposed exactly / literally or transposed analogously. No additional requirements or explanations are set out.
deviating	The requirements of the WFD have been implemented into national legal requirements but have been adjusted, left out or deviated
not included	The requirement of the WFD is not transposed into national law

Table 3: Assessment on national transpositions

Law & Article	Evaluation	English text	Original text
1. Article 3 (11) WFD: Definition separate collection: "'separate collection' means the collection where a waste stream is kept separately by type and nature so as to facilitate a specific treatment"			
[BG WMA 2012] Supplementary Provisions §1 (34)	One:one	Supplementary Provisions §1 (34) "'separate collection' is the collection where a waste stream is kept separately by type and nature so as to facilitate a specific treatment"	Supplementary Provisions §1 (34) ""Разделно събиране" е събирането, при което поток от отпадъци се разделя по вид и естество на отпадъците с оглед улесняване на специфично третиране"
2. Article 10 (2) WFD: "waste shall not be mixed with other waste/material with other properties"			
[BG WMA 2012] §30 (2)	One:one	§30 (2) "Where necessary to comply with the provisions of par. 1 and to facilitate or improve recovery, waste shall be collected separately if technically, environmentally and economically practicable and shall not be mixed with other wastes or other materials with different properties."	§30 (2) "Когато е необходимо за спазването разпоредбата на ал. 1 и за улесняване или подобряване на оползотворяването, отпадъците се събират разделно, ако това е осъществимо от техническа, екологична и икономическа гледна точка, и не се смесват с други отпадъци или други материали с различни свойства."
3. Article 11 (1) WFD: "measures to promote high quality recycling"			
[BG WMA 2012] §49 (4.7)	One:one	§49 (4.7) "Measures to promote high quality recycling by introducing schemes for separate collection of waste where technically, environmentally and economically practicable in order to meet the necessary quality standards for the relevant recycling sectors;"	§49 (4.7) "мерки за насърчаване на висококачествено рециклиране чрез въвеждане на схеми за разделно събиране на отпадъци, когато това е технически, екологично и икономически приложимо, за да се гарантират необходимите стандарти за качество на съответните рециклиращи сектори;"
4. Requirement WFD: 11 (1) "separate collection if technically practicable"			
[BG WMA 2012] §49 (4.7)	One:one	§49 (4.7) "Measures to promote high quality recycling by introducing schemes for separate collection of waste where technically, environmentally and economically practicable in order to meet the necessary quality standards for the relevant recycling sectors;"	§49 (4.7) "мерки за насърчаване на висококачествено рециклиране чрез въвеждане на схеми за разделно събиране на отпадъци, когато това е технически, екологично и икономически приложимо, за да се гарантират необходимите стандарти за качество на

Law & Article	Evaluation	English text	Original text
			съответните рециклиращи сектори;"
5. Requirement WFD: 11 (1) "separate collection if economically practicable"			
[BG WMA 2012] §49 (4.7)	One:one	§49 (4.7) "Measures to promote high quality recycling by introducing schemes for separate collection of waste where technically, environmentally and economically practicable in order to meet the necessary quality standards for the relevant recycling sectors;"	§49 (4.7) "мерки за насърчаване на висококачествено рециклиране чрез въвеждане на схеми за разделно събиране на отпадъци, когато това е технически, екологично и икономически приложимо, за да се гарантират необходимите стандарти за качество на съответните рециклиращи сектори;"
6. Requirement WFD: 11 (1) "separate collection if environmentally practicable"			
[BG WMA 2012] §49 (4.7)	One:one	§49 (4.7) "Measures to promote high quality recycling by introducing schemes for separate collection of waste where technically, environmentally and economically practicable in order to meet the necessary quality standards for the relevant recycling sectors;"	§49 (4.7) "мерки за насърчаване на висококачествено рециклиране чрез въвеждане на схеми за разделно събиране на отпадъци, когато това е технически, екологично и икономически приложимо, за да се гарантират необходимите стандарти за качество на съответните рециклиращи сектори;"
7. Article 11 (1) WFD: "separate collections (...) appropriate to meet the necessary quality standards for the relevant recycling sectors"			
[BG WMA 2012] §49 (4.7)	One:one	§49 (4.7) "Measures to promote high quality recycling by introducing schemes for separate collection of waste where technically, environmentally and economically practicable in order to meet the necessary quality standards for the relevant recycling sectors;"	§49 (4.7) "мерки за насърчаване на висококачествено рециклиране чрез въвеждане на схеми за разделно събиране на отпадъци, когато това е технически, екологично и икономически приложимо, за да се гарантират необходимите стандарти за качество на съответните рециклиращи сектори;"
8. Article 11 (1) WFD "by 2015 separate collection shall be set up for at least the following: paper, metal, plastic and glass"			
[BG WMA 2012] §19 (3.6)	deviating	§19 (3.6) "separate collection of household wastes ... of at least the following materials: paper and cardboard, metals, plastics and glass;"	§19 (3.6) "разделното събиране на битови отпадъци ... най-малко за следните отпадъчни материали: хартия и картон, метали, пластмаси и стъкло;" http://www3.moew.government.bg/files/file/Waste/Naspki_rakowodstva/pismo-kmetove.pdf http://www3.moew.government.bg/files/file/Waste/VA

