IPCC Emission Factor Database (EFDB)

IPCC TFI Side Event, UNFCCC SB 58

6 June 2023, Bonn, Germany

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IPCC TFI TSU

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IPCC EFDB

- Launched in 2002
- Open library of emission factors (EFs) and other parameters with background information https://www.ipcc-nggip.iges.or.jp/EFDB/main.php
  - Default data from IPCC guidelines
  - Data from peer-reviewed scientific papers
  - Data from other publications (e.g., national reports)
- Communication platform to share data and information that can be used for estimation of national greenhouse gas (GHG) emissions/removals
- EFDB is recognized by Parties to the UNFCCC as a useful resource for inventory compilers (e.g., FCCC/SBI/2011/5/Rev.1 and Decision 24/CP.19)

IPCC EFDB

- EFDB is an important resource for development of IPCC guidelines
  - A source of data/information for consideration by authors. Thus, populating the EFDB with new data supports the process of refinement of IPCC default EFs/parameters.
- Non-default EFs/parameters in the EFDB may be a useful source of information for users in applying higher tier methods.
- The responsibility of an appropriate use of EFDB data always will remain with the users.
- EFDB is a supporting tool for national GHG inventories and is not subject to formal IPCC review process.

IPCC EFDB

- Evolves dynamically: data proposals (e.g., submissions from inventory experts and researchers) and data collection activities (e.g., expert meetings, literature search)
- Open to any data proposals ipcc-efdb@iges.or.jp
  - Data proposals are considered by EFDB Editorial Board for inclusion into the EFDB
  - Criteria for inclusion of new data: **robustness, applicability and documentation.** The aim is not to undertake a full scientific assessment but to collect data that may be useful to users.
- Annual meeting of the Editorial Board to consider data proposals and discuss how to improve/enhance the EFDB
  - Summary of the meetings are published at IPCC TFI website https://www.ipcc-nggip.iges.or.jp/meeting/meeting.html
  - 21st Meeting of Editorial Board (EB21), 16-19 May 2023, Christchurch, New Zealand

Populating EFDB

Defaults

EFDB

Data Provider

Accepted Data

Data

Expert Meeting (Data Meeting)

Data

Editorial Board

Data

TSU

- Initial check of data proposals
- Collection of new data and preparation of data proposals

