

COMPLAINTS MECHANISM

SG/E/2019/07

COUNTY WASTE MANAGEMENT CENTRE MARIŠĆINA (CROATIA)

10 NOVEMBER 2022



County Waste Management Centre Marišćina (Croatia) Conclusions Report

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The conclusions presented in this report are based on the information available to the EIB Group Complaints Mechanism up to 26 October 2022 representing the report's cut-off date. The conclusions are addressed solely to the EIB.

The EIB Group Complaints Mechanism

The EIB Group Complaints Mechanism is a tool enabling resolution of disputes in case any member of the public feels that the European Investment Bank (EIB) might have done something wrong, such as if it has committed an act of maladministration. The Complaints Mechanism is not a legal enforcement mechanism and will not substitute the judgment of the competent judicial authorities.

Maladministration means poor or failed administration. It occurs when the EIB fails to act in accordance with a rule or principle that is binding upon it, including its own policies, standards and procedures. The concept of maladministration includes failure by the EIB to comply with human rights, with applicable law, or with the principles of good administration. Maladministration may relate to the EIB's Group decisions, actions or omissions. This may include the environmental or social impacts of the EIB's projects and operations.

One of the main objectives of the EIB Group Complaints Mechanism is to ensure the right to be heard and the right to complain. For more information on the EIB Group Complaints Mechanism please visit: <https://www.eib.org/en/about/accountability/complaints/index.htm>.

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GLOSSARY

Borrower	Republic of Croatia, represented by the Croatian Ministry of Finance
CWMC	County Waste Management Centre
EIB	European Investment Bank
EIB-CM	EIB Group Complaints Mechanism Division
ESPS	EIB Statement of Environmental and Social Principles and Standards
EUR	Euro
HRK	Croatian Kuna
IPA	Instrument for Pre-Accession Programme
MBT	Mechanical biological treatment
Operator	Ekoplus
PGK	Primorje-Gorski Kotar
Promoter	Croatian Environmental Protection and Energy Efficiency Fund

EXECUTIVE SUMMARY

This report concerns a complaint regarding the County Waste Management Centre (CWMC) Marišćina in Primorje-Gorski Kotar (PGK) County in Croatia, co-financed by the European Investment Bank (hereinafter: the EIB). In 2019, the EIB Group Complaints Mechanism Division (hereinafter: the EIB-CM) received a complaint from Udruga Krizni Eko Stožer Marišćina, a non-governmental organisation focusing on waste management issues in PGK County.

The reviewed evidence shows that:

- A. In the last three years for which data are available (2019, 2020 and 2021), the mechanical biological treatment (MBT) plant turned between 1.5% and 8%, instead of the planned 35%, of mixed municipal waste into fuel; and there were also issues with fuel disposal. Due to the fuel-related challenges, there is a risk of a reduction of the lifespan of the CWMC because of the faster filling of the landfill.
- B. The CWMC contributes to methane emission reduction. The CWMC replaced non-sanitary landfills and is flaring/converting methane into energy. Construction of CWMCs and the separate collection of biodegradable waste are part of Croatia's strategy to reduce methane emissions, in line with EU law.
- C. In the past, the CWMC generated an unpleasant odour. Over the years, the operator has invested efforts in reducing the unpleasant odour. The local population still complains about the odour and the operator is taking further steps to address the issue of unpleasant odour.

With respect to the role of the EIB, the reviewed evidence shows that:

- A. The EIB monitored the offtake of fuel. It enquired with the borrower but was not informed that: (i) less fuel is produced than planned; (ii) more waste is landfilled than planned; (iii) faster filling of the landfill may significantly reduce the lifespan of the CWMC, as required. Consequently, further possible actions of the EIB are limited given that the technical assistance offer was not taken up.
- B. The EIB carried out its role as required concerning methane emissions. The EIB noted that the CWMC reduces greenhouse gas emissions, including methane, by: (i) replacing non-sanitary landfills; and (ii) having a gas collection system. The EIB made the use of its funds conditional on steps to reduce the biogas (including methane)-generation process.
- C. The EIB carried out its role as required concerning the unpleasant odour. The EIB monitored the challenges concerning the unpleasant odour.

