

CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE

## **Regional Training on assessment of GHG Inventories in Waste**

**Sarajevo, Bosnia and Herzegovina  
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## **Collecting And Evaluating The Data On Waste Needed For The Croatian Ghg Inventory**

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CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE

## **Data Collection on Waste in Croatia - Legislative basis**

- Ordinance on the Environmental Pollution Registry (OG 87/15) is adopted pursuant to the Article 151 of the Environmental Protection Act (OG 80/13 and 78/15)
  - Ordinance on the Waste Management (OG 23/14, 51/14, 121/15) is adopted pursuant to the Article 24(4) of the Act on sustainable waste management (OG 110/07)
  - Ordinance on limit values of the emissions of waste waters (OG 87/10) adopted pursuant to the Article 60(3) of the Water Act (OG 153/09, 63/11, 130/11 i 56/13)
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- sources,
- types,
- amounts,
- methods and
- places of emissions to the:
  - ☐ Air,
  - ☐ Water and
  - ☐ Soil
  - ☒ Waste

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## Data Collection - CEPR

- Obligated to report to CEPR the data on waste are:
    - ☐ Legal (physical - crafts) persons generating (or transport from the place of generation)
      - Hazardous waste in the total amount larger than 500 kg (**50 kg old**)
      - Non-hazardous waste in the total amount larger than 20 000 kg (**2 000 kg old**)
    - ☐ All legal (physical) persons which conduct the waste management activities:
      - Waste collecting,
      - Waste transport,
      - Waste treatment,
      - Waste disposal etc.
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## Data Collection - CEPR

Waste data is reported to CEPR:

- By **R / D** codes (e.g. R1 Energy recovery or D1 Landfilling) – Waste Framework Directive 2008/98/EC
- By the List of Waste according to the Decision 2000/532/EC on the List of Waste (e.g. 20 03 01 – Mixed municipal waste..-)

Regarding GHG Inventory - CEPR is main source of the information on:

- Collected, treated and disposed total amounts of waste;
  - Biological treatment of waste:
    - Composted amounts of waste
    - Digested amounts of waste in biogas plants;
  - Incinerated amounts of waste.
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## Data Collection - CEPR

Data is collected for the past year during the current year:

- till 1st of March report the obligated persons;
  - Competent authorities (21 Counties) have till the 15th of June to verify the data,
  - CAEN has till the 15th of December to process the data and construct the report on the data from CEPR.
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## Data Verification - CEPR

- CAEN – after the Counties have finished the verification of the data, starts processing the data and contacts the obligated persons and Counties to correct the registered inconsistencies, errors, fulfil missing values etc.;
  - Not all registered inconsistencies are corrected in the CEPR database in given time, however, are taken into account and corrected in the final data reports and calculations.
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## Other data needed

Information on the facilities needed for GHG estimation for Landfills:

- Data needed for classification of landfills:
    1. The state of remediation;
    2. Having fully surrounding landfill fences;
    3. Implemented at least one operation among:
      - aligning,
      - compacting or
      - Covering.
    4. Data on the depth of the Landfill body
- deep



shallow

≥ 5 m

< 5 m
- 

## Other data needed

Information on the facilities needed for GHG estimation on Landfills:

- Data on Landfilled biodegradable waste:
    1. Municipal biodegradable waste;
    2. Other biodegradable waste and
    3. Landfilled sludge
  - Data on landfill gas management.
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## Data Collection - FLLW

- Ordinance on the Waste Management (OG 23/14) proscribed the reporting form for the Landfill operators on disposed biodegradable municipal waste:

### **FORM ON LANDFILLS AND ON LANDFILLING OF WASTE (FLLW)\***

- This form proscribes the data previously mentioned as well as other data on Landfills needed for reporting on Landfill Directive 1999/31/EC and for other national statistics purposes.

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\*provisional translation

## Data Collection and Verification - FLLW

- Reporting is done by online web application „Form FLLW” (cro. „Obrazac OOO”)
- Landfill operators report the data on half-year basis:
  - For first half of the year till the 30th of July
  - For second half of the year till the 30th of January next year
- Data is controlled only by Waste Department in CAEN

Results for the past year are ready by the beginning of the April each year.

