

Action plan Brandenburg, Germany

Date:



European Union
European Regional
Development Fund



This report was developed in the framework of the interreg Europe project COCOON. This report only reflects the author's view, the programme authorities are not liable for any use that may be made of the information contained herein.

Part I – General information

Project: COCOON, Consortium for a coherent European Landfill Management Strategy

Partner organisation: State Office of Environment, Brandenburg

Other partner organisations involved (if relevant):

Country: Germany

NUTS2 region: Brandenburg

Contact person: Dr. Ulrich Stock

email address: ulrich.stock@lfu.brandenburg.de

phone number: 0049 33201 442 310

Part II – Policy context

The Action Plan aims to impact: Investment for Growth and Jobs programme
 European Territorial Cooperation programme
 Other regional development policy instrument

Name of the policy instrument addressed:

Waste management plan of Brandenburg.

Part III – Details of the actions envisaged

Action 1 “Evaluation of landfill mining and excavation”

1. **The background** (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

During the Cocoon Project the Environmental State Office of Brandenburg (LfU) became particularly interested in the topic of Landfill Mining and Landfill Excavation. The issue of Landfill Mining and Excavation was raised by the Public Waste Agency of Flanders (OVAM), Belgium as well as by the Rijkswaterstaat Agency of the Ministry of Infrastructure and Water Management, Netherlands. Both partners have realized several projects of landfill mining and excavation successfully. Some of the projects were presented by partners from the Netherlands and Belgium at the COCOON meetings and were further published in numerous Good Practices:

1. "Prov. West-Vlaanderen, Belgium (Belgique-België) De Blankaart landfill mining project: an economic viable case."
2. "Prov. Antwerpen, Belgium (Belgique-België) Klaverenboer ward: landfill remediation and tackling land pressure."
3. "Utrecht, Netherlands (Nederland) Remediation of two landfill sites by landfill excavation at the Duisterweg in Amersfoort."
4. "Utrecht, Netherlands (Nederland) Landfill mining to develop the area in housing area in Veenendaal."

At the 9th meeting in Mechelen the partners from OVAM invited all project partners to visit a site where landfill mining was conducted (Brownfield site Hemiksem). The LfU became particularly interested in this project, which considered the redevelopment of former landfill site into residential and park area.

Besides the COCOON project, the INTERREG projects RAWFILL and EURELCO address the issue of landfill mining and excavation as well. The partner from Belgium is member of these projects. A "working group" was created out of the projects, which in the beginning consists of the OVAM and TU Wien. These two partners developed the decision support tool "Orion" within the RECLAF-project in 2015, which includes mapping, surveying and evaluation of landfill mining. The decision support tool was already tested with success on specific Flemish landfills by OVAM. The results of the project were further used to develop the decision support tool "Ontol - Online Tool for the Evaluation of Landfill Mining Projects". The aim of Ontol is to evaluate the landfill mining projects in terms of ecological and economical benefit. The LfU joined the working group in 2018 owing to the new contacts arisen within the COCOON project.

The landfills which are addressed to evaluate with Ontol are old ones closed before 2005, where commercial, household- type commercial, bulky and construction waste were deposited. The type of waste and the lack of technical barriers beneath the landfill lead to risks to the environment. Meanwhile the majority of the landfills are remediated and a surface capping or sealing was installed. However, some small landfills still impose some negative effects on environment, besides; many landfills need continuous maintenance measures in the aftercare phase. Also the avoidance of emissions of climate-relevant landfill gases has to be considered when evaluating the impacts of a landfill environmentally.

In Germany landfill mining projects were never implemented due to the fact that it was not economically profitable nor feasible due to high cost of excavation and low incomes regarding recycling and reselling the gained resources.

However, not only the value of the deposited resources should be considered economically, also the value of the regained area in terms of real estate is an important factor which may make landfill mining and excavation profitable. In particular, in Brandenburg adjacent to Berlin, where land price is high, this may be the case.

The LfU wants to evaluate the landfill mining and excavation with focus on the economic benefit and to use the results for promotion of landfill mining as part of the next ERDF programme 2021-2027. Therefore, the LfUs wants to introduce a new thematic topic in the waste management plan of Brandenburg.