Law & Article	Evaluation	English text	Original text
			PROSI_OTGOVORI/Ukazaniya_obshtini.pdf
9. Article 22 WFD: Bio-waste - Member states shall take measures, as appropriate (...) to encourage: "a) the separate collection of bio-waste with a view to the composting and digestion of bio-waste"			
[BG WMA 2012] §34	deviating	§34 (1) "Bio-waste collected in public areas, parks and gardens maintenance are collected separately. (2) Bio-waste under paragraph 1 as well as the waste from green areas near commercial sites, industrial, commercial and administrative buildings are treated by composting or anaerobic digestion in a manner that ensures a high degree of environmental protection."	§34 (1) "Биоотпадъците от поддържане на обществени площи, паркове и градини се събират разделно. (2) Биоотпадъците по ал. 1, както и отпадъците от зелените площи към търговски обекти, производствени, стопански и административни сгради се третират чрез компостиране или анаеробно разграждане, по начин, който осигурява висока степен на защита на околната среда."

2 General requirements on separate collection based on main strategies

Bulgaria	460 kg MSW/capita 25.22% recycling

According to [BG TAC 2015] more recent data as the data which is taken from EUROSTAT (2012) is available: 434 kg MSW/capita; 27.5 % recycling

Definition of Municipal solid waste (MSW):

According to the [BG WMA 2012] Municipal solid waste is defined as the household waste and waste similar to household waste.

Main strategies implementing separate collection

The National Waste Management Plan 2014-2020 [BG NWMP 2014] is the main strategy implementing separate collection in Bulgaria. There is also the National Strategic Plan for the gradual **reduction of the amount of biodegradable waste going to landfill** [BG BWS 2010], which is the main document analysing bio-waste management since more than 50% of MSW is biodegradable waste.

In Bulgaria, **separate collection targets and systems have been established for widespread waste in accordance with the EU Waste Framework Directive**, i.e. packaging waste (by 2020 recovery of 56% of generated packaging waste (PW), recycling of 54% generated PW), ELVs (by 2020 separate collection of 100%, recycling of min. 85%), WEEE (by 2020 separate collection and recycling of min 65% of the EEE released in the past 3 years), waste from batteries and accumulators (WBA) (by 2020 separate collection of 45%, recycling of min 45% of the batteries and accumulators released in the same year), waste oils (by 2020 recycling of min 45% of the oils released in the same year) and end-of-life tyres (by 2020 recovery of min 65% of tyres released in the previous year and recycling of min 50% of tyres released).

In 2010 Bulgaria reported to Eurostat 0% recycling of MSW. Bulgaria has opted for a reporting method where recycled packaging waste is not included in the reporting to Eurostat on the recycling of municipal solid waste (ExEA, 2012). However, the next four years the country has taken big steps in its effort to meet the set targets. Currently, the targets are successfully met mostly through the **introduced schemes for extended producer responsibility** [BG NWMP 2014].

