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Landfill gas in Sweden

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Avfall Sverige – Swedish waste management

- Swedish municipal waste trade association
- About 400 members - municipalities and private companies

Our mission is to

- Influence
- Develop
- Cooperate



OUR VISION

A future without waste

Waste hierarchy



Landfills in Sweden

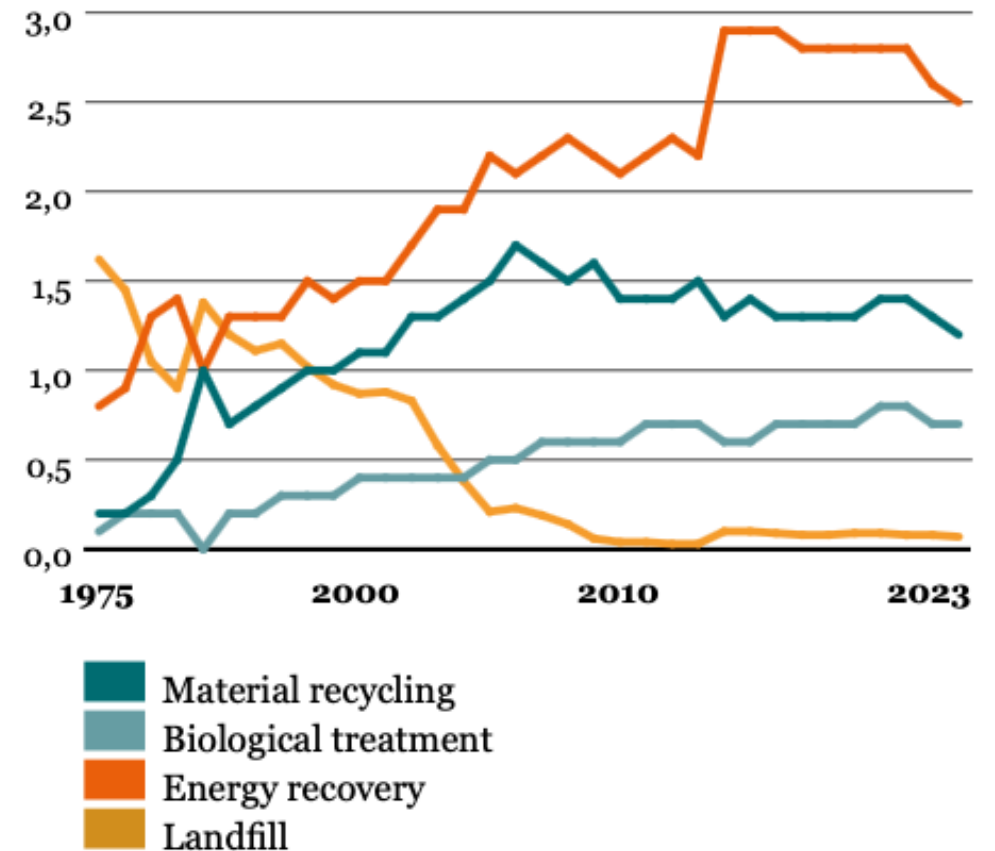


Landfill legislation

- Landfill directive 1999/31/EG
- Ordinance of Landfilling of waste (SFS 2001:512)
 - Ban on landfilling of combustible waste (2002)
 - Ban on landfilling of organic waste (2005)
- Waste Tax Act (1999:673) → A tax on landfilling of waste
 - Tax year 2000 = **250 SEK** → Tax year 2025 = **744 SEK** (≈ 67 EUR)

Overview 1975–2023

millions of tonnes



Landfill gas legislation

SFS (2001:512)

25 § The operator shall ensure that landfill gas is collected from landfills that accept biodegradable waste for disposal

30 § During the active phase of the landfill, the operator must measure [...] landfill gas

NFS 2004:5

41 § Collected landfill gas shall be treated and utilized. If collected gas cannot be used for energy extraction, it shall be flared or handled in another environmentally more efficient way

42 § [...] landfill gas shall be sampled and measured at representative points and in such a way that the knowledge needed to assess the impact from the landfill on the environment and human health is obtained.

5. The extraction of methane, carbon dioxide and oxygen shall be measured monthly. For other gases, the extraction shall be measured regularly as required according to the composition of the deposited waste. The efficiency of the gas extraction system shall be checked every six months.

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Best available technique- Reference document (BREF) for landfills

- The process started 22 november 2024
- New requirements for landfill gas...?



Seville 22 November 2024
JRC.B.5/EU-BRITE

Subject: DRAWING UP OF THE REFERENCE DOCUMENT ON BEST AVAILABLE TECHNIQUES FOR LANDFILLS
– **Setting up of the TWG: Deadline 31 January 2025**

Dear IED Article 13 Forum Members,

This letter is to inform you that the European Bureau for Research on Industrial Transformation and Emissions (EU-BRITE, formerly European IPPC Bureau) is starting the drawing up of the BAT reference document (BREF) for **Landfills**, henceforth referred to as the 'LAN BREF'.



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BREF news

 22 Nov 2024

The drawing up of the BAT reference document (BREF) for landfills, henceforth referred to as the 'LAN BREF' has started with the activation of the Technical Working Group (TWG) on 22 November 2024.



