Reported information on large combustion plants under the Energy Community Treaty

Information on the database structure and use

Version 2.0

European Environment Agency

Acknowledgments

Version control

Version number	Description	Date
1.0	First version drafted for the 2020 cycle	December 2020
2.0	Second version with minor editing following the 2021 cycle	July 2021

About the database

This database contains plant-by-plant data on Large Combustion Plants (LCP) for the years 2018 to 2020 reported under the Energy Community Treaty, as implemented by Council Decision 2006/500/EC of 29 May 2006. The data include rated thermal input, annual energy input and emissions of SO_2, NO_X and dust. In addition, information on derogations under the provisions of the agreed legislation under the Treaty is provided.

As of 2021, member countries reporting to the database are: Bosnia and Herzegovina, Georgia, Moldova (from 2019), Montenegro, North Macedonia, Serbia, Ukraine and Kosovo[1].

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[1] This designation is without prejudice to positions on status, and is in line with UNSCR 1244(1999) and the ICJ Opinion on the Kosovo declaration of independence.

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1   Content of the EEA dataservice entry

The EEA dataservice is the section of the EEA website where datasets are made available to the public. The permanent link to the dataset on large combustion plants from member countries of the Energy Community is as follows:

https://www.eea.europa.eu/data-and-maps/data/reported-information-on-large-combustion-1

The link always presents the latest version available but the user can also navigate to older versions using the relevant option in the fiche (see Figure 1). Figure 2 provides an overview of the various files that are offered in the fiche of the latest version of the dataset.
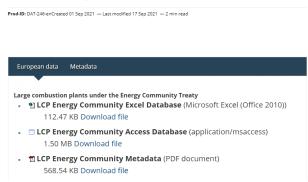
Figure 1 Option in the navigation panel to browse dataset versions

Figure 2 Overview of the content of the fiche of this dataset entry

2 Complete MS Access™ database

The dataset is provided in its complete version in Microsoft Access™ data format. This section outlines the strtucture of the data, the interpretation of the data fields and the metadata of the file.

The data model

The database consists of six tables. Its structure is shown in the figure below. The table 1_BasicData contains one entry for each Member State and each year. The table 2_PlantDetails contains entries for each individual plant and year. Tables 3 to 6 contain corresponding entries for each plant and year included in table 2_PlantDetails.

Figure 3: Structure of the LCP database v1.1

The field "ID" in table 1_BasicData is the foreign key for table 2_PlantDetails. The field "ID" in table 2_PlantDetails is the foreign key for tables 3 to 6. All fields in the various tables are described below.

Tables and fields

The LCP database contains the following tables and fields:

Fields in **Table 1_BasicData**

Field	Data Type	Description
ID	Autonumber	Key for this Table
Member State	Short Text	Two-letter ISO2 country code
Reference Year	Number	Year which the inventory refers to
NumberOfPlants	Number	Number of plants reported by reporting country in a given year
Organisation	Short text	Name of the organisation reporting the data
Address1	Short text	Address of the organisation reporting the data
City	Short text	City of the organisation reporting the data
State	Short text	State or region address of the organisation reporting the data
NameOfDepartmentContactPerson	Short text	Department name or contact person at the organisation reporting the data
Phone	Short text	Phone number of the organisation reporting the data
Email	Short text	Email address of the organisation reporting the data

Fields in **Table 2_PlantDetails**

Field	Data Type	Description
ID	Autonumber	Key for table
FK_BasicData_ID	Number	Foreign Key linking each entry in Table 2_PlantDetails to the corresponding year and Reporting County in Table 1_BasicData
PlantID	Short Text	Identifier of the plant which stays the same over time.
PlantName	Short Text	Name of the Plant
PlantAddress	Short Text	Address of the Plant
PlantBuildingNumber	Short Text	Building number of the Plant
PlantCity	Short Text	City of the Plant
PlantPostalCode	Short Text	Postal code of the Plant
Longitude	Short Text	Geographical longitude of the Plant (in decimal degrees)

Latitude	Short Text	Geographical latitude of the Plant (in decimal degrees)
PlantStatus	Short Text	StatusOfPlant
MWth	Number	Rated thermal input of the Plant (megawatts thermal – MWth)
DateOfStartOfOperation	Short Text	Date when the Plant started operating
OperatingHours	Number	Number of hours of the Plant
OperatingSector	Short Text	Name of the sector the Plant operates within
DerogationApplied	Short Text	If the plant is subject to a derogation
Comments	Short Text	Comments by the reporting authority

Fields in **Table 3_EnergyInput**

Field	Data Type	Description
ID	Autonumber	Key for this Table
FK_Plant_ID	Number	Foreign key, linking each entry in Table 3_EnergyInput to the corresponding plant in Table 2_PlantDetails
Biomass	Number	Total biomass energy input of the plant in the reporting year (TJ)
Coal	Number	Total coal energy input of the plant in the reporting year (TJ)
Lignite	Number	Total lignite energy input of the plant in the reporting year (TJ)
Peat	Number	Total peat energy input of the plant in the reporting year (TJ)
LiquidFuels	Number	Total liquid fuels energy input of the plant in the reporting year (TJ)
NaturalGas	Number	Total natural gas input of the plant in the reporting year (TJ)
OtherGases	Number	Total other gases energy input of the plant in the reporting year (TJ)
OtherSolidFuels	Number	Total other solid fuels input of the plant in the reporting year (TJ)

