

GreenFORCE

Foster Research Excellence for Green Transition in the Western Balkans

D1.5 - Data Management Plan

Grant no: 101059411

Type of action: HORIZON Coordination and Support Action (CSA)

Project start date: 01/07/2022 Project end date: 30/06/2025

Cordis link: https://cordis.europa.eu/project/id/101059411



Deliverable Information:

Deliverable Leader	Co-PLAN, Institute for Habitat Development
Lead Author Merita Toska, Co-PLAN, Institute for Habitat Development	
Contributors	Rudina Toto, Anila Gjika, Co-PLAN, Institute for Habitat Development Andrea Ajmar, Giancarlo Cotella, Erblin Berisha from Politecnico di Torino (POLITO) Alberto Giacometti, Carlos Tapia - Nordregio Aleksandar Djordjevic, University of Belgrade – Faculty of Geography (UB-GEF) Vesna Garvanlieva from the Center for Economic Analyses Association (CEA)
Contractual delivery date	31/12/2022
Delivery date	21/12/2022
Dissemination level	PU

Version History:

Date	Main author/s	Summary of changes	
20/11/2022	Co-PLAN, Institute for	Document creation	
20/11/2022	Habitat Development		
20/20/202	Co-PLAN, Institute for	Document updated based on comments	
20/12/2022	Habitat Development	provided by all partners.	
/3.0 22/12/2022 Co-PLAN		Document updated and approved by	
22/12/2022	Habitat Development	PMB	
	Date 20/11/2022 20/12/2022 22/12/2022	20/11/2022 Co-PLAN, Institute for Habitat Development Co-PLAN, Institute for Habitat Development Co-PLAN, Institute for Habitat Development Co-PLAN, Institute for	

Quality Review:

Activity	Name	Date
Prepared	Co-PLAN, Institute for Habitat Development	25/11/2022
Reviewed	GreenFORCE Project Partners	10/12/2022
	Ethics Advisor	21/12/2022
Revised	Co-PLAN, Institute for Habitat Development	21/12/2022



Table of Contents

Table of Contents	3
Table of Tables	•
List of Abbreviations	_
Executive Summary	
1. Data Summary	-
1.1. Re-use of the existing data and reasons for the re-use.	7
1.2. Types and formats of data to be generated or re-used from the project	9
1.3. Purpose of the data generation or re-use and its relation to the objectives of the proje	ct9
1.4. Generated or re-used data size	10
1.5. Origin/provenance of the data	10
1.6. Data utility outside the project	21
2. FAIR data	24
2.1. Making data findable, including provisions for metadata	24
2.2. Making data accessible	26
2.2.1. Repository	26
2.2.2. Data	27
2.2.3. Metadata	29
2.3. Making data interoperable	29
2.4. Increase data re-use	30
3. Other research outputs	32
4. Allocation of resources	
5. Data security	
6. Ethics	
7. Other issues	
References	38

Table of Tables

Table 1. Re-use of existing data	7
Table 2. Re-use of existing and generation of data related to project objectives	10
Table 3. Data generated/re-used, origin and estimated size	10
Table 4. Stylised facts on the data (formats, origin, size and other attributes)	13
Table 5. Data utility	21
Table 6. Metadata information to be provided	25
Table 7. Data accessibility	27

List of Abbreviations

DMP: Data Management Plan

FAIR: Findable, Accessible, Interoperable, Reusable

DOI: Digital Object Identifier **CCo:** Creative Commons Zero

CC-BY: Creative Commons Attribution International Public Licence

CC BY-NC: Creative Commons Attribution-NonCommercial

CC BY-ND: Creative Commons Attribution NoDerivs

WP: Working Package

D: Deliverable

Executive Summary

The Working Package 1 'Project Management and Coordination", Task 1.3 "Data Management Plan (DMP), open science practices and Research Data Management" of the GreenFORCE project comprises the Deliverable 1.5 – Data Management Plan (DMP). This document is the first Version of the DMP, which, as per the Grant Agreement, is to be submitted within the 6th month of the GreenFORCE Project, more precisely, within 31/12/2022. In case needed, an updated second version of the DMP shall be shared in the 18th month of the project duration.

