

Project Number: 640462

Start date of the project (duration): 1st May 2015 (36 months)



BUTANEX^T
Next Generation **Biobutanol**

D7.7

Data Management Plan

Organisation name of lead contractor: CENER (National Renewable Energy Centre)

Other organisations involved: VITO, UCLM, E4tech

Authors: Inés del Campo, Irantzu Alegria

Due date of deliverable: M30

Submission date: 31st October 2017

Dissemination Level: PU (Public)

© Copyright 2017 ButaNexT Consortium



List of reviewers

Issue	Date	Comments by	Implemented by
v FINAL (public)	24/10/2017		
v.FINAL	11/10/2017	UCLM	CENER
v.1	10/10/2017	VITO	CENER
v.0	05/10/2017	E4tech	CENER

Table of Contents

EXECUTIVE SUMMARY	4
GLOSSARY	5
INTRODUCTION	6
1. Preparation of an Open Access Publication.....	7
2. Strategy for preservation.....	8
2.1. Green Open Access (Self-archiving)	9
2.2. Gold Open Access (Open Access Publishing).....	9
2.3. Open Access Repositories in ButaNexT project.....	10
3. Updated ButaNexT's publications list.....	11
4. References	16



EXECUTIVE SUMMARY

The aim of ButaNexT's Data Management Plan (DMP) is to provide an analysis of the main elements of the data management policy that are going to be used by the consortium under Article 29 of the Grant Agreement Number 640462. In this case, just open access to scientific publications is mandatory (art. 29.2) being not applicable to research data (art. 29.3). Therefore, the DMP aims to provide some useful information for project partners to follow and accomplish the open access rules to scientific publications that has been established in ButaNexT's Grant Agreement. It, therefore, explains the procedures to be followed in order to assure that all these publications are made available for all the community.

In more detail, this DMP covers the following issues:

- Preparation of an Open Access publication
- Strategy for preservation of scientific publications

According to H2020 rules ButaNexT's project partners will have to provide open access to all publications (peer-review articles, conference proceedings, grey literature) generated during the course of the project. Moreover, they have to be stored in an Open Access repository, during and after the life of the project. For ButaNexT project Zenodo will be used as the main open access repository.

In the case of peer-review publications, there are two possible ways of publication: green open access or gold open access. Therefore the authors can choose the most appropriate way of publishing their results.

This document corresponds to the M30 update of the initial version edited in M6. According to the Description of the Action (DoA) it will be updated through the lifecycle of ButaNexT project extending the information given now, or including new issues or changes in the project procedures. A final version is envisaged for M36. In the current updated version, some information regarding the scientific publications and grey literature produced during these last months has been included.

Each time the document is updated, all the project partners are informed of the publication of the new version and the changes made with respect to the previous version.

GLOSSARY

DMP: Data Management Plan

Embargo period: Period of restricted access to the publications

Grey literature: other published written material not controlled by scientific publishers, e.g. reports, PhD

Thesis, presentations, etc.

INTRODUCTION

The present report constitutes the third version of ButaNexT's Data Management Plan (DMP) corresponding to M30. The main objective of this DMP is to provide an analysis of the main elements of the data management policy that are going to be used by the consortium. It has the following characteristics:

- It is a document outlining how all the scientific publications generated will be handled during the project life, and even after it is completed, describing, whether and how these publications will be shared and/or made open, and how they will be preserved.
- It is not a fixed document; it evolves and gains more precision and substance during the lifespan of the project therefore another updated version will be prepared for M36.

Moreover, the current DMP tries to reflect the current status of reflection within the consortium about the scientific publications that are being produced and the most optimum way to manage them according to the guidelines in Horizon 2020 (1) and as stated in Article 29.2 of the Grant Agreement: << *All the peer reviewed publications arising from ButaNexT will be made freely and openly available via online repository*>> (2)

Although the DMP is being developed by CENER, its application involves all project partners that will choose publication as a mean of dissemination of ButaNexT's results.