The waste management plan of Brandenburg is a policy instrument which addresses the evaluation of waste streams in order to secure and manage the supply of technical facilities to reuse, recycle, or dispose wastes. The waste management plan is based on general principles of the German Circular Economy Act. The new thematic topic to introduce the Action Plan of Brandenburg into the waste management plan considers the evaluation of potential landfill mining and excavation.

2. **Action** (please list and describe the actions to be implemented)

In the action of the LfU the evaluation of landfill mining and excavation is one of the mayor aspects. This is conducted by the application of the decision support tool “Ontol”, a programme created by the TU Vienna. Ontol evaluates landfill mining and excavation economically and environmentally.

The first subject of the Action Plan focuses on gathering available information of potential landfills for mining and excavation. Potential landfills are located in particular in the vicinity of Berlin, where land price is high and where landfill mining or excavation might be profitable. The landfills will be determined by applying geographic information systems (Altlastenkataster, ALKAT, a database for brownfields and landfills). Up to now we assume a number of approximately 400 landfills in this area. In order to limit the number of potential landfills and apply a ranking literature research will be conducted to gather further characteristics of the landfills.

The result of the first subject is a reduced, limited number of potential landfills to mine or excavate.

The second subject of the Action Plan includes the evaluation of mining and excavation in collaboration with the local districts and municipalities for landfills, which were designated with a high potential for mining and excavation in the first step due to the land price in the vicinity and their characteristics (volume, characteristics of deposited waste, etc.). The evaluation will be conducted by the tool Ontol. The information of each landfill gathered in subject one will be used as input parameter to run the computing tool. Further input parameter are such as resource prices, price for Diesel, real estate prices, costs for maintenance in the aftercare phase, etc.. The results will give an economical and environmental overview of the feasibility of landfill mining and excavation for each individual landfill. Overall about 10 to 20 landfills will be evaluated in this second step.

The results of the project may promote landfill mining and excavation to be subject of the Operational Programme of ERDF. Since the current Operational Programme of the Federal State of Brandenburg for the ERDF of the period 2014-2020 cannot be changed within the funding period, the LfU concentrates on the next Operational Programme of the ERDF funding period 2021-2027. The specific ERDF objective concerned thereby is sustainable urban/rural development.

In order to be able to promote landfill mining and excavation, it is planned to introduce a new subject in the waste management plan of Brandenburg. This policy instrument may encourage municipalities to evaluate their local landfills in terms of landfill excavation. The responsible institution for the implementation of the waste management plan is the Ministry of Agriculture, Environment and Climate Protection.

3. **Players involved** (please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)

The players involved are:

- The LfU,
- University of Kassel, Prof. Laner, doing literature research and running the programme Ontol,
- Rural districts: Barnim, Havelland, Potsdam-Mittelmark, Teltow-Fläming, Dahme-Spreewald, Oder-Spree, Oberhavel, Potsdam, and Märkisch-Oderland,
- Municipalities Rathenow, Oranienburg, Eberswalde, Seelow, Beeskow, Lübben, Lückenwalde, Belzig und in der Landeshauptstadt Potsdam

4. **Timeframe**

The waste management plan of Brandenburg should be altered to include the Action Plan in the short term.

The Action Plan step one (gathering of information of old landfills) will be conducted in 2020. The results for further evaluation with Ontol will be available in the end of 2020 / beginning 2021. The overall results, including the results of Ontol will be available in the end of the Interreg Project.

5. **Costs** (if relevant)

26.880,85 Euro

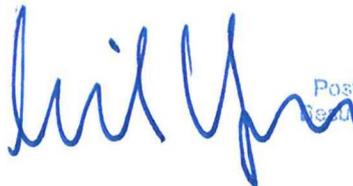
6. **Funding sources** (if relevant):

Not relevant

Date:

30.03.2020

Signature:



Landesamt für Umwelt
Der Präsident
Postfach 60 10 61, 14410 Potsdam
Besuchsanschrift: OT Groß Glienicke
Seeburger Chaussee 2
14476 Potsdam

Stamp of the organisation (if available):