



<http://ceubiom.org/>

CLASSIFICATION OF
EUROPEAN BIOMASS
POTENTIAL FOR
BIOENERGY USING
TERRESTRIAL & EARTH
OBSERVATIONS

CONTRACT №:

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**WP5 – PLATFORM DEVELOPMENT FOR STAKE-
HOLDER INTERACTION, COMMON DATASETS
AND RESULTS**

**DELIVERABLE D 5.2 - *REVISED VERSION*
META-DATABASE OF A RELIABLE
AND COMMON DATASET ON BIOMASS
POTENTIAL**

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Explanatory Notes to D5.2 Meta-database of a reliable and common dataset on biomass potential

The Meta-database is available at: <http://ceubiom.acsys.it:8080/web/european-biomass-dataset/newpage>

Introduction

The biomass meta-database is a list of available reliable biomass metadata information collected from various Collaborative Working Environment CWE users. The database is available on the CEUBIOM CWE, also referred to as the *CEUBIOM Platform*, into the ‘European Biomass Datasets’ specific working area. Since D5.2 is an online tool that is dynamically updated **the present report serves as a brief explanatory note to this Deliverable.**

Meta-database access

The meta-database can be accessed in different ways by all type of users (registered or not) but its update is reserved to (CWE) authorized users only (all those who have requested and have been granted access to the CWE) because user authentication always is required for an active participation in the platform. In fact user authentication serves as a kind of quality control procedure, as it will be possible in principle to trace who did any modification on the meta-database and, in more general terms to restrict uncontrolled access to it.

The access could be done through three different approaches:

1. Using a direct link for the specific Working Area page <http://ceubiom.acsys.it:8080/web/european-biomass-dataset/new-page>
2. Using a guest area of the CWE Platform. In this case the user access through the HOME page of the CWE platform (<http://ceubiom.acsys.it:8080/web/guest>) where all Working areas are presented in a linkable list.
3. Through the specific menu that we call ‘ Dock ‘ that is in the upper right hand corner of the screen. It is dedicated exclusively to authorized users and provides links to all the available global functions of the platform and its specific areas..

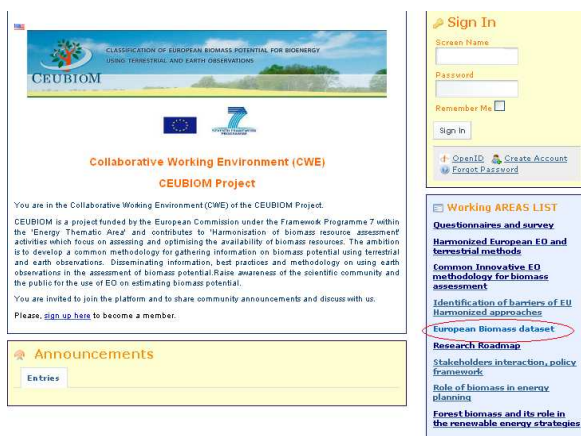


Figure 1: CWE Home page and Working areas list



Figure 3: Direct link for the specific Working Area



Figure 2: Dock menu interface

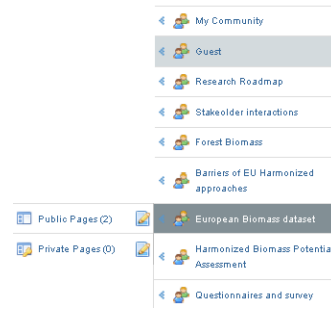


Figure 4: Dock menu moving to metadatabase working area

Meta-database Contents

The meta-database is an interactive table which contains an overview on the current Biomass data used in each country. It is supposed to be a quick list of biomass metadata available to users in order to facilitate research and study in CEUBIOM countries.

As it will be explained in detail below the table is organized in many rows and columns.

In short, rows are specific to each Country and columns identify the type of information contained in the table's field. Countries addressed in this table are:

1. Austria
2. Bosnia and Herzegovina,
3. Bulgaria,
4. Croatia
5. Czech Republik
6. Germany
7. Greece
8. Hungary
9. Italy
10. FYR Macedonia
11. Romania
12. Slovakia
13. Slovenia
14. Serbia
15. Ukraine

Here is a description of the types of information that the table contains for each Country.