Allegation	Outcome
Operation of the MBT plant and the bioreactor landfill	Suggestion for improvement By 30 September 2023, the EIB should utilise the experience gained concerning CWMC Marišćina in future similar projects.
Methane emissions	No grounds
Hydrogen sulphide ambient standards/odour	No grounds

1 BACKGROUND

1.1 Project

- 1.1.1 In September 2010, the European Investment Bank (EIB) and the Republic of Croatia signed a framework loan¹ for co-financing of a number of sub-projects² in Croatia³, co-financed under the Instrument for Pre-Accession Programme (IPA) and other financing sources⁴. IPA financing consists of the European Commission's financial grants that supported Croatia in meeting the requirements of EU membership⁵. The EIB financing is part of the national contribution for the co-financed projects⁶.
- 1.1.2 The County Waste Management Centre (CWMC) Marišćina project is one of the sub-projects co-financed by the EIB⁷. The EIB co-financed construction of a mechanical biological treatment (MBT) plant and two landfill cells (bioreactive and industrial landfill cells)⁸.
- 1.1.3 The CWMC is located in the Viškovo Municipality of Primorje-Gorski Kotar (PGK) County in Croatia. The Republic of Croatia, represented by the Croatian Ministry of Finance, is the borrower (hereinafter: the borrower). The Croatian Environmental Protection and Energy Efficiency Fund (hereinafter: the promoter) is implementing the CWMC Marišćina project. Ekoplus, a waste management company founded by PGK County and public utility companies in PGK County, is the project operator (hereinafter: the operator).
- 1.1.4 The EIB fully disbursed its funds and the CWMC has been operational since February 2017. The borrower's project completion report is scheduled for June 2023.

1.2 Complaint

- 1.2.1 In 2019, the EIB Group Complaints Mechanism Division (hereinafter: the EIB-CM) received a complaint⁹ from Udruga Krizni Eko Stožer Marišćina, a non-governmental organisation focusing on waste management issues in PGK County in Croatia (hereinafter: the complainant). The complaint concerns the CWMC Marišćina project in PGK County.

¹ Finance Contract on Co-financing 2007 — between the Republic of Croatia and the European Investment Bank, dated 30 September 2010) (O.G. — International Agreements of the Republic of Croatia No. 10/10) — available at [Zakon o potvrđivanju Ugovora o financiranju između Republike Hrvatske i Europske investicijske banke za projekt sufinanciranja EU IPA ISPA 2007 - 2011 \(nn.hr\)](#), accessed on 9 June 2022 (hereinafter: the Framework Loan). Please note that the term 'framework loan' is used throughout this report for ease of reference. As indicated therein (Schedule A, section A.1.1), this loan is a framework loan/structural programme loan. Structural programme loans are a subset of the framework loan category aimed at co-financing multi-sub-project investments managed by public authorities and, in this case, co-financed by the European Commission (Section A.3.2, paragraph 21 of the EIB's Environmental and Social Practices Handbook, 2010 version, and Schedule A of the Finance Contract).

² Please note that the framework loan uses the term 'scheme' instead of the term 'sub-project'.

³ More information on the EIB-financed project is available at: [Co-financing EU IPA ISPA 2007-2011 \(eib.org\)](#), accessed on 9 June 2022.

⁴ Recitals 1 and 4 of the framework loan.

⁵ Croatia joined the European Union on 1 July 2013. EU Member States are not eligible for new IPA financing unless it concerns cross-border cooperation with countries eligible for IPA financing.

⁶ Schedule A, section A.1.1 of the Framework Loan.

⁷ Schedule A, sections A.1.2.1 and A.1.2.2 of the Framework Loan.

⁸ Sections 4 and 6 of the Annex to the Bilateral Project Agreement Between the Government of the Republic of Croatia and the European Commission concerning the Co-financing of the Major Project County Waste Management Centre Marišćina CCI No: 2007HR1 6IPROO1 Under the Instrument for Pre-accession Assistance (IPA) PA component III — Regional Development (O.G. — International Agreements of the Republic of Croatia No. [8/09](#), [11/11](#) and [3/13](#)) (hereinafter: the Bilateral Project Agreement).

⁹ The complaint was submitted in three emails sent on 6 April, 15 April and 6 May 2019. On 5 July 2019, the complainant provided additional information to substantiate its allegations.

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- 1.2.2 The complainant submitted the complaint as a follow-up to the EIB reply concerning CWMC Marišćina¹⁰.
- 1.2.3 In its complaint, the complainant raised the allegations presented in Table 1.

Table 1 — Summary of allegations

Allegations	Description of the allegations
Operation of the MBT plant and the bioreactor landfill	The MBT plant is not operating as required. The fuel produced by the MBT is not being properly used. The mixed municipal waste is deposited in the bioreactor landfill without being treated in the MBT.
Methane emissions	The CWMC is emitting large quantities of methane into the atmosphere contrary to EU legislation.
Hydrogen sulphide ambient standards/odour	The CWMC triggers exceedance of the ambient standards for hydrogen sulphide.