The DMP produced in the framework of the GreenFORCE Project is a living document that describes how research information (research documents and data) will be managed during and after the project duration (the data life cycle). The document is prepared based on the Horizon DMP Template¹ and reflects the Grant Agreement and Consortium Agreement requirements. Furthermore, the DMP describes the data that will be generated/created/used, how the generated/created/used data will be shared and preserved in the short and long term, and what restrictions (if any) will be applied.

The approach for the DMP preparation evolved in steps. Preliminarily, all partners in the GreenFORCE Project provided information regarding data management policy and practices in respective institutions through a structured questionnaire. Part of the information provided has been embedded in the current version of the DMP. In a second step, the draft DMP was shared with all partners, providing information regarding research documents and data used/produced in the framework of the GreenFORCE Project. Once all comments were addressed, the DMP was submitted to the Ethics Advisor for clearance. Finally, the DMP was finalised and uploaded into the system on 31/12/2022.

In its first Version (V1), the DMP provides the general approach and policy to the data management of the GreenFORCE Project. It is expected that during the GreenFORCE Project implementation, the DMP will be updated regularly and accordingly, gaining precision and substance.

¹ Source: DMP Template Version 1.0 dated 05/05/2021 available at https://enspire.science/wp-content/uploads/2021/09/Horizon-Europe-Data-Management-Plan-Template.pdf



1. Data Summary

1.1. Re-use of the existing data and reasons for the re-use.

<u>Question:</u> Will you re-use any existing data, and what will you re-use it for? State the reasons if the re-use of any existing data has been considered but discarded.

The GreenFORCE Project team will use and re-use data from different available sources during the project lifetime. The existing data will be used in performing different tasks and completing deliverables, data in their current state, processed and/or combined with other data. For all the data used/re-used, the user will provide the complete source reference and indicate any transformation introduced to the data. Therefore, the information filled in Table 1 is preliminary and indicative. With project advancement, the information included in the table will be detailed and specified per each of the deliverables.

Table 1. Re-use of existing data

able 1. Re-use of existing data [1] [2] [3] [4] [5]				
			[5] Re-use of existing data from:	
	Deliverable title		Re-use of existing data noin:	
Projec	t management and coordination	use.		
1.1		No	-	
1.2	minutes and results (1st	No	-	
	Report)			
	Report on RAB meetings -			
1.3	minutes and results (2 nd	No	-	
1.4	· ·	Yes	Primary data collection method data	
	and mitigation, and ethics		·	
	D. I. M	No.	Desktop research including literature	
1.5	Data Management Plan	Yes	review, publicly available DMPs, and	
	F. al. alian Calana	NI.	EU template for DMP.	
1.6	Evaluation Scheme	No	-	
	Evaluation report on results and impact pathways		Desktop research includes information	
		Yes	from interim reports; secondary data from policy documents and databases,	
1.7			research papers; publications; reports;	
			and other primary data, if relevant,	
			from other sources.	
Streng	then the organisational and instit	utional capac	I .	
2.1	Shared Strategic Research	Vec	Conceptualization, mapping	
2.1		103		
			Desktop research, including	
2.2		Yes	conceptualization, mapping, research	
			cases, research papers, policy briefs	
			Co-design workshops and desk	
2.3		Yes	research, including the literature	
			review, RCC website on green transition and other sources.	
			Desk research, including literature	
2.4		Yes	review, conceptualization, mapping,	
			research cases, and research papers.	
	1.1 1.2 1.3 1.4 1.5 1.6 1.7 Streng and inc 2.1 2.2 2.3	Project management and coordination Report on project management bodies Report on RAB meetings - minutes and results (1st Report) Report on RAB meetings - minutes and results (2nd Report) Reports on IPR, critical risks and mitigation, and ethics 1.4 Reports on IPR, critical risks and mitigation, and ethics 1.5 Data Management Plan 1.6 Evaluation Scheme 1.7 Evaluation report on results and impact pathways Strengthen the organisational and institated increase the policy relevance of reservations and increase the policy relevance of reservations in the EU and WB Proposal for a WB regional partnership on green transition for the 2025-2027 period 1st group of policy briefs formulated for the steering of	Project management and coordination 1.1 Report on project management bodies Report on RAB meetings - minutes and results (1st Report) Report on RAB meetings - minutes and results (2nd Report) Report on RAB meetings - minutes and results (2nd Report) 1.3 Minutes and results (2nd Report) 1.4 Reports on IPR, critical risks and mitigation, and ethics 1.5 Data Management Plan 1.6 Evaluation Scheme No 1.7 Evaluation report on results and impact pathways Strengthen the organisational and institutional capace and increase the policy relevance of research outputs. 2.1 Shared Strategic Research Agenda Joint proposals submitted to funding organisations in the EU and WB Proposal for a WB regional partnership on green transition for the 2025-2027 period 1st group of policy briefs formulated for the steering of	