Fields in **Table 4_TotalEmissionsToAir**

Field	Data Type	Description
ID	Autonumber	Key for this table
FK_Plant_ID	Number	Foreign key, linking each entry in Table 4_TotalEmissionsToAir to the corresponding plant in table 2_PlantDetails
SO_2	Number	Total of SO_2 emissions of the plant in the reporting year (t)
NO_X	Number	Total of NO_X emissions of the plant in the reporting year (t)
Dust	Number	Total of dust emissions of the plant in the reporting year (t)

Fields in **Table 5_Desulphurisation**

Field	Data Type	Description
ID	Autonumber	Key for this table
FK_Plant_ID	Number	Foreign key, linking each entry in Table 5 to the corresponding plant in table 2_PlantDetails
DesulpurisationRate	Number	Desulphurisation rate (between 0 and 1).
SulphurContent	Number	SulphurContent of the fuel (between 0 and 1).
TechnicalJustification	Text	Technical justification of the non-feasibility of applying with the limit values.

Fields in **Table 6_UsefulHeat**

Field	Data Type	Description
ID	Autonumber	Key for this table
FK_Plant_ID	Number	Foreign key, linking each entry in Table 6 to the corresponding plant in table 2_PlantDetails
UsefulHeatProportion	Number	Proportion of useful heat (between 0 an 1).

Emissions to air queries

The database also contains queries which combines tables 1, 2, and 4, in order to allow for a display of data from several tables. The query can be found under "Queries" – "AllCountriesEmissionsAIR". There is a query per year (e.g. AllCoubtriesEmissionsAIR2020). These queries combinethe following fields: ReportingCountry – Reference year – PlantName – PlantID – Emissions (SO_2, NO_X, dust).

Energy input queries

Likewise, the database contains queries (one per year) combining tables 1, 2 and 3, with the following fields: ReportingCountry – Reference year – PlantName – PlantID – Energy inputs (biomass, coal, lignite, peat, other solid fuels, liquid fuels, natural gas, other gases.

Metadata

Reporting obligation: Summary of reporting on large combustion plants (LCP), Council Decision 2006/500/EC of 29 May 2006 on the conclusion by the European Community of the Energy Community Treaty https://rod.eionet.europa.eu/obligations/794

Temporal coverage: 2018-2020

Geographic coverage as per the treaty: Albania (no plants reported), Bosnia and Herzegovina, Kosovo[1], North Macedonia, Georgia, Moldova (plants reported since 2019), Montenegro, Serbia and Ukraine.

Units:
Total energy input, related to net calorific value: Terajoules per year
SO_2, NO_X and dust emissions: Metric tonnes per year
Rated thermal input: MWth
Desulphurisation rate: %
Sulphur content: %
Useful heat: %

3   User-friendly tables with yearly data

The user-friendly tables are an extract of the database containing the most relevant fields and provided in MS Excel™ format. It extracts the data for each year in an independent sheet. This presentation of the data is meant to help those users who are not familiar with Microsoft Access™. As depicted in Figure 4, the tab control at the bottom of the Excel™ window allows to browse the different years. The colums are filtered so that the user can e.g. define a specific set of countries or restrict thefuel type presented. The first tab of the extract is a README tab with the metadata of the dataset.