- 1.2.4 The complainant asked the EIB to take relevant steps to remedy the situation.

2 WORK PERFORMED

- 2.1.1 In May 2019, the EIB-CM informed the complainant that the November 2018 EIB-CM Conclusions Report SG/E/2013/01 already addresses some of the allegations included in the complaint and that these will not be encompassed by the EIB-CM activities.
- 2.1.2 For the remaining allegations (see Table 1), the EIB-CM conducted an initial meeting with the relevant EIB services. Following the meeting, the services requested relevant documents from the Croatian authorities. The EIB-CM reviewed the received documents and other available information.
- 2.1.3 The EIB has already addressed the allegation put forward concerning exceedance of ambient standards for hydrogen sulphide in the area around the CWMC. In the September 2019 EIB Conclusions Letter¹¹, the EIB noted that: (i) ambient standards had been breached in the past but that this issue had since been resolved; and (ii) the EIB had carried out its role as required. However, the hydrogen sulphide ambient standards case does not address the issue of the unpleasant odour around CWMC Marišćina. The EIB-CM decided to examine this issue as part of this case.
- 2.1.4 The EIB-CM deemed that it is able to form an independent and reasoned opinion on the concerns raised by the complaint. Therefore, the EIB-CM proceeded directly with a compliance review. Based on the collected and analysed information, the EIB-CM prepared this conclusions report.

¹⁰ See: <https://www.eib.org/attachments/complaints/sg-e-2013-01-mariscina-county-waste-management-centre-conclusions-report-en-21-11-2018.pdf>, accessed on 9 June 2022. Therein, the EIB observed challenges concerning the offtake of the fuel produced by the CWMC's MBT plant (see § 4.1.2).

¹¹ Letter in the SG/E/2019/05 case, dated 13 September 2019, available at: <https://www.eib.org/attachments/complaints/13-09-2019-mariscina-county-waste-management-centre-sg-e-2019-05-closing-letter-en.pdf>, accessed on 9 June 2022.

3 REGULATORY FRAMEWORK

3.1 The EIB Group Complaints Mechanism

3.1.1 The EIB Group Complaints Mechanism Policy¹² tasks the EIB-CM with handling complaints concerning alleged maladministration by the EIB¹³. Maladministration means poor or failed administration¹⁴. Examples of maladministration include failure by the EIB to comply with its own obligations in monitoring projects it finances¹⁵. Maladministration may also relate to the environmental or social impacts of the EIB Group's activities¹⁶.

3.1.2 The EIB-CM records its findings and conclusions in the form of a conclusions report¹⁷.

3.2 Project Applicable Standards

3.2.1 The CWMC must comply with the project applicable standards. This includes compliance with applicable environmental law¹⁸, including EU and national environmental law¹⁹.

3.2.2 EU law sets requirements for waste management. The EU Landfill Directive²⁰ sets a target of a maximum 10% landfilling of waste by 2035²¹. By 2024, Croatia must collect biodegradable waste separately²². The Directive also requires Croatia to collect landfill gas from all landfills receiving biodegradable waste, and either use it to produce energy or flare it²³.

3.2.3 EU law sets out specific greenhouse gas emissions targets. For example, the 2021 target for Croatia is set at 17 661 355 tonnes of carbon dioxide equivalent²⁴.

3.3 Responsibilities of the EIB

3.3.1 In line with the EIB Statement of Environmental and Social Principles and Standards (ESPS)²⁵, the responsibility for compliance with the project applicable standards lies with the promoter and

¹² Available at: [EIB GROUP COMPLAINTS MECHANISM POLICY](#).

¹³ § 5.1.3 of the EIB Group Complaints Mechanism Policy.

¹⁴ § 3.1 of the EIB Group Complaints Mechanism Policy.

¹⁵ § 3.1 of the EIB Group Complaints Mechanism Policy.

¹⁶ § 3.3 of the EIB Group Complaints Mechanism Policy.

¹⁷ § 6.2.5 of the EIB Group Complaints Mechanism Policy.

¹⁸ Article 6.05(e)(i) and section titled "Interpretation and Definitions" of the framework agreement, available at [Zakon o potvrđivanju Ugovora o financiranju između Republike Hrvatske i Europske investicijske banke za projekt sufinanciranja EU IPA ISPA 2007 - 2011 \(nn.hr\)](#), accessed on 9 June 2022.