It includes the following sections:

- Preparation of an Open Access publication
- Strategy for preservation
- Updated ButaNexT's publications list

1. Preparation of an Open Access Publication

ButaNexT's project partners will provide open access not only to peer-review publications but also to **other types of non-confidential scientific publications**. This includes:

- Conference proceedings
- Grey literature (informally published written material not controlled by scientific publishers, e.g. reports, non-confidential PhD and Master Thesis, presentations, etc.).

Additionally, each publication must be accompanied by bibliographic information, containing the following details related to the project:

Acknowledgement of project funding:

Each paper must include the terms ["*European Union (EU)*" and "*Horizon 2020*"]; the **name of the action, acronym and the grant number**; - the **publication date, length of embargo period** if applicable, and a **persistent identifier** (e.g DOI, Handle)

The basic steps of open access

There are three simple steps on how to comply with the EC open access policies:

1. Submit your article to a journal of your choice.
2. Add your final peer-reviewed author manuscript to an open access repository.
3. Add the reference and the link to your publication to the progress report of the project.

Therefore, once the publication is ready, the author has to notify the coordinator, who will report to the EC through the publication lists included in the progress reports. Moreover, the publication should be correctly identified as produced by a Horizon 2020 project. Once the EC has been notified by the coordinator about the new publication, the EC will automatically aggregate it at the OpenAIRE¹ portal (provided it resides in a compliant repository). Each project has its own page on OpenAIRE, featuring project information, related project publications and datasets, and a statistics section. In the case of ButaNexT the page is shown below (Figure 1).

¹ The OpenAIRE tool (www.openaire.eu) is embedded in the EC's project portal (CORDIS) and will help project partners to report project results and list of publications within the project (OpenAIRE provides you with a button that will automatically generate a publication list).

The screenshot shows the OpenAIRE project page for BUTANEXT. The page layout includes a header with the OpenAIRE logo and navigation links, a main content area with project details, and a right-hand sidebar with an 'APP BOX' containing various utility links.

Field	Value
Title	Next Generation Bio-butanol
Funding	EC H2020 RIA
Call	H2020-LCE-2014-1
Contract (GA) number	640462
Start Date	2015/05/01
End Date	2018/04/30
Open Access mandate	yes
Data Pilot	no
Organizations	E4TECH, GBL, MGE, CENER, TR, VITO, C-TECH, ZAB, Dyadic, UCLM
More information	Detailed project information (CORDIS)

Publications (6) Research Data (0) Statistics

ButaNexT: Next Generation Biobutanol
 Del Campo, I.; Alegria, I.; Sánchez, D.; Davies, T.; Hewitt, J.; PALLARES, A.; Garcia, C.; De Wever, H.; Van Hecke, W.; Lapuerta, M.; Hernández, J.J.; Fernández-Rodríguez, D.; Cova-Bonillo, A.; Fernández, D.; Natrass, L.; German L.; B. Crawford; Hill D.;... (2016)
 Projects: EC | ButaNexT (640462)

Biobutanol is an exciting alternative to first generation biofuels due to its physical and chemical characteristics, making it more fuel efficient and suitable for use in spark ignition and diesel engines without the need for modification. However, due to the inefficiencies and costs associated with the current production process, biobutanol is yet to gain market establishment. The ButaNexT project will develop highly efficient production processes for the conversion of sustainable feedstocks...

Autoignition of blends of n-butanol and ethanol with diesel and biodiesel fuels in a

APP BOX

- Publication details
- Dynamically incorporate publications in your site (HT)
- Dynamically incorporate res data in your site (HTML)
- View EC progress report (H)
- Download EC progress rept (CSV)
- LINK RESEARCH RESULTS
- DEPOSIT PUBLICATIONS

Figure 1: ButaNexT's information in OpenAIRE

For those partners involved it is important to check periodically whether the list of publications is complete, and that all are open access. In case there are articles not listed it is necessary to notify to the portal.