	2.5	1 st group of policy briefs formulated for the steering of green transition in the WB – 3 briefs	Yes	Desk research, including literature review, conceptualization, mapping, research cases, and research papers.	
	Enhan	ce research skills & mainstream 'V	VB green trans	ition' into teaching	
	3.1	Scientific research Publication Plan	Yes	Desk research, including public documents, organisational strategies, conceptualization, and mapping research.	
	3.2	Application package submitted for the edited book	Yes	Desk research including literature review, standard formats as per publisher selected.	
	3.3	1 st package of combined curricula of the teaching exchange and secondment plans/dossiers	Yes	Desk research, including existing curricula in the partner universities, is updated per the task's objectives.	
3	3.4	2 nd package of combined curricula of the teaching exchange and secondment plans/dossiers	Yes	Desk research, including existing curricula in the partner universities, is updated per the task's objectives.	
	3.5	Report on the integration of green transition research results into teaching activities	Yes	Desk research, including a literature review.	
	3.6	Supervisors' reports on theses co-supervised	No	-	
	3.7	Report on the 1 st stand-alone teaching events (curricula + research results)	No	-	
	3.8	Report on the 2 nd stand-alone teaching events (curricula + research results)	No	-	
	Assessing just green transition impacts and costs in the WB				
4	4.1	Report on WB green transition conceptualisation	Yes	Desk research including a literature review on justice, green development, and transition; information or potential data from literature review of EU green deal documents and processes. Mapping frame data and field research data collected.	
	4.2	The regional mapping report	Yes	Desk research, including a literature review; names and websites of projects, practices, policies and institutions listed in the mapping frame; public documents. National mapping frame databases	
	4.3	Comparative report on green transition governance challenges	Yes	Desk research, including literature, mapping, interviews, and public documents	
	4.4	Database of green transition practices and impacts in WB	Yes	Desk research, including a literature review; names and websites of projects, practices, policies and institutions listed in the mapping frame; interviews, public documents, and non-public documents	