¹⁹ Paragraph 83, item (e) of the 2010 version of the Environmental and Social Practices Handbook.

²⁰ Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste, as amended, available at: [EUR-Lex - 01999L0031-20180704 - EN - EUR-Lex \(europa.eu\)](#), accessed on 9 June 2022.

²¹ Article 5(5) of the Landfill Directive.

²² Section 4 of the 2020 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy to reduce methane emissions, COM(2020) 663 final, available at: [eu_methane_strategy.pdf \(europa.eu\)](#), accessed on 9 June 2022.

²³ Annex I, Section 4.2 of the Landfill Directive.

²⁴ Article 4 of Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013, available at: [EUR-Lex - 32018R0842 - EN - EUR-Lex \(europa.eu\)](#), accessed on 9 June 2022; Annex II of the Commission Implementing Decision (EU) 2020/2126 of 16 December 2020 on setting out the annual emission allocations of the Member States for the period from 2021 to 2030 pursuant to Regulation (EU) 2018/842 of the European Parliament and of the Council, available at: [EUR-Lex - 32020D2126 - EN - EUR-Lex \(europa.eu\)](#), accessed on 9 June 2022.

²⁵ Available at: https://www.eib.org/attachments/strategies/eib_statement_esps_en.pdf, accessed on 9 June 2022.

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local authorities²⁶. The EIB limits itself to determining that the conditions attached to its financing are met²⁷.

- 3.3.2 Once the borrower and the EIB sign the finance contract, the EIB is required to monitor the project. The monitoring aims at verifying the actual implementation of the project²⁸. Monitoring of environmental requirements includes evidence on compliance with environmental law and respect of contractual conditions²⁹.
- 3.3.3 The EIB monitors projects on the basis of reports provided by the borrower, as well as EIB site visits, information provided by the local community, etc.³⁰. In line with the finance contract, the borrower is required to promptly inform the EIB of any facts which may substantially affect the conditions of operation of the project³¹. In addition to this, the borrower is required to provide annual project progress reports reporting on: any major issue with impact on the environment; any significant issue that has occurred; any significant risk that may affect the project's operation³².
- 3.3.4 The EIB internal reporting should include lessons learned from challenging projects³³.

4 FINDINGS/OBSERVATIONS/ANALYSIS

4.1 Operation of the MBT Plant and the Bioreactor Landfill

- 4.1.1 §§ 5.4.1.2 — 5.4.1.6 of the November 2018 EIB-CM Conclusions Report SG/E/2013/01³⁴ contain more information on the operation of the MBT plant. The report stated that the delivered mixed municipal waste is treated in the MBT plant³⁵.
- 4.1.2 §§ 5.4.3.2 — 5.4.3.5 of the November 2018 Conclusions Report contain more information on the offtake of the fuel produced by the CWMC. In 2017, the CWMC struggled to find a market for the fuel. For example, in April 2017, the State Inspectorate fined the operator approximately EUR 27 000 in total for breaching the environmental permit for CWMC Marišćina by storing the fuel within the CWMC instead of passing it on to cement plants³⁶. The report concluded that the cement plants are not utilising all of the produced fuel and that storage of the fuel is an issue³⁷.

²⁶ Paragraph 2 of the ESPS Statement. Also see Article 6.05(f) and the section titled "Interpretation and Definitions" of the September 2010 Finance Contract which states that the borrower is required to ensure that final beneficiaries will execute and operate the relevant sub-project in accordance with the relevant laws of Croatia and the relevant standards of EU law.

²⁷ Paragraph 242 of the 2010 version of the Environmental and Social Practices Handbook.

²⁸ Paragraph 258 of the 2010 version of the Environmental and Social Practices Handbook.

²⁹ Paragraph 259 of the 2010 version of the Environmental and Social Practices Handbook.

³⁰ Paragraph 8 of the ESPS Statement.

³¹ Article 8.01(c)(ii) of the Finance Contract.

³² Article 8.01(a)(i).and Schedule A, Section A.2, Table 3 of the Finance Contract.

³³ Paragraph 264 of the 2010 version of the Environmental and Social Practices Handbook.

³⁴ Available at: [sg-e-2013-01-mariscina-county-waste-management-centre-conclusions-report-en-21-11-2018.pdf](https://eib.org/sites/default/files/sg-e-2013-01-mariscina-county-waste-management-centre-conclusions-report-en-21-11-2018.pdf) (eib.org), accessed on 9 June 2022.