Figure 4 Overview of the Excel sheet

ReportingCountry	ReferenceYear	PlantName	Plant ID	Biomass (TJ)	Coal (TJ)	Lignite (TJ)	Peat (TJ)	Other S	Liquid Fuels (TJ)	Natural Gas (TJ)	Other Gases (T	SO₂	NOₓ	Dust
BA	2020	TPP Gacko-1	G-1	0.0	0.0	19120.8	0.0	0.0	0.0	0.0	0.0	17459.2	2340.2	1655.6
BA	2020	TPP Kakanj-5	K-5	0.0	3386.7	0.0	0.0	0.0	5.2	0.0	0.0	10356.0	1062.0	6.0
BA	2020	TPP Kakanj-6	K-6	0.0	6185.1	0.0	0.0	0.0	5.0	0.0	0.0	19201.0	1962.0	12.0
BA	2020	TPP Kakanj-7	K-7	0.0	15217.2	0.0	0.0	0.0	10.2	0.0	0.0	46212.0	4733.0	29.0
BA	2020	ICHPP Natron Hayat LUKO-4	LUKO-4	0.0	0.0	0.0	0.0	0.0	1836.0	0.0	0.0	5.7	155.2	31.8
BA	2020	TPP Stanari	Stanari_1	0.0	0.0	20143.8	0.0	0.0	0.0	0.0	0.0	1827.2	1498.0	244.9
BA	2020	TPP Tuzla-3	T-3	0.0	754.3	1256.2	0.0	0.0	13.3	0.0	0.0	2477.0	267.0	28.0
BA	2020	TPP Tuzla-4	T-4	0.0	4476.0	7010.5	0.0	0.0	45.0	0.0	0.0	12555.0	1684.0	241.0
BA	2020	TPP Tuzla-5	T-5	0.0	4590.8	5974.9	0.0	0.0	32.3	0.0	0.0	10454.0	1437.0	172.0
BA	2020	TPP Tuzla-6	T-6	0.0	14432.6	0.0	0.0	0.0	21.1	0.0	0.0	19723.0	932.0	94.0
BA	2020	TE Ugljevik	U-1	0.0	19239.0	0.0	0.0	0.0	0.0	0.0	0.0	107402.0	3578.0	729.0
BA	2020	ICHPP Natron Hayat UKO-3	UKO-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BA	2020	ICHPP Natron Hayat UKO-4	UKO-4	0.0	88.5	1616.0	0.0	0.0	0.0	0.0	0.0	481.9	355.3	76.4
GE	2020	LLC Georgian International Energy Corporation	GE0001	0.0	0.0	0.0	0.0	0.0	0.0	3092.9	0.0	0.0	121.4	0.0
GE	2020	Mtkvary Energy LLC	GE0002	0.0	0.0	0.0	0.0	0.0	0.0	3464.2	0.0	0.0	194.2	0.0
GE	2020	GPower LLC	GE0003	0.0	0.0	0.0	0.0	0.0	0.0	713.5	0.0	0.0	38.0	0.0
GE	2020	LLC Gardabani TPP	GE0004	0.0	0.0	0.0	0.0	0.0	0.0	7935.7	0.0	0.0	215.6	0.0
GE	2020	LLC Gardabani TPP 2	GE0005	0.0	0.0	0.0	0.0	0.0	0.0	5390.4	0.0	0.0	171.6	0.0
MD	2020	TERMOELECTRICA Centrala Electrică cu Termoficare Sursa 1	LCP MD 000001	0.0	0.0	0.0	0.0	0.0	0.6	9014.1	0.0	2.8	432.8	3.6
MD	2020	TERMOELECTRICA Centrala Electrică cu Termoficare Sursa 2	LCP MD 000002	0.0	0.0	0.0	0.0	0.0	0.0	698.5	0.0	0.2	33.5	0.3
ME	2020	Thermal power plant "Pljevlja"	ME0001	0.0	0.0	15582.2	0.0	0.0	11.8	0.0	0.0	63922.1	4988.9	380.9
MK	2020	ESM AD Skopje - REK Bitola (B1 + B2)	MK0001	0.0	0.0	19130.0	0.0	0.0	516.0	0.0	0.0	60442.0	2987.0	2688.0
MK	2020	ESM AD Skopje - REK Bitola (B3)	MK0002	0.0	0.0	8452.0	0.0	0.0	228.0	0.0	0.0	24091.0	840.0	784.0
MK	2020	ESM AD Skopje - REK Oslomej	MK0003	0.0	0.0	1173.0	0.0	0.0	329.0	0.0	0.0	2167.0	230.0	212.0
MK	2020	TEC Negotino	MK0004	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MK	2020	BEG - Toplana Istok	MK0005	0.0	0.0	0.0	0.0	0.0	0.0	667.0	0.0	0.0	22.5	0.9
MK	2020	BEG - Toplana Zapad	MK0006	0.0	0.0	0.0	0.0	0.0	0.0	386.0	0.0	0.0	10.6	0.5
MK	2020	Rafinerija OKTA - Procesna Instalacija	MK0007	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MK	2020	Rafinerija OKTA - Energetika	MK0008	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RS	2020	EPS, Termoleketrana Nikola Tesla A, A1-A3	RS0001	0.0	0.0	42597.5	0.0	0.0	466.3	0.0	0.0	43342.4	6739.1	1984.1
RS	2020	EPS, Termoleketrana Nikola Tesla A, A4-A6	RS0002	0.0	0.0	65828.5	0.0	0.0	336.9	0.0	0.0	66557.0	8446.4	1090.7
RS	2020	EPS, Termoleketrana Nikola Tesla B, B1-B2	RS0003	0.0	0.0	86960.5	0.0	0.0	486.9	0.0	0.0	85765.9	12170.7	1284.9
RS	2020	EPS, Termoleketrana Nikola Tesla B, Pomocna kotlarnica	RS0004	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.6	0.4	0.1
RS	2020	EPS, Termoelektrana Kostolac A, A1	RS0005	0.0	0.0	7506.4	0.0	0.0	65.7	0.0	0.0	15675.6	1079.9	201.7
RS	2020	EPS, Termoelektrana Kostolac A, A2	RS0006	0.0	0.0	13239.9	0.0	0.0	44.7	0.0	0.0	26742.9	2587.9	352.6
RS	2020	EPS, Termoelektrana Kostolac B, B1-B2	RS0007	0.0	0.0	48821.1	0.0	0.0	192.1	0.0	0.0	95096.8	5209.0	1063.8

README | 2018 | 2019 | **2020** | +