Data collection activities

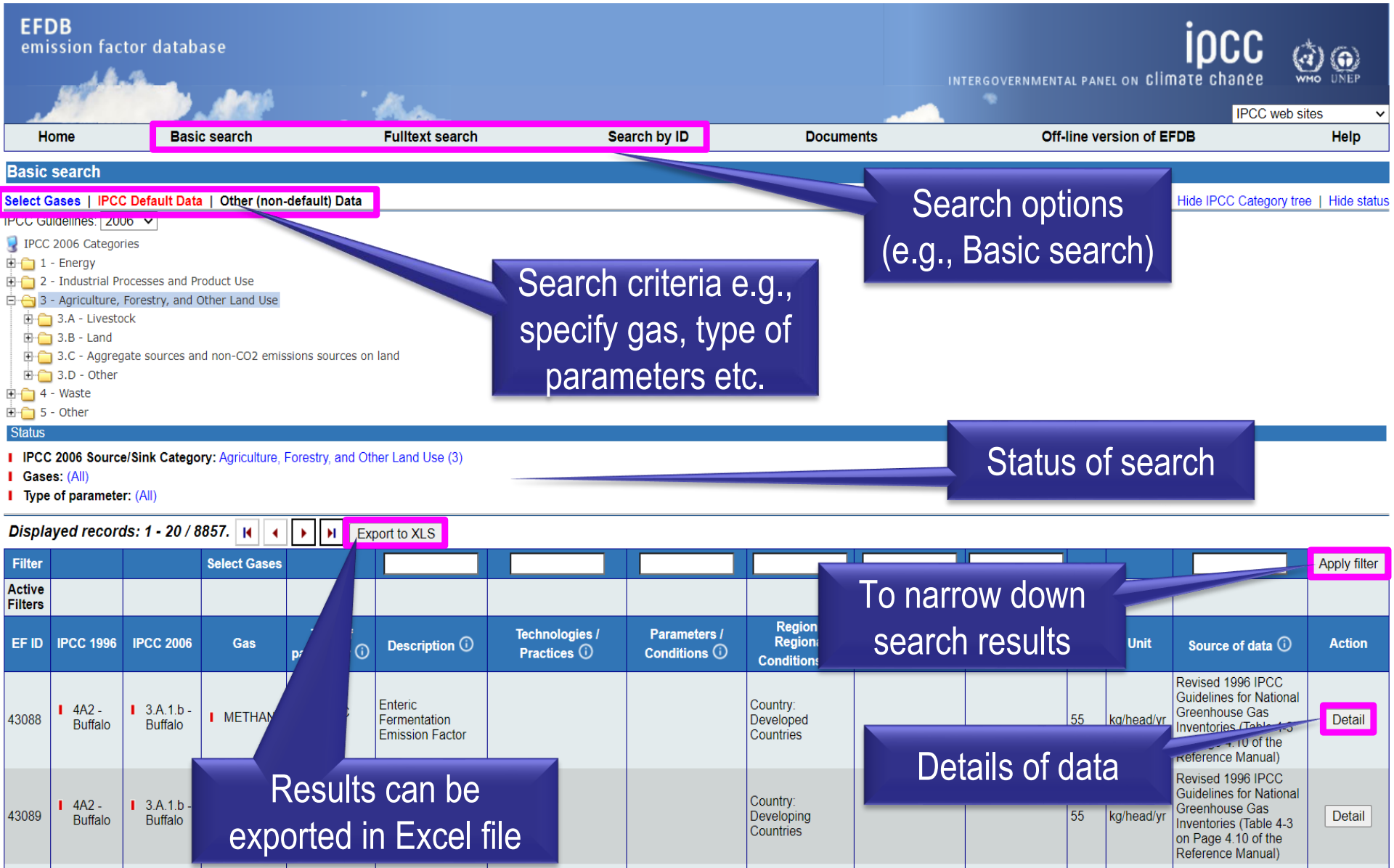
- Expert Meetings on Data for the EFDB (Data Meetings) have been organized since 2008
  - Attended by data providers (e.g., inventory experts, researchers) and Editorial Board members
  - 21st Data Meeting (DM21), 17-18 May 2023, Christchurch, New Zealand
- Literature/data search (e.g., peer-reviewed journal papers, national inventory reports)
- Total 2,445 data were accepted by the Editorial Board at the EFDB meetings (EB21/DM21) held on 16-19 May 2023 for inclusion into the EFDB.

How to access EFDB

- Two types of applications:
  - Web
  - Offline
- The offline application
  - Windows, Mac and Linux
  - Available for download at the EFDB website

https://www.ipcc-nggip.iges.or.jp/EFDB/main.php

EFDB search


EFDB
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IPCC web sites
Home
Basic search
Fulltext search
Search by ID
Documents
Off-line version of EFDB
Help
Basic search
Select Gases | IPCC Default Data | Other (non-default) Data
Hide IPCC Category tree | Hide status
IPCC Guidelines: 2006
IPCC 2006 Categories
1 - Energy
2 - Industrial Processes and Product Use
3 - Agriculture, Forestry, and Other Land Use
3.A - Livestock
3.B - Land
3.C - Aggregate sources and non-CO2 emissions sources on land
3.D - Other
4 - Waste
5 - Other
Search options (e.g., Basic search)
Search criteria e.g., specify gas, type of parameters etc.
Status
IPCC 2006 Source/Sink Category: Agriculture, Forestry, and Other Land Use (3)
Gases: (All)
Type of parameter: (All)
Status of search
Displayed records: 1 - 20 / 8857.
Export to XLS
Filter
Select Gases
Apply filter
Active Filters
EF ID
IPCC 1996
IPCC 2006
Gas
Description
Technologies / Practices
Parameters / Conditions
Region
Unit
Source of data
Action
43088
4A2 - Buffalo
3.A.1.b - Buffalo
Enteric Fermentation Emission Factor
Country: Developed Countries
55
kg/head/yr
Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
Detail
43089
4A2 - Buffalo
3.A.1.b - Buffalo
Country: Developing Countries
55
kg/head/yr
Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (Table 4-3 on Page 4.10 of the Reference Manual)
Detail
To narrow down search results
Details of data
Results can be exported in Excel file