³⁵ § 5.4.1.3 of the November 2018 Conclusions Report SG/E/2013/01.

³⁶ § 5.4.3.4 of the November 2018 Conclusions Report SG/E/2013/01.

³⁷ § 5.4.3.7 of the November 2018 Conclusions Report SG/E/2013/01.

- 4.1.3 The challenges with fuel continued. In November 2019³⁸ and April 2020³⁹, the State Inspectorate fined the operator twice approximately EUR 14 000^{40, 41} for failing to dispose of the fuel properly. In addition to this, in 2019, 2020 and 2021, the MBT plant produced far less fuel than set out in the Bilateral Project Agreement between the European Commission and Croatia. Consequently, the CWMC deposited far more material after treatment at the landfill than set out in the Agreement (see Table 2).

Table 2 — MBT plant output

MBT plant output	Project indicators set in the Bilateral Project Agreement between the European Commission and Croatia ⁴²	2019 data communicated by the operator ⁴³	2020 data communicated by the operator ⁴⁴	2021 data communicated by the operator ⁴⁵
Fuel	35%	2.6% ⁴⁶	1.5% ⁴⁷	8% ⁴⁸
Deposited on the landfill after treatment	35%	71% ⁴⁹	64% ⁵⁰	64% ⁵¹
Water	25%	No information	No information	No information
Metals	5%	No information	No information	No information

- 4.1.4 In 2020, the operator concluded a contract with a company for offtake of fuel in the amount of 19 500 tonnes⁵², or approximately 26% of the waste processed in the MBT plant in 2020. Table 2 indicates an offtake of only 6 466.7 tonnes, or 8% of the waste processed in the MBT plant in 2021. In 2022, the operator still considered offtake of fuel to be a challenge that remains to be resolved⁵³.

³⁸ P. 23 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvješće o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

³⁹ KLASA: UP/I 351-02/19-27/42, URBROJ: 443-02-02-14/3-20-17 D/Jur — p. 26 of the May 2021 Ekoplus 2020 Operations Report, available at: [Izvješće o poslovanju za 2020.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁴⁰ HRK 101 376 amounts to EUR 13 605.20 according to the exchange rate applicable on 19 November 2019, available at: [OANDA Currency Converter](#), accessed on 9 June 2022.

⁴¹ HRK 105 192 amounts to EUR 13 794.90 according to the exchange rate applicable on 15 April 2020, available at: [OANDA Currency Converter](#), accessed on 9 June 2022.

⁴² Section 6 of the Annex of the Bilateral Project Agreement.

⁴³ P. 20 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvješće o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁴⁴ Pp. 23 and 39 of the May 2021 Ekoplus 2020 Operations Report, available at: [Izvješće o poslovanju za 2020.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁴⁵ Pp. 24 and 44 of the May 2022 Ekoplus 2021 Operations Report, available at: [Izvjješće o poslovanju TD Ekoplus za 2021.pdf](#), accessed on 14 September 2022.

⁴⁶ 1 986 tonnes out of 76 896 tonnes sent for mechanical biological treatment.

⁴⁷ 1 154.14 tonnes out of 75 284.62 tonnes sent for mechanical biological treatment.

⁴⁸ 6 466.7 tonnes out of 79 967.06 tons sent for mechanical biological treatment.

⁴⁹ 54 274 tonnes out of 76 896 tonnes sent for mechanical biological treatment.

⁵⁰ 48 511.46 tonnes out of 75 284.62 tonnes sent for mechanical biological treatment.

⁵¹ 51 446.64 tonnes out of 79 967.06 tonnes sent for mechanical biological treatment.

⁵² Section 4.1 of the February 2021 Ekoplus Financial and Work Plan for 2021, available at: [Financijski plan i plan rada 2021.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁵³ Section 2.2 of the January 2022 Ekoplus Financial and Work Plan for 2022, available at: [Financijski plan i plan rada za 2022 TD Ekoplus.pdf](#), accessed on 14 September 2022.

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- 4.1.5 In 2021 and 2022, the operator warned that due to the fuel-related challenges, there is a risk of a significant reduction of the lifespan of the CWMC due to faster filling of the landfill⁵⁴. According to the environmental impact assessment (EIA), the landfill should have satisfied the needs of PGK County until 2040⁵⁵.