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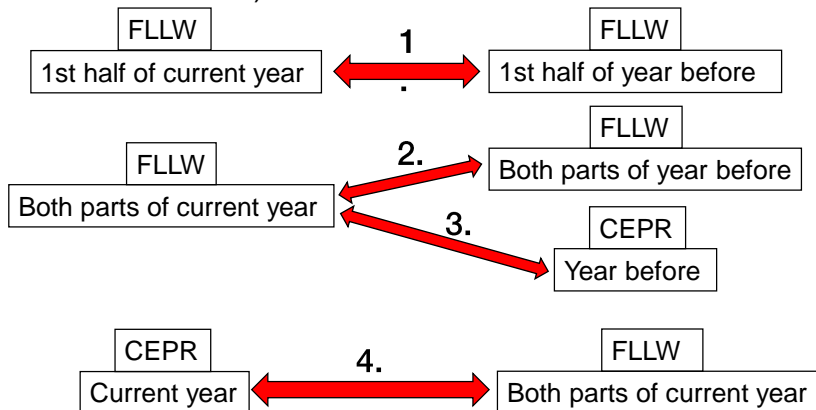
## Data Collection - FLLW

The screenshot shows a web form titled "II PODATCI O ODLAGALIŠTU". It is divided into two main sections:

- vrsta odlagališta i status operativnosti**: This section includes fields for "Vrsta odlagališta", "Kategorija", "Status operativnosti", "Datum zatvaranja", and "Usklađeno". A dropdown menu for "Kategorija" is open, showing options: "opasni", "neopasni", "energijski", "bioreaktorsko odlagalište", "odlagalište anorganskog neopasnog otpada s niskim sadržajem organske/biorazgradive tvari", and "odlagalište za odlaganje otpada za stabiliziranu frakciju otpada nakon postupka mehaničko-biološke obrade".
- status sanacije i tehničke opremljenosti**: This section includes fields for "Status sanacije" (with a dropdown menu showing "sanacija u pripremi"), "Datum početka sanacije", "Datum završetka sanacije", and three checkboxes for "Ulaganje u tehničko opremanje odlagališta u izvještajnom razdoblju" for different periods: "1.1.-30.6.", "1.7.-31.12.", and "1.1.-30.6.".

## Data Verification - FLLW

- Data is checked several times
- Crosschecking of the data with the CEPR (total amounts must be the same) :



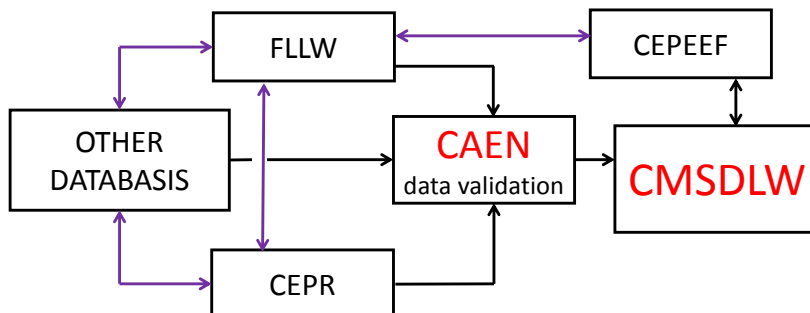
## Data Collection 2 - FLLW

Amendments to the Ordinance on the Waste Management (OG 121/15) proscribed in the new form of FLLW the lacking data:

- Data for the categorisation of landfills as „semi-aerobic managed landfills“:
    - (i) permeable cover material;
    - (ii) leachate drainage system;
    - (iii) regulating pondage; and
    - (iv) gas ventilation system:
      - landfills which relise gas into the athmosphere;
      - amounts of landfill gas burned at the flare and
      - amounts of landfill gas recovered for energy purposes.
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## Landfill data - CMSDLW

- CENTRAL MANAGEMENT SYSTEM FOR THE DATA ON LANDFILLS OF WASTE (**CMSDLW**)\*  
(successor to Landfill Inventory database)
- Database for the finalised data on landfills



\*provisional translation



### Data Collection - Waste waters

- Data for calculation of degradable organic component
  - Collecting is done by different institution - Croatian Waters
  - Under different Ministry – Ministry of Agriculture
  - Croatian Waters gives expert opinion on :
    - the fraction of treated wastewater (0.3)
    - Water consumption in rural areas (120 litres/person/day and 70 % of this amount is returned to the drainage system)
  - Deliver prepared data on waste waters to CAEN
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### Data Collection - Waste waters

- **Croatian Chamber of Economy** provides the data on industrial output for 3 industries with the largest potential for wastewater methane emissions:
    - Manufacture of food products and beverages,
    - Manufacture of pulp, paper and paper products and
    - Manufacture of chemicals and chemical products.
  - The population estimate is obtained from **Croatian Bureau of Statistics**
  - Croatian data on the annual per capita Protein intake value are obtained by the **Food and Agriculture Organization of the United Nations Statistics Division**
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Thank you

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