Apart from these widespread waste streams, the [BG WMA 2013] establishes a requirement (effective as from 1 January 2013) that **bio-waste from all areas for public use, parks and gardens must be collected separately and composted**. The targets set for separate collection of bio-wastes are:

- by December 31st 2016, at least 25% of the generated bio-wastes during 2014;
- by December 31st 2020, at least 50% of the generated bio-waste during 2014;
- by December 31st 2025, at least 70% of the generated bio-waste during 2014.

Currently, the waste fee in Bulgaria is based on the property value of the waste holders and varies in different regions and municipalities. An act for local taxes currently is under development to oblige all municipalities from 2014 onwards to **implement "pay as you throw" principle** and to change the structure of municipal waste fee in accordance with the waste amount generated by each households. The foreseen deadline for implementation is end of 2015.[BG CR 2014]

3 Implementation of separate collection

Overview on separate collection systems in place

Typically, the **door-to-door collection system is used as a main method of separate collection in densely populated areas**. As a primary method – the three bin collection scheme is in place - one bin is for co-mingled door-to-door collection of metal & plastic (yellow), and the other two bins are for separate door-to-door collection of paper and cardboard (blue) and glass (green). [BG SWCS 2015], [BG EPRO 2015], [BG BEPRO 2015], [BG ECRO 2015],

As a secondary method, the two container scheme is applied - yellow – for all co-mingled collection of paper and cardboard, metal and plastic and green for separate glass collection. [BG EPRO 2015], [BG BEPRO 2015], [BG ECRO 2015],

The types of containers allocated in municipalities, commercial outlets, warehouses and manufacture facilities are as follows:

- Two-wheel plastic containers of 120 liters or 240 liters
- Four-wheel and "Chest" type lid plastic and metal containers of 770 l and 1100 l
- Plastic or metal containers with bottom opening of 1500 l (including the "Igloo" type containers)
- Four-wheel and "Chest" type lid blue and yellow plastic containers of 770 liters and 1100 l combined with a bottom opening "Igloo" type green container of 1000 l or 1500 l
- Press-containers (for paper and plastic packaging waste) and Multifit system type (for paper and glass waste) are used to collect waste generated in large commercial outlets, warehouses and manufacture facilities. [BG EPRO 2015], [BG BEPRO 2015], [BG ECRO 2015]

Bring points are used as a secondary scheme for collection of recyclable wastes however it is **a primary scheme in sparsely populated areas**.

Civic amenity sites are applied for additional collection for all streams on top of other waste types, i.e. hazardous and bulky waste from households.

Due to the extended producer responsibility the scheme of "Producer/retail take-back" is in place for all widespread wastes. [BG SMA 2012]

Separate collection of **bio-waste** in Bulgaria is in its very infant stage and **only few pilot projects** are in place. [BG CR 2014],

Table 4: Overview of main separate collection systems in Bulgaria

Collection type	Paper	Glass	Plastic	Metal	Bio-waste
Door-to-door collection 	Primary (Secondary in sparsely populated areas)	Primary (Secondary in sparely populated areas)	Secondary	Secondary	Rare (Pilot projects)
Co-mingled (door-to-door) 	Secondary, with plastic and metal		Primary for plastic and metal		
Bring points 	Secondary (but primary at sparsely populated areas)	Secondary	Secondary (but primary at sparsely populated areas)		Rare (Pilot projects)
Civic amenities 	Additional collection for all streams on top of other waste types, i.e. hazardous waste from households				
Producer/retail take-back 	Systems by producers, retailers and warehouses	Systems by producers, retailers and warehouses	Systems by producers, retailers and warehouses	Systems by producers, retailers and warehouses	

Capital factsheet on separate collection

Note: This 'Capital factsheet' has been prepared within the EC study "**Assessment of separate collection schemes in the 28 capitals of the EU**". The document represents the status-quo of the EU Member States capitals in May2015. The information included in this document has been elaborated for all 28 EU-capitals based on expert interviews with various stakeholders on capital level, e.g. capital administrations, waste management operators, associations etc. as well as further publically available reports, statistics and websites.