Role of the EIB

- 4.1.6 During its project review, the EIB noted that the MBT plant will enable extraction of recyclable materials and fuel from the waste, while the residual fraction will be disposed of in the landfill. The EIB concluded that the project contributes to improved waste management and energy recovery from waste.
- 4.1.7 The EIB noted that the tender documents put fuel production between 30% and 45% of facility input. The EIB noted that there are some uncertainties regarding the long-term market for the fuel.
- 4.1.8 On three occasions in 2021 and 2022, the EIB contacted the borrower enquiring about the status of fuel offtake. When responding to these enquiries, the borrower informed the EIB: (i) of the quantities of fuel handled in 2020⁵⁶ and the first half of 2021; (ii) that the operator concluded a contract with a company for offtake of fuel in 2020; (iii) that the promoter and the operator signed an agreement for co-financing of fuel offtake in 2020. There is no record of the borrower or the promoter informing the EIB that fuel-related challenges may significantly reduce the lifespan of the CWMC due to faster filling of the landfill (see § 4.1.5). The EIB offered to provide technical assistance, which was not taken up.

4.2 Methane Emissions

- 4.2.1 Methane is a powerful greenhouse gas, second only to carbon dioxide in its overall contribution to climate change⁵⁷. Reducing methane emissions therefore contributes to both slowing down climate change as well as improving air quality⁵⁸.
- 4.2.2 The waste sector⁵⁹ is one of the major contributors of methane in Croatia with 47% of emissions in 2019⁶⁰. The proportion of methane emitted from a landfill is directly related to the presence of biodegradable waste at the landfill⁶¹. Croatia considers that by constructing CWMCs and separately collecting biodegradable waste, it will considerably reduce its methane emissions⁶².

⁵⁴ Section 2.3 of the February 2021 Ekoplus Financial and Work Plan for 2021, available at: [Financijski plan i plan rada 2021.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022; Section 2.1.3 of the May 2022 Ekoplus 2021 Operations Report, available at: [Izvešće o poslovanju TD Ekoplus za 2021.pdf](#), accessed on 14 September 2022.

⁵⁵ Section 2.1 of the 2009 EIA non-technical summary.

⁵⁶ Please note that the borrower reported the quantity of the fuel presented in footnote 64 without mentioning that this constitutes 1.5% of the waste treated in the MBT and that 64% of the waste was deposited on the landfill.

⁵⁷ Section I of the 2020 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy to reduce methane emissions, COM(2020) 663 final, available at: [eu_methane_strategy.pdf \(europa.eu\)](#), accessed on 9 June 2022.

⁵⁸ Section I of the 2020 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy to reduce methane emissions, COM(2020) 663 final, available at: [eu_methane_strategy.pdf \(europa.eu\)](#), accessed on 9 June 2022.

⁵⁹ Including treatment of domestic and industrial wastewater.

⁶⁰ Section 7.1 and Table ES.3.2-4 of the Croatian National Inventory Report 2021, available at: [Croatia. 2021 National Inventory Report \(NIR\) | UNFCCC](#), accessed on 9 June 2022.

⁶¹ Section ES.3.2.2 of the Report on the Inventory of Greenhouse Gases (GHG) in the Republic of Croatia for the period 1990-2015, available at: [NIR 2016 \(haop.hr\)](#), accessed on 9 June 2022.

⁶² Section 7.2.1 of the Report on the Inventory of Greenhouse Gases (GHG) in the Republic of Croatia for the period 1990-2015, available at: [NIR 2016 \(haop.hr\)](#), accessed on 9 June 2022.

- 4.2.3 One of the ways to reduce the impact of methane is to convert it into less harmful carbon dioxide through flaring⁶³. The gas collection and flaring system was planned at the early stages of the project's implementation. The Feasibility Study noted that EU legislation requires landfill gas to be collected, and either burned using a flare burner, or used in energy production⁶⁴. The EIA provided for two types of degassing: (i) collected from the open cell and burned off by gas flaring; and (ii) collected from the closed cell and used for electricity production⁶⁵.
- 4.2.4 In February 2019, the State Inspectorate ordered the operator to collect and utilise biogas from the landfill⁶⁶. The gas collection and flaring system was put in place in May 2019⁶⁷.
- 4.2.5 The 2019 Environmental Permit does not require the operator to monitor methane emissions⁶⁸. Also, there is no publicly available information on the exact quantities of methane emitted from the CWMC into the atmosphere. The local monitoring station does not measure methane emissions⁶⁹.