Country	Country CEUBIOM partners
Biomass type	Type: kind of data used (statistical data combined with expertise, other data collection)
Coverage	National or regional assessment
Periodicity	Snapshot view or scenario calculation
Data Sources	National data on plant growth and primary production
Access by the public	Availability in public reports (bulletins) , on line but available freely, or in printed format Link to the national databases
Dissemination format	Printed, electronic
Metadata description	This is a field for adding more information about type of data that can be retrieved in each database listed or in some cases short overview of methods and activities and other information that the Country referent has found useful for a better understanding of the situation in his Country.

The initial content of the database is based on user questionnaires gathered by the project partners from national users in their countries. The intention is to draw an overview of the data situation in Europe and identify points that require further investigation. The information reliability is self-guaranteed by the process itself, in that all users can improve and/or correct the information inserted by the other users and at the end the whole set information is publicly available to all.

These information shows that there is a large variability of data sources and methods and these are not always comparable. This makes difficult, if not impossible, a complete comparison from data. In some countries data are available in public reports (bulletins) not yet on line but available freely in printed format. In very few cases the data are not yet available.

Meta-database organization

Table (initial set to be possibly integrated during the project development) is organized in 15 rows and 10 columns . Only the first column is a technical column for the interactive editing of the table by CWE Users where it is possible to use the buttons located for editing/updating the table.

European Metadatabase (1 - 15 of 15)							
	Country	Biomass type	Coverage	Periodicity	Data sources	Access by the public	Metadata description
	Austria	Fuel wood Wood chips from industry Biogenic wastes Black liquor Wood chips from forestry Others	National	Regularly updated	Forest inventory and Land use statistic	Statistik Austria Vienna, available at www.statistik.at .	- the structure of agricultural holdings - soil protection and harvests - livestock and animal production - supply and use of agricultural production (supply balance) - agricultural and forestry producer prices

Figure 5; Meta-database Columns

Each row represents a separate record of the database and in the table it is displayed in a simplified form that identifies an individual country.

Biomass datasets (1 of 15)		
Field	Type	Value
Country	VARCHAR(75)	Austria <input type="text" value="Austria"/>
Biomass Type	VARCHAR(1023)	Fuel wood Wood chips from industry Biogenic wastes Black liquor
Coverage	VARCHAR(255)	National
Periodicity	VARCHAR(255)	Regularly updated
Data sources	VARCHAR(1023)	Forest inventory and Land use statistic
Access by the Public	VARCHAR(1023)	Statistik Austria Vienna, available at www.statistik.at .
Dissemination format	VARCHAR(255)	Electronic
Comments	VARCHAR(4095)	The most significant source of biomass for biofuel production is produced by forestry. There is no overproduction in agriculture and there are no specific intentions to use a significant share of agricultural and for production of biomass for energy.
References	VARCHAR(1023)	

Figure 6: Visualization of a single record for the editing and updating.

This separation in records allows the authorized user to modify / implement / easily view and extract information relating the country separately from the others using specific functional possibilities of the software tool.

European Metadatabase [Return to Full Page](#)

General | **Advanced** | Editing | Plugins | Print Setup

Advanced Options

Editing Table:

Fixed Width Layout:

Rows per Page: Rows in full Page: Buffer:

Enable Plugins Filters Always Filled Enable Printing

Enable CSV Export Interdependent Filters Blob Preview Force Case Insensitive Search

Field	Display	Label	Type/Align	Filter	Max length (char)	Dropdown	Sum	Min	Max	Avg	Count
id	<input type="checkbox"/>	<input type="text"/>	Left	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
country	<input checked="" type="checkbox"/>	Country	Left	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
biomass_type	<input checked="" type="checkbox"/>	Biomass type	Left	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
coverage	<input checked="" type="checkbox"/>	Coverage	Left	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
periodicity	<input checked="" type="checkbox"/>	Periodicity	Left	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
databases	<input checked="" type="checkbox"/>	Data sources	Left	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
access	<input checked="" type="checkbox"/>	Access by the publ	Left	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
dissemination	<input type="checkbox"/>	Dissemination form	Left	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
comments	<input checked="" type="checkbox"/>	Type of Data / Note	Left	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
reference	<input type="checkbox"/>	References	Left	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 7: Visualization of a single record for the editing and updating

Print Setup

Enable Print for the whole set of records:

Enable Print in Edit mode:

Orientation: Landscape

Background (portrait): Base.pdf

Background (landscape): Base-Land.pdf

Paper Size: A4

Font Family: Courier

Font Size: 8

Print Filters: Auto

Print Page Numbers: Auto

Margins (in points: 72 points = 1 inch):

Margin Left: Margin Right: Margin Top: Margin Bottom:

Figure 8: Example of interface for a specific functional possibility

How to update the table (FOR CWE Users)

The approach is more friendly and intuitive. The table form can be expanded by everyone, in the following manners:

- add new rows, with additional sources of biomass metadata
- editing the existing rows (e.g. correcting errors, etc.)
- editing the existing rows by filling in fields that have been left empty

For the interactive editing of the table by CWE Users it is possible to use the buttons located in the first column of the table.