2. Strategy for preservation

All the publications made during the course of ButaNexT project that are not intended to be published in a peer-review scientific journal will be deposited in an open access repository. This means that **those project partners who have an institutional** repository or a community-based subject specific repository (e.g. arxiv, Europe PubMed Central) can use either them or even use Zenodo², specifically targeted to data and publications from EU projects.

On the other hand and according to H2020 Guidelines on Open Access to Scientific Publications (European Commission, 2013), there are two main routes towards open access to publications that want to be published in a peer-review scientific journal:

² : www.zenodo.org

- Self-archiving (also referred to as 'green' open access) which means that the published article or the final peer-reviewed manuscript is archived (deposited) by the author - or a representative - in an online repository³ before, alongside or after its publication.
- Open access publishing (also referred to as 'gold' open access) which means that an article is immediately provided in open access mode as published. In this model, the payment of publication costs is shifted away from readers paying via subscriptions.

Therefore, this means that the open access mandate is made in two steps: 1. depositing publications into repositories, and 2. providing open access to them. These two steps may or may not occur at the same time, depending on whether open access publishing ('gold' open access) or self-archiving ('green' open access) is used, and, in the case of self-archiving, depending on the embargo period established.

2.1. Green Open Access (Self-archiving)

This rule applies to those publications that want to be published in a peer-review scientific journal. In most cases, and depending on the journal, most publishers will allow the author to deposit a copy of the article in a repository, sometimes with a period of restricted access (embargo). However, and according to Horizon 2020 rules, this embargo period imposed by the publisher cannot be longer than 6 months.

In the case of ButaNexT project the procedure will be the following one (figure 2):

- 1.- Partner (X) prepares a publication for a peer-review journal using the conventional procedure.
- 2.- Once the publication has been accepted for publishing, partner (X) notifies the publication details to the project coordinator.
- 3.- The coordinator notifies the publication details to the EC, through the correspondent publication list and then, the publication details will appear in OpenAIRE.
- 4.- Partner (X) is allowed to store the publication in a repository (with restricted access) for a maximum period of 6 months (embargo period).
- 5.- Once the embargo period expires, the journal gives Open Access to the publication and the author (partner X) can give Open Access in the repository and in the project website.

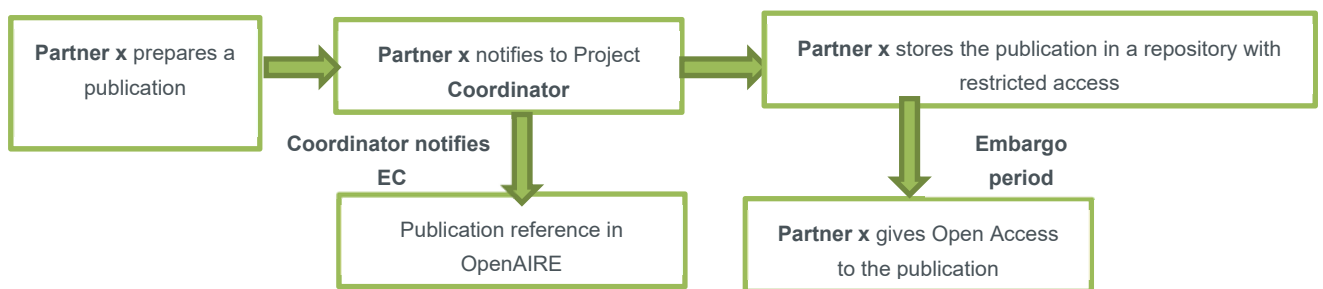


Figure 2: Steps in Green Open Access Publishing within ButaNexT project

2.2. Gold Open Access (Open Access Publishing)

In case the authors want to publish in an open access journal or if the embargo period exceeds 6 months, they are expected to fulfil the open access obligations by choosing gold open access publishing and paying the correspondent fee that can be considered an eligible cost of the project.