Role of the EIB

- 4.2.6 The EIB noted that the CWMC replaced non-sanitary landfills and, therefore, contributes to combating climate change by reducing greenhouse gas emissions from landfills. The EIB noted that the landfill will be equipped with the landfill gas collection system.
- 4.2.7 The EIB, however, noted that humidification by precipitation of bio-dried residues after landfilling could start biogas generation before the landfill cell is closed.
- 4.2.8 In order to address this, the EIB made the use of its funds conditional on the following:
- Increase the content of biomass in fuel with the aim of minimising organic waste landfill.
 - Protect the landfilled waste from precipitation to minimise the risk that biogas generation starts before the landfill cell is closed.

4.3 Hydrogen Sulphide Ambient Standards/Odour

- 4.3.1 The Feasibility Study noted that hydrogen sulphide, present in the landfill gas, is linked to unpleasant odour affecting the quality of life near the landfill⁷⁰. The Feasibility Study concluded that this issue could be resolved by flaring the landfill gas⁷¹.
- 4.3.2 The operator noted that the occurrence of unpleasant odour became prevalent during the summer of 2018⁷². In line with the February 2019 decision of the State Inspectorate, by May

⁶³ Footnote 17 of the 2020 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy to reduce methane emissions, COM(2020) 663 final, available at: [eu_methane_strategy.pdf \(europa.eu\)](#), accessed on 9 June 2022; Section 2.1.2 of the July 2007 Regional Waste Management Centre "Marišćina" Feasibility Study.

⁶⁴ Section 2.1.2 of the July 2007 Regional Waste Management Centre "Marišćina" Feasibility Study with Cost-Benefit Analysis.

⁶⁵ Section 2.1.3 of the 2009 EIA non-technical summary.

⁶⁶ KLASA: UP/I 351-02/19-09/02, URBROJ: 517-08-1- 4-19-1, dated 25 February 2019 — p. 21 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁶⁷ P. 21 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁶⁸ The August 2019 Environmental Permit for the CWMC is available at: [08.08.2019. - RJEŠENJE Ministarstva od 8. kolovoza 2019. godine \(Marišćina\).pdf \(gov.hr\)](#), accessed on 9 June 2022.

⁶⁹ See [Nastavni Zavod za javno zdravstvo PGŽ \(zzjzpgz.hr\)](#), accessed on 9 June 2022.

⁷⁰ Section 2.1.2 of the July 2007 Regional Waste Management Centre "Marišćina" Feasibility Study.

⁷¹ Section 2.1.2 of the July 2007 Regional Waste Management Centre "Marišćina" Feasibility Study.

⁷² P. 21 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

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2019, the operator covered parts of the landfill and installed the degasification system and introduced flaring⁷³ (see § 4.2.4). The operator reported that this initially led to the reduction of gas emissions⁷⁴. However, malfunctioning of the degasification system and increased quantities of waste during the summer of 2019 led to the increased presence of hydrogen sulphide⁷⁵ and the associated unpleasant odour.

- 4.3.3 In August 2019, an additional area of the landfill was covered and additional CWMC operational procedures were put in place⁷⁶. This led to a decrease in concentrations of hydrogen sulphide but did not fully remove the odour⁷⁷. The landfill was producing more gas than the flare could burn⁷⁸.
- 4.3.4 In 2020, the operator obtained a flare with higher capacity which helped reduce the likelihood of unpleasant odour⁷⁹. In addition, the operator made the issue of odour its priority in 2021⁸⁰ and took a number of actions to address this matter. The operator prohibited the receipt of waste that can cause odours and covered the landfill daily⁸¹. The operator also committed to equipping the future landfill cells with degasification systems⁸².
- 4.3.5 The Marišćina monitoring station, located near the CWMC, did not record any exceedances for hydrogen sulphide in the first half of 2022⁸³. However, an open source search showed that the local residents were still complaining about the odour in 2022⁸⁴.
- 4.3.6 The issue of odour remains one of the operator's priorities⁸⁵. In 2022, the operator indicated that it would consider removing organic components from the waste and treating it outside of the CWMC⁸⁶. This measure could have a considerable impact considering that organic fraction in waste is one of the main causes of unpleasant odour⁸⁷.

Role of the EIB

- 4.3.6 The EIB was aware of the challenges concerning the odour caused by hydrogen sulphide⁸⁸. The EIB monitored the odour-related developments. For example, in 2019, the borrower reported to the EIB the related challenges and activities (see § 4.3.2).

⁷³ P. 21 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁷⁴ P. 21 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁷⁵ P. 21 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁷⁶ For example, daily covering of the landfill cell and landfilling until 5pm.