EFDB data output

A	B	C	D	E	F	G	H
EF ID	IPCC 1996 Source/Sink Category	IPCC 2006 Source/Sink Category	Gas	Type of	Description	Technologies / Practices	Parameters / Conditions
415943	4A - Enteric Fermentation	3.A.1 - Enteric Fermentation	METHANE	2006 IPCC	Tier 1 enteric fermentation	Commercialised dairy sector based on grazing. Separate beef cow herd grazing pastures and rangelands.	Animal category: Cattle (Dairy)

EFDB
emission factor database

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IPCC web sites

Home | Basic search | Fulltext search | Search by ID | Documents | Off-line version of EFDB | Help

Emission Factor Deta (ID: 415943

Administrative information

Data Provider:	IPCC
Data Provider Country:	(Not applicable)
Data Provider Contact:	ipcc-efdb@iges.or.jp
Date calculated:	
Date submitted to EFDB by Data Provider:	
Date posted to EFDB by IPCC:	

Technical information

Gas:	METHANE
IPCC 1996 Source/Sink Category:	Agriculture (4) -> Enteric Fermentation (4A)
IPCC 2006 Source/Sink Category:	Agriculture, Forestry, and Other Land Use (3) -> Livestock (3.A) -> Enteric Fermentation (3.A.1)
Properties	
Technologies/Practices:	Commercialised dairy sector based on grazing. Separate beef cow herd grazing pastures and rangelands. Minor amount of feedlot feeding with grains. Growing non-dairy cattle comprise a large portion of the population.
Parameters/Conditions:	Animal category: Cattle (Dairy)
Region/Regional Conditions:	Region: Latin America
Abatement/Control Technologies:	
Others:	Average milk production of 800 kg head-1 yr-1
Description:	Tier 1 enteric fermentation emission factors for Cattle
Value:	72 kg CH4/head/yr
Value in common units:	
Equation:	Equation 10.19 in Volume 4 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
IPCC Worksheet:	Sheet 1 of 1, Category Code 3A1, Page A1.7 of Volume 4 of the 2006 IPCC Guidelines
Source of data:	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Table 10.11 - Tier 1 enteric fermentation emission factors for Cattle, on page 10.29
Technical Reference:	
Reference language:	English
Abstract in English:	
Uncertainties expressed as 95% confidence limit:	**Upper:** Unknown **Lower:** Unknown
Data quality:	
Distribution shape:	
Data quality reference:	
Other info on data quality:	IPCC Expert Group, values represent averages within region, where applicable the use of more specific regional milk production data is encouraged. Existing values were derived using Tier 2 method and the data in Tables 10 A.1 and 10A. 2 of the 2006 Guidelines.