For ButaNexT project the tasks procedure will be the following one (figure 3):

³ . Repository software usually allows authors to delay access to the article ('embargo period').

- 1.- Partner (X) prepares a publication for a peer-review journal using the conventional procedure.
- 2.- Once the publication has been accepted for publishing, partner (X) notifies the publication details to the project coordinator.
- 3.- The coordinator notifies the publication details to the EC, through the correspondent publication list and then, the publication details will appear in OpenAIRE.
- 4.- Partner (X) pays the correspondent fee to the journal and gives Open Access to the publication storing it in an Open Access repository and in the website of the project.

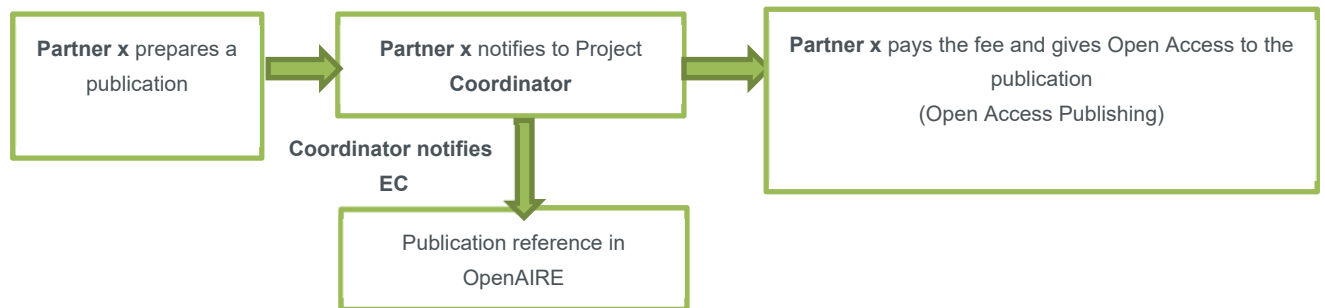


Figure 3: Steps in Gold Open Access within ButaNexT project

2.3. Open Access Repositories in ButaNexT project

The open access repositories to be used by ButaNexT partners will be the following ones:

- Zenodo will be used by CENER and VITO

3. Updated ButaNexT's publications list

The following tables show the scientific publications and papers/proceedings of workshops and conferences edited during this period:

No	D.O.I. (Digital Object Identifier)	Title	Author(s)	Journal	Publisher	Location	Volume/ Issue	Date of publication (dd/mm/yyyy)	URL	Relevant pages*	Open access Yes/No (Repository)
1	10.1007/s10295-015-1717-3	Biobutanol production from C5/C6 carbohydrates integrated with pervaporation: experimental results and conceptual plant design	Wouter Van Hecke, Pieter Vandezande, Marjorie Dubreuil, Maarten Uyttebroek, Herman Beckers, Heleen De Wever	Journal of Industrial Microbiology & Biotechnology	Springer Berlin Heidelberg	Germany	43	14/12/2015 (online)	http://link.springer.com/article/10.1007/s10295-015-1717-3	25-36	No. 1 year embargo period.
2	10.1016/j.applthermaleng.2016.03.027	Modelling of evaporative losses in n-alcohol/diesel fuel blends	Hernández, J.P., Lapuerta, M., García-Contreras, R., Agudelo, J.R.	Applied Thermal Engineering	Elsevier	Netherlands	102	19/03/2016	http://www.sciencedirect.com/science/article/pii/S1359431116303192	302-310	Yes (project website)
3	10.1016/j.energy.2016.10.090	Autoignition of blends of n-butanol and ethanol with diesel or biodiesel fuels in a constant-volume combustion chamber	Lapuerta, M., Hernández, J.J., Fernández-Rodríguez, D., Cova-Bonillo, A.	Energy	Elsevier		118	Under review 21/10/2016	http://www.sciencedirect.com/science/article/pii/S0360544216315353	613-621	Yes
4	10.1016/j.fuel.2017.02.101	Modelling viscosity of butanol and ethanol blends with diesel and biodiesel fuels	Lapuerta, M., Rodríguez-Fernández, J., Fernández-Rodríguez, D. Patiño-Camino, R.	Fuel	Elsevier		199	27/02/2017	http://www.sciencedirect.com/science/article/pii/S0016236117302521	332-338	Yes