Meta-database creation: technical specification

The Ceubiom portal is implemented with Liferay portal. The database used is mysql. First of all it has been created a custom ceubiom database:

```
# mysql -u root -p
mysql> create database ceubiom;
mysql> grant all on ceubiom.* to 'lportal'@'localhost' identified by 'lportal' with grant option;
mysql> grant all on ceubiom.* to 'lportal'@'localhost.localdomain' identified by 'lportal' with grant option;
mysql> USE `ceubiom`;
mysql> DROP TABLE IF EXISTS `biomass_datasets`;
mysql> CREATE TABLE `biomass_datasets` (
  `id` bigint(20) NOT NULL auto_increment,
  `country` varchar(75) default NULL,
  `biomass_type` varchar(1023) default NULL,
  `reference` varchar(1023) default NULL,
  `datasets` varchar(1023) default NULL,
  `access` varchar(1023) default NULL,
  `coverage` varchar(255) default NULL,
  `periodicity` varchar(255) default NULL,
  `dissemination` varchar(255) default NULL,
  `comments` varchar(4095) default NULL,
  PRIMARY KEY (`id`)
) ENGINE=MyISAM AUTO_INCREMENT=17 DEFAULT CHARSET=utf8 CHECKSUM=1 DELAY_KEY_WRITE=1 ROW_FORMAT=DYNAMIC;
mysql>
```

Meta - Database population

All source data were organized at first as excel file, so the data have been imported into the database table with the flowing procedure:

Change Windows csv file separator settings

- In Microsoft Windows, click the Start button, and then click Control Panel.
- Open the "Regional and Language Options" dialog box.
- Do the following: In Windows XP, click the "Regional Options" tab, and then click "Customize".
- Type a new separator in the "List separator" box. (; => |)
- Click OK twice

Exportation of data from Excel to a flat.csv file

With a text editor find and replace "\n" with "#\n".

Put that flat.csv on a convenient directory (such as in C:\).

Use mysql to import the data

Launch mysql command or use MySQL Query Browser:

```
# mysql -u root -p
mysql> use ceubiom
mysql> LOAD DATA LOCAL INFILE '/home/liferay/Metadata1_NC.csv' INTO TABLE biomass_datasets
FIELDS TERMINATED BY '|' ENCLOSED BY '"' LINES TERMINATED
BY '\n'
(country,biomass_type,short_description,datasets,access,coverage,periodicity,keywords,quality_comments);
mysql>
```

Restore Windows csv file separator settings

Restore the original settings

Metadatabase Liferay Portlet setting up

The portlet used to display data extracted from a database is “Quick Application Builder for MySQL 1.1”, moreover this portlet integrate a powerful Jasper based report viewer to add advanced output generation capabilities.

For further information on the portlet configuration see the official documentation at:

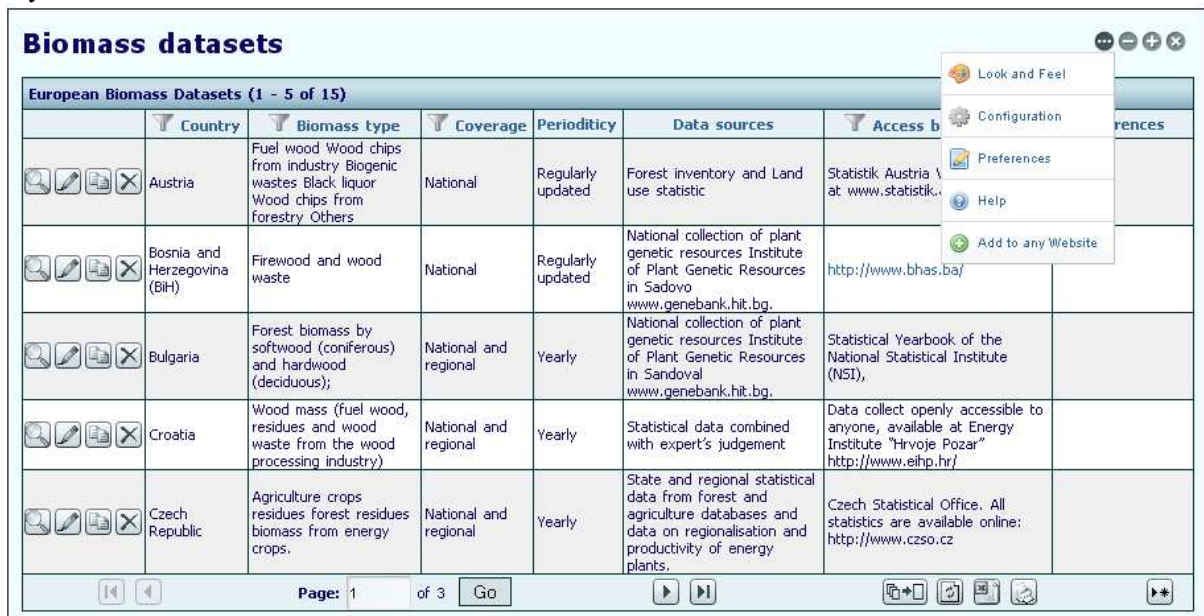
<http://www.datawarestudio.com/>

Login to the portal as Administrator and install the “QuickAppBuilder” portlet.

From the “Control Panel”, click “Plugins Installation” in the “Server” section.

In the “Portlet Plugins” tab click on the “Install More Portlets” button and search for the “Quick Application Builder for MySQL 1.1” portlet.

Once the plugin have been installed, add the application to a layout and configure it in the following way:



Biomass datasets

European Biomass Datasets (1 - 5 of 15)

	Country	Biomass type	Coverage	Periodicity	Data sources	Access b	ferences
	Austria	Fuel wood Wood chips from industry Biogenic wastes Black liquor Wood chips from forestry Others	National	Regularly updated	Forest inventory and Land use statistic	Statistik Austria V at www.statistik.	
	Bosnia and Herzegovina (BiH)	Firewood and wood waste	National	Regularly updated	National collection of plant genetic resources Institute of Plant Genetic Resources in Sadovo www.genebank.hit.bg.	http://www.bhas.ba/	
	Bulgaria	Forest biomass by softwood (coniferous) and hardwood (deciduous);	National and regional	Yearly	National collection of plant genetic resources Institute of Plant Genetic Resources in Sandoval www.genebank.hit.bg.	Statistical Yearbook of the National Statistical Institute (NSI),	
	Croatia	Wood mass (fuel wood, residues and wood waste from the wood processing industry)	National and regional	Yearly	Statistical data combined with expert's judgement	Data collect openly accessible to anyone, available at Energy Institute "Hrvoje Pozar" http://www.eihp.hr/	
	Czech Republic	Agriculture crops residues forest residues biomass from energy crops.	National and regional	Yearly	State and regional statistical data from forest and agriculture databases and data on regionalisation and productivity of energy plants.	Czech Statistical Office. All statistics are available online: http://www.czso.cz	

Page: 1 of 3 Go

Figure 9: Metadatabase interface Configuration

Click on the “Preferences” menu item to configure the meta-database portlet.

Some functional possibilities of the meta –database are “General”, “Advanced”, “Editing”, “Plugins” and “Print”

They need to be set up using specific interfaces by an administrator .

General function allows the authorized user to view the single record (for each Country) in a simple but complete way.

Advanced function allows the authorized user to view the single record setting each field as the user prefer. It is possible to hide fields (columns) to the unauthorized user while maintaining the information field available to authorized users. This specific function has been used in metadatabase CEUBIOM to allow viewing of certain data to the country only reporter to be confirmed.

Editing function allows the authorized user to edit showing, adding copyng and deleting each field of the table.

Plugin function allows the authorized user to edit each field separately using :

- Personal External Query
- External Command
- **Plugins** for the whole set of records
- Enable Plugins for Every Line
- Force Data reload in cycles
- Log Errors

Printing function allows the authorized user to print each field separately using different way for different type of data . For example:

- Enable Print for the whole set of records
- Enable Print in Edit mode
- Printing of Background