All information is cited in the factsheet and a complete list of information sources including the interviews held can be found at the end of this document.

Sofia	Bulgaria
SUMMARY: The separate collection system in Sofia depends mostly on bring point collection of all fractions except bio-waste for which a pilot project is ongoing. Co-mingled door-to-door collection of the dry recyclables plastic, glass and metal waste is in place. The effectiveness of the separate collection system cannot be evaluated due to missing data.	
1 Capital general data	
City population (inhabitants)	1 256 667 [1]
City area (km²)	492 [1]
City density (persons/km²)	986 [1]
City climate (mediterranean, continental, oceanic, nordic; relevant for bio-waste collection)	Moderate continental climate [1]
2. Capital waste data	
Total (municipal) waste generation (t in indicated year)	437.749 t (2014) [1]
Total (municipal) waste generation (kg/cap)	348 kg/cap (2014) [1]
Total separate collection (kg/cap) & (% of generation)	21.6 kg/cap & 5 % of generation [1]
Percentage breakdown of total collection for separate collection by fraction	• 7,33% paper and cardboard • 5,29% glass • 4,31% plastic • 50,04% bio-waste • 33,03% other
3. Description of overall separate collection systems operating in capital	
According to Bulgarian legislation, the municipalities are responsible for waste collection. In Sofia grand-municipality surface containers are the main waste collection method. There are a few municipalities who have contracted the waste collection activities with private companies and there are also those who maintain their own municipal companies doing this activity. Waste is collected mainly by bring points, door-to-door in some sub-municipalities and by request in all sub-municipalities. There is a pilot project for separate collection of bio-waste and several civic amenity centres. Collection frequency depends on the neighbourhood, from every day to once a week. **Paper and cardboard:** by separate collection containers located in public places [1] **Glass:** by separate collection containers located in public places [1] **Plastic:** by separate collection containers located in public places [1] **Metal:** **Bio-waste:** by separate collection containers located in public places [1] There is one pilot project for bio-waste collection. It does not really work for the whole capital. [1]	

Annual Running Costs: Not available	
Setup costs: Not available	
Coverage: Not available	
4. Elements of the collection system	
MUNICIPALITIES OR THEIR CONTRACTORS	
 **Door-to-door collection of co-mingled recyclables**	
Fractions collected together in one bin	Plastic, glass, metal [1]
Collection frequency	weekly, bi-weekly etc. [1]
Coverage of collection	**Not available**
Annual collected quantities	**Not available**
	Not available
	Not available
Setup costs	**Not available**
Running costs	**Not available**
Source of funding	Municipal waste fee [1]
Cost to consumer (annual)	**Not available**
 **Bring Collection Points (Pilot project in two of the municipalities under the cap of Sofia Grand-Municipality)**	
Fractions collected	Paper & cardboard, glass, plastic, metal [1]
Number of collection points	166 collection points consisting of 3 bins (blue, yellow, green for paper & cardboard, plastic & metal and glass respectively) [1] 13.2 per 100 000 inhabitants
Collected quantities	**Paper & cardboard**: 63,9 t/2014, 83,32 t/2013 [1]
	Plastic & metal: 73 t/2014, 91,66 t/2013 [1]
	Glass: 82,14 t/2104, 110,5 t/2013 [1]
Setup costs	1 370 283.26€ [1]
Running costs	**Not available** The Municipality does not pay for the operational cost of the separate collection schemes. They are financed by the authorised Recovery Organisations [1]
Source of funding	Ecobulpack SA, an authorised recovery organisation finances the pilot project's operational costs [1]
Cost to consumer	**Not available**
 **Bring-in Civic Amenity sites**	
Fractions collected	All types of wastes [7]
Number of sites	4 [7] and 0.3 per 10 000 inhabitants
Collected quantities	**Not available**
Setup costs	**Not available**