No	D.O.I. (Digital Object Identifier)	Title	Author(s)	Journal	Publisher	Location	Volume/ Issue	Date of publication (dd/mm/yyyy)	URL	Relevant pages*	Open access Yes/No (Repository)
5	10.1016/j.memsci.2017.06.058	High-flux POMS organophilic pervaporation for ABE recovery applied in fed-batch and continuous set-ups	Van Hecke, W., De Wever, H.	Journal of Membrane Science	Elsevier	Netherlands	540	15/10/2017	http://www.sciencedirect.com/science/article/pii/S0376738817311936	321-332	Not yet (Zenodo)
6	10.3390/su9040589	Strategies to Introduce n-Butanol in Gasoline Blends	Lapuerta, M., Ballesteros, R., Barba, J.	Sustainability	MDPI	Switzerland	9	12/04//2017	http://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=1&sid=492e74dd-ad3f-4b27-b69f-3514d58f00f0%40sessionmgr120	1-10	Yes
7		Emission benefits from the use of n-butanol blends in a Euro 6 engine	Lapuerta, M., Hernández, J.J., Rodríguez-Fernández, J., Barba, J., Ramos, A., Fernández-Rodríguez, D.	International Journal of Engine Research	SAGE Journals	USA		Accepted (23/10/2017)			

Table 1: List of peer reviewed publications (*: mandatory fields)

No	D.O.I. (Digital Object Identifier)	Title	Author(s)	Proceedings	Date of publication (dd/mm/yyyy)	Start & End date of Conf / Workshop (dd/mm/yyyy)	Publisher	ISBN	URL	Relevant pages	Open access Yes / No (Repository)
1	10.5071/25th EUBCE2017-IDV.3.36	Paving the way for a next generation biobutanol	Del Campo, I., Alegria, I., Sánchez, D., Davies, T., Smith, H., Ihalainen, P.; Pallares, A., Garcia, C., De Wever, H., Van Hecke, W., Lapuerta, M., Fernández, D., German L., Etxaniz, J; Crawford, B., Hill D., Sancifena, J., Corradino G.	25th European Biomass Conference and Exhibition	August 2017		ETA Florence Italy	978-88-89407-17-2		2019-2025	Yes (Zenodo)
2	10.5071/24th EUBCE2016-3CV.2.9	ButaNexT: Next Generation Biobutanol	Del Campo, I., Alegria, I., Sánchez, D., Davies, T., Hewitt, J., Pallares, A., Garcia, C., De Wever, H., Van Hecke, W., Lapuerta, M., Fernández, D., Natrass, L., German L., Crawford, B., Hill D., Sancifena, J., Corradino G.	24th European Biomass Conference and Exhibition	August 2016	06/09/2016 09/06/2016	ETA Florence Italy	978-88-89407-165		1193 - 1200	Yes (Zenodo)
3	https://doi.org/10.5281/zenodo.159469	Biobutanol production integrated with organophilic pervaporation: experimental results and conceptual plant design	W Van Hecke, P Vandezande, H Beckers, K Vanbroekhoven, H De Wever	Clostridium XIV, 28-31 August, Dartmouth College, Hanover, New Hampshire, USA.	August 2016	28/08/2016 31/08/2016	Thayer School of Engineering at Dartmouth, Hanover, New Hampshire (USA)		http://clostridiumxiv.com/wp-content/uploads/2016/09/Clostridium_XIV_program.pdf	82	Yes (Zenodo)