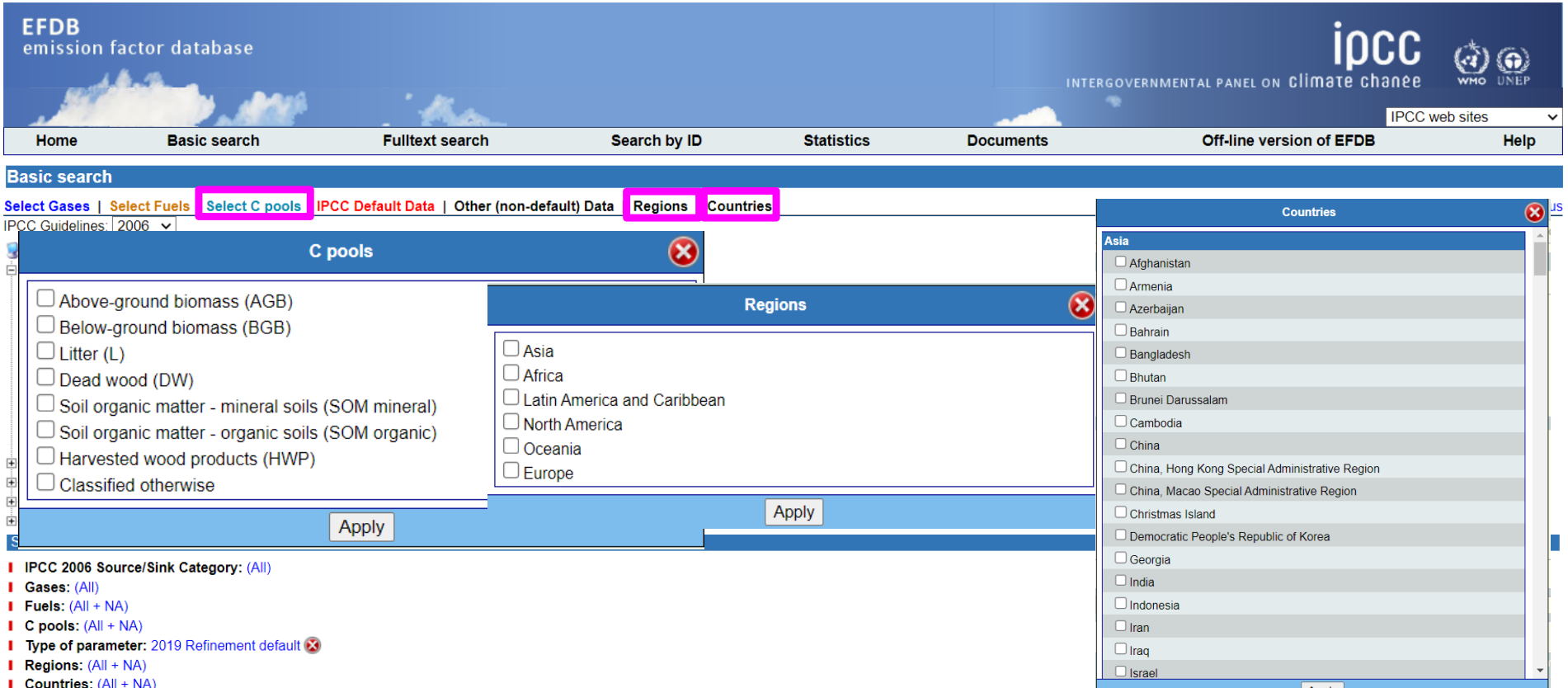
Usage/Review information

Type of parameter:	2006 IPCC default
Comments from the data provider:	Emission factors should be derived on the basis of the characteristics of the cattle and feed of interest and need not be restricted solely to within regional characteristics.
Comments from others:	
Link:	