Running costs	**Not available**
Source of funding	**Not available**
Cost to consumer	**Not available**
PRODUCERS OR THEIR AGENTS	
 **Separate Collection of WBA**	
Products covered	Waste batteries and accumulators [5]
Quantity covered by system (in t)	**Not available**
Quantity collected by system (in t)	132,338 t/2013 [5]
Funding mechanism	Funding is provided entirely by the recovery organizations of Batteries - "Ecobattery" and "UBARecycling". The companies that put batteries on Bulgarian market are obliged to pay a fee to one of the Recovery Organisations. The Recovery Organisations are non-profit organisations and the amount of the fee is calculated in order to be enough for covering the costs for collection treatment and awareness raising.[5]
Consumer cost	**Not available**
 **Separate Collection of Household Hazardous Waste**	
Products covered	Hazardous household waste
Quantity covered by system (in t)	**Not available**
Quantity collected by system (in t)	1.885,17 t/2013 [6]
Funding mechanism	Funding is provided by the budget of Sofia Municipality. The funds provided are annual and are transferred to Balbok Engineering after submission of monthly invoice for completed activities: service - call centre, visiting addresses, mobile collection point, the quantity of collected waste in unit prices under contract, printing and distribution of brochures.[6]
Consumer cost	**Not available**
 **Separate Collection of WEEE**	
Products covered	WEEE
Quantity covered by system (in t)	**Not available**
Quantity collected by system (in t)	1.831 t/2013 [7]
Funding mechanism	Funding is provided entirely by the Recovery Organizations of WEEE - "Eltechresource" and "Ecobultech". The companies that put EEE on Bulgarian market are obliged to pay a fee to one of the Recovery Organisations. They chose the Recovery Organization based not only on the amount of the fee and the reliability of the services the respective Recovery Organization provides – availability of contracts with municipalities and with well-established on the market collection, treatment and recycling enterprises. The Recovery Organisations are non-profit organisations and the amount of the

	fee is calculated in order to be enough to cover the costs for collection and treatment as well as the information and awareness raising campaigns [7]
Consumer cost	**Not available**

BARRIERS TO IMPLEMENT SEPARATE COLLECTION

The most significant challenge is that all citizens realize their responsibility towards the environment and health of surrounding people and animals, and to make efforts not to throw the Batteries, hazardous waste and WEEE generated in each household and offices into the residual waste bins.

5.Materials, Quantities and costs

SUMMARY OF COLLECTION SYSTEMS IN PLACE

Collected waste (t)	Paper	Glass	Plastic	Metal	Bio-waste	City Coverage
Door-to-door						
Co-mingled						
Bring points	63.9 [1]	82.14 [1]	73 [1]			166 + 13.2 per 100 000 inhabitants
Civic amenities						4 + 0.3 per 10 000 inhabitants
Producer / Retailer take-back						
Total	1.925 [1]	1.390 [1]	1.132 [1]		13.142 [1]	

SUMMARY OF COSTS FOR SEPARATE COLLECTION SYSTEMS IN PLACE (setup costs should be total, running costs annual)

Costs (€)	Authorities / waste management companies		Consumer costs	
	Setup (€)	Running (€/year)	Funding type	Amount (€)
Door-to-door	Not available	Not available	Not available	Not available
Co-mingled	Not available	Not available	Not available	Not available
Bring points	1 370 283.26€	Not available	By authorised recovery organisation	Not available
Civic amenities	Not available	Not available	Not available	Not available
Producer / Retailer take-back	Not available	Not available	Not available	Not available
Total	Not available	Not available	Not available	Not available

6. Recycling and losses

RECYCLING OF THE COLLECTED WASTE

Recycled (t)	Paper	Glass	Plastic	Metal	Bio-waste	Total
Generated	Not available	Not available	Not available	Not available	Not available	437.749 [1]
Collected	**Not available**					
Recycled nationally						
Exported for recycling						
Rejected						

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