⁷⁷ P. 22 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁷⁸ P. 22 of the June 2020 Ekoplus 2019 Operations Report, available at: [Izvjescje o poslovanju za 2019. godinu.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁷⁹ P. 46 of the May 2021 Ekoplus 2020 Operations Report, available at: [Izvjescje o poslovanju za 2020.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁸⁰ Section 2.1 of the February 2021 Ekoplus Financial and Work Plan for 2021, available at: [Financijski plan i plan rada 2021.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁸¹ Section 3 of the February 2021 Ekoplus Financial and Work Plan for 2021, available at: [Financijski plan i plan rada 2021.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁸² Section 7 of the February 2021 Ekoplus Financial and Work Plan for 2021, available at: [Financijski plan i plan rada 2021.pdf \(ekoplus.hr\)](#), accessed on 9 June 2022.

⁸³ [Kvaliteta zraka | ZZJZPGŽ \(zzjzpgz.hr\)](#), accessed on 10 June 2022.

⁸⁴ [Protiv MARIŠĆINE — sramote regije | Facebook](#), accessed on 14 September 2022.

⁸⁵ Section 2.7 of the January 2022 Ekoplus Financial and Work Plan for 2022, available at: [Financijski plan i plan rada za 2022 TD Ekoplus.pdf](#), accessed on 14 September 2022.

⁸⁶ Sections 2.7 and 3 of the January 2022 Ekoplus Financial and Work Plan for 2022, available at: [Financijski plan i plan rada za 2022 TD Ekoplus.pdf](#), accessed on 14 September 2022.

⁸⁷ [Građanima treba osigurati preduvjete za odvajanje biootpada — Glas Istre](#), accessed on 14 September 2022.

⁸⁸ See closing letter in the SG/E/2019/05 case, available at: [13-09-2019-mariscina-county-waste-management-centre-sg-e-2019-05-closing-letter-en.pdf \(eib.org\)](#), accessed on 9 June 2022.

5 CONCLUSIONS

5.1.1 The reviewed evidence shows that:

- A. In the last three years for which data are available (2019, 2020 and 2021), the MBT plant turned between 1.5% and 8%, instead of the planned 35%, of mixed municipal waste into fuel; and there were also issues with fuel disposal (see § 4.1.3). Due to the fuel-related challenges, there is a risk of a significant reduction of the lifespan of the CWMC because of the faster filling of the landfill (see § 4.1.5).
- B. The CWMC contributes to methane emission reduction. The CWMC replaced non-sanitary landfills (see § 4.2.6) and is flaring/converting methane into energy (see § 4.2.3). Construction of CWMCs and the separate collection of biodegradable waste are part of Croatia's strategy to reduce methane emissions (see § 4.2.3) in line with EU law (see § 3.2.2).
- C. In the past, the CWMC generated an unpleasant odour (see § 4.3.2). Over the years, the operator has invested efforts in reducing the unpleasant odour (see §§ 4.3.3 and 4.3.4). The local population still complains about the odour (see § 4.3.5) and the operator is taking further steps to address the issue of unpleasant odour (see § 4.3.6).

5.1.2 With respect to the role of the EIB, the reviewed evidence shows that:

- A. The EIB monitored the offtake of fuel (see § 4.1.8). It enquired with the borrower but was not informed that: (i) less fuel is produced than planned; (ii) more waste is landfilled than planned; (iii) faster filling of the landfill may significantly reduce the lifespan of the CWMC (see §§ 4.1.3 and 4.1.5), as required (see § 3.3.3). Consequently, further possible actions of the EIB are limited given that the technical assistance offer was not taken up.
- B. The EIB carried out its role as required concerning methane emissions. The EIB noted that the CWMC reduces greenhouse gas emissions, including methane, by: (i) replacing non-sanitary landfills; and (ii) having a gas collection system (see § 4.2.6). The EIB made the use of its funds conditional on steps to reduce the biogas (including methane)-generation process (see § 4.2.8).
- C. The EIB carried out its role as required concerning the unpleasant odour. The EIB monitored the challenges concerning the unpleasant odour (see § 4.3.6).

6 OUTCOMES

Table 3 — Allegations and the related recommendations

Allegation	Outcome
Operation of the MBT plant and the bioreactor landfill	Suggestion for improvement By 30 September 2023, the EIB should utilise the experience gained concerning CWMC Marišćina in future similar projects.
Methane emissions	No grounds
Hydrogen sulphide ambient standards/odour	No grounds

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Available remedy:

Complainants who are not satisfied with the conclusions report may file a complaint of maladministration against the EIB Group with the European Ombudsman⁸⁹.

⁸⁹ Available at: <https://www.ombudsman.europa.eu/en/home>.