48 of 110 landfills collect landfill gas

Gas equivalent to **104 GWh** was collected by 48 landfills in 2024

- **68 GWh used as energy**
 - 67 GWh used for heating
 - 1 GWh used for electricity

- **36 GWh was flared**

ENERGIUTVINNING PÅ DEPONIER 2020-2024 (MWH)					
	2020	2021	2022	2023	2024
Nyttiggjord energi	82 750	80 020	75 630	59 770	67 770
varav elenergi*	3 180	3 350	3 160	1 790	1 300
Fackling	53 050	70 380	54 140	50 139	35 830
* Övrig energi blir värme					

Final cover of landfills – active or passive gas systems

2015:13/ Decision support for managing landfill gas emissions during final cover

2016:32/ When is active management of landfill gas no longer necessary?



METANOXIDATION

 TYRÉNS

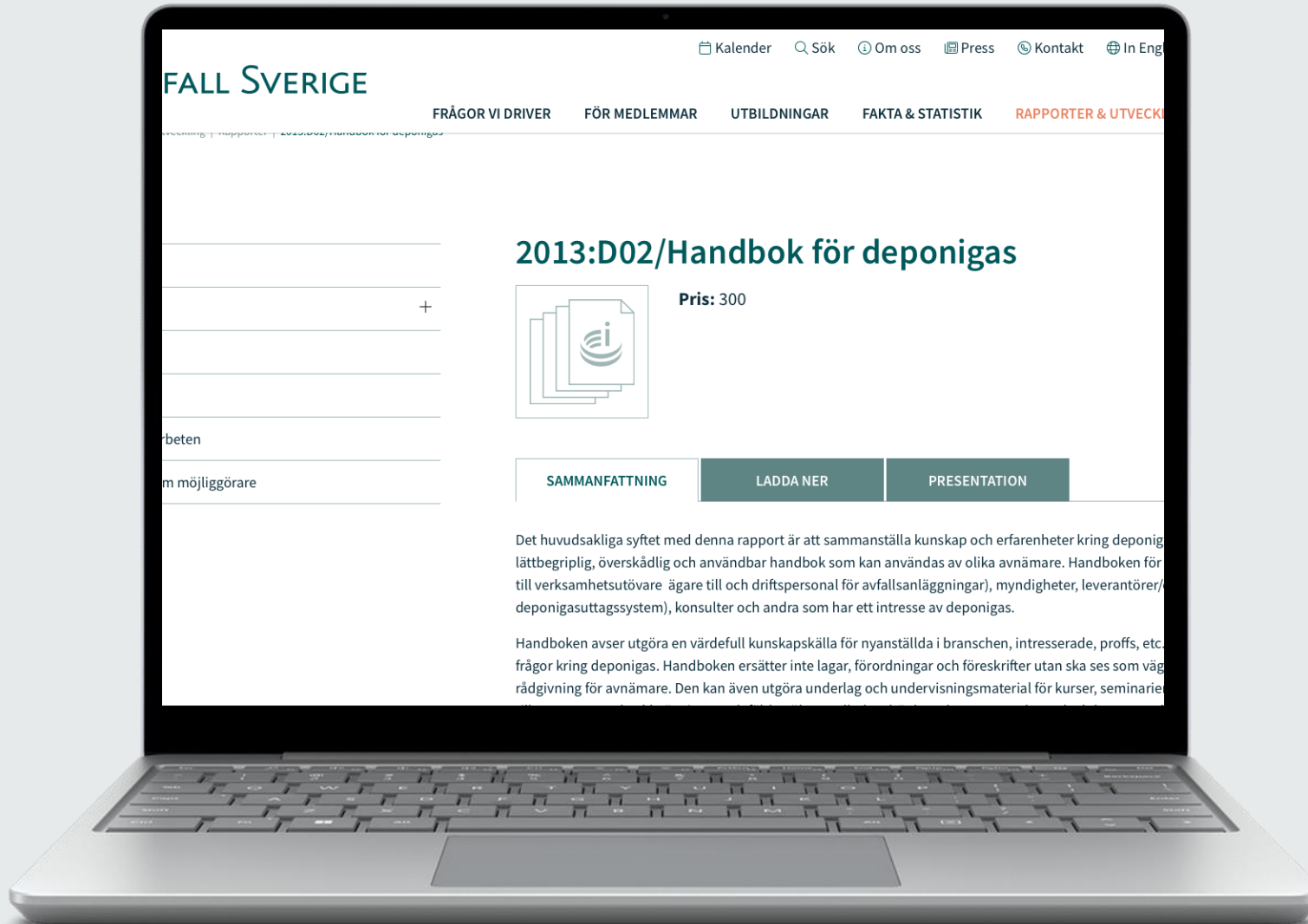


Metanoxidation som klimatfönster
Rögle deponi - Lund

Publications regarding landfill gas

- 2013:D02/ Manual for landfill gas
- 2014:D08/ Hydrogen sulfide and other contaminants in landfill gas
- 2015:13/ Decision support for managing landfill gas emissions during final cover
- 2020:11/ Surface emissions of landfill gas
- 2016:32/ When is active management of landfill gas no longer necessary?
- 2024:12/ Measurement of surface emissions
- 2024:14/ Methane emissions in the waste sector
- 2024:15/ Method proposal for calculating and reporting landfill gas





Thank you!

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