No	D.O.I. (Digital Object Identifier)	Title	Author(s)	Proceedings	Date of publication (dd/mm/yyyy)	Start & End date of Conf / Workshop (dd/mm/yyyy) (dd/mm/yyyy)	Publisher	ISBN	URL	Relevant pages	Open access Yes / No (Repository)
4	http://dx.doi.org/10.1016/j.nbt.2016.06.1050	Pushing productivities in biobutanol production through integration with pervaporation	H. De Wever, W. Van Hecke, B. Owoh, E.T. Davies	New Biotechnology, Volume 33, Issue S – Abstracts European Conference of Biotechnology, Krakow, Poland	July 2016	3/07/2016 06/07/2016	Elsevier (Amsterdam)		http://ecb2016.com/		Yes (Zenodo)
5		Autoignition of blends of n-butanol and ethanol with diesel and biodiesel fuels in a constant-volume combustion chamber	Lapuerta, M., Hernández, J.J., Fernández-Rodríguez, D., Cova-Bonillo, A.	Joint meeting of The British, Portuguese and Spanish Section of the Combustion Institute	April 2016	12/04/2016 13/04/2014	Cambridge (United Kingdom)				
6		Modelling viscosity of butanol and ethanol blends with diesel and biodiesel fuels	Lapuerta, M., Rodríguez-Fernández, J., Fernández-Rodríguez, D. Patiño-Camino, R.	E2KW	October 2016	28/10/2016 29/10/2016	Paris (France)	978-84-608-8219-0			Not yet
7		Sustainable feedstocks for advanced biofuel production in Europe	Lizzie German	E2KW	October 2016	28/10/2016 29/10/2016	Paris (France)				Yes (Zenodo)
8		Cold-Flow and filterability properties of butanol and ethanol blends with diesel and biodiesel fuel	Lapuerta, M., Rodríguez-Fernández, J., Fernández-Rodríguez, D. Patiño-Camino, R.	E2KW	October 2016	28/10/2016 29/10/2016	Paris (France)	978-84-608-8219-0			Not yet

No	D.O.I. (Digital Object Identifier)	Title	Author(s)	Proceedings	Date of publication (dd/mm/yyyy)	Start & End date of Conf / Workshop (dd/mm/yyyy) (dd/mm/yyyy)	Publisher	ISBN	URL	Relevant pages	Open access Yes / No (Repository)
9		An assessment of key sustainability impacts, including GHG emissions, of commercial-scale lignocellulosic biobutanol production	Lizzie German and Ausilio Bauen	Challenges and opportunities in lignocellulosic biorefining: science, policy and economics, 2 nd LBNet International Conference	April 2017	5/4/2017 – 7/4/2017	LBNet				Yes (Zenodo)
10		Thermodynamic diagnosis of n-butanol blends in a Euro 6 diesel vehicle	Lapuerta, M., Ballesteros, R., Rodríguez-Fernández, J., Ramos, A., Fernández-Rodríguez, D.	Proceedings of the 10th Congreso Nacional de Ingeniería Termodinámica (10CNIT)	June 2017	28/06/2017 29/06/2017	Lleida (Spain)	978-84-9144-044-4			
11		Emissions and performance assessment of n-butanol blends in an Euro 6 vehicle	Lapuerta, M., Hernández, J.J., Rodríguez-Fernández, J., Barba, J., Ramos, A., Fernández-Rodríguez, D.	Proceedings of the 15th European Automotive Congress (EAEC 2017)	October 2017	04/10/2017 06/10/2017	Madrid (Spain)				

Table 2: List of papers in proceedings of conferences/workshops

4. References

1. European Commission. Guidelines on Data Management in Horizon 2020. Version 1.0. 11 December 2013.
2. European Commission. Grant Agreement Number 640462-ButaNexT-H2020-LCE2014-2015
3. European Commission .Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020. Version 1.0. 11 December 2013.