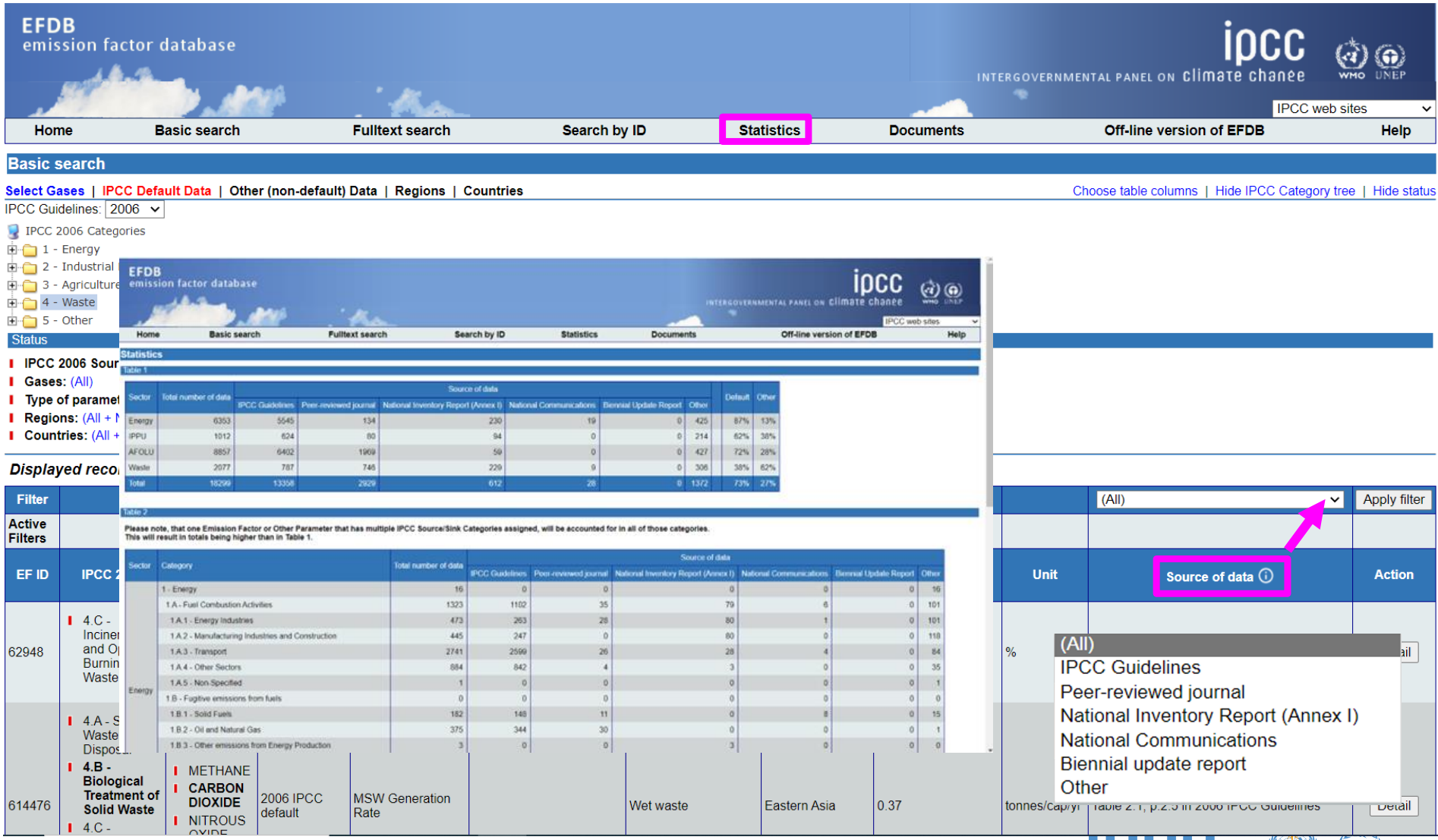
Back to Search by ID page | Report to DOC | Report to XLS

Enhancement and improvement of EFDB

- Regularly updated with new data
- New upgraded version of the EFDB to be released in 2023 includes e.g.,
  - *2019 Refinement* categories
  - Enhanced search/filter functions (e.g., Select C pool, Regions, Countries criteria are added for Basic search; static drop-down list in Source of data column)
  - Data statistics tables



Enhancement and improvement of EFDB



Thank you

https://www.ipcc-nggip.iges.or.jp/index.html

https://www.ipcc-nggip.iges.or.jp/EFDB/main.php