	4.5	Research Study Report 1	Yes	Desk research including literature; secondary data from public institutions such as national statistics institutes and the involved local government units. Primary data will be produced in at least 2 of the 5 research projects. Statistical data, public documents and focus group minutes	
	4.6	Research Study Reports 2	Yes	Desk research including literature; secondary data from public institutions such as national statistics institutes and the involved local government units. Primary data will be produced in at least 2 of the 5 research projects. Statistical data, public documents and focus group minutes	
	4.7	A monitoring framework for WB green transition	Yes	Desk research, including literature review, statistical data, public documents, and focus group minutes.	
	Dissem	Dissemination, Communication, Exploitation and Sustainability			
	5.1	Dissemination, Communication and Exploitation (DCE) Strategy	No	-	
	5.2	Project Website		Images/pictures representing the partner institutions as received by them.	
	5.3	Sustainability Plan	No	-	
5	5.4	1 st report on communication and dissemination	Yes	Secondary data from policy documents and databases, research papers; publications; reports; and other primary data, if relevant, from other sources.	
	5.5	2 nd report on communication and dissemination	Yes	Secondary data from policy documents and databases, research papers; publications; reports; and other primary data, if relevant, from other sources.	

1.2. Types and formats of data to be generated or re-used from the project

Question: What types and formats of data will the project generate or re-use?

Data types and formats are included in Table 4 (columns 8 & 10).

1.3. Purpose of the data generation or re-use and its relation to the objectives of the project

<u>Question:</u> What is the purpose of the data generation or re-use and its relation to the objectives of the project?

The overall objective of the GreenFORCE Project is to foster excellence in the "Western Balkans Green Transition" scientific research and innovation of Co-PLAN (Albania), CEA (North Macedonia) and UB-GEF (Serbia) as a means to enhancing their research profile and strengthening research and management capacities of their staff, and contributing to convergence between Western Balkans (WB) and EU research capacities, as well as to wider policy initiatives for the WB region.

The project's overall objective is unravelled into 4 strategic objectives, which are connected to data generation/re-use as summarised:



Table 2. Re-use of existing and generation of data related to project objectives

Strate	gic Objective (SO)	Association with data re-use/generation
SO1	To enhance the research profiles and agendas of Co-PLAN (Albania), CEA (North Macedonia), and UB-GEF (Serbia) around green transitions in WB	[to be completed as the project activities advance]
SO ₂	To strengthen the recipient partner organisations' research administration and management capacities by developing and applying an innovative model of R&I collaboration between the WB and EU researchers in the consortium.	[to be completed as the project activities advance]
SO ₃	To carry out knowledge-generating, exploratory and comparative research on green transition processes, policies, costs and impacts, and its relation to spatial and regional policies in WB and EU.	[to be completed as the project activities advance]
SO4	To share, amplify, and exploit the knowledge generated by the research of the twinning partners into WB societal actors and networks interested and/or engaged in WB green transition practices, policies and/or decision-making	[to be completed as the project activities advance]

1.4. Generated or re-used data size

Question: What types and formats of data will the project generate or re-use?

Data size is included in Table 3 (column 10).

1.5. Origin/provenance of the data

Question: What is the origin/provenance of the data, either generated or re-used?

Table 3 shows the data generation/re-use and origin/provenance information and their estimated size. However, it is not possible to estimate the size of some of the items included. The information will be completed with project advancement.

Table 3. Data generated/re-used, origin and estimated size

[1] WP	[2] D	[3] Deliverable Title	[4] Origin of data	[5] Estimated size
	Project	management and coordination		
	1.1	Report on project management bodies		
	1.2	Report on RAB meetings - minutes and results (1 st Report)	Minutes of meetings	30 MB
	1.3	Report on RAB meetings - minutes and results (2 nd Report)	Minutes of meetings	30 MB
1	1.4	Reports on IPR, critical risks and mitigation, and ethics		
	1.5	Data Management Plan	The publicly available literature, EU template for DMP	1 MB
	1.6	Evaluation Scheme	New	1 MB
	1.7	Evaluation report on results and impact pathways	New	10 МВ



		then the organisational and institutional		esearch and
		se the policy relevance of research output	S.	
	2.1	Shared Strategic Research Agenda		
	2.2	Joint proposals submitted to funding organisations in the EU and WB	Research data generated within the project and collected through different methodologies (to be specified as the project advances).	
2	2.3	Proposal for a WB regional partnership on green transition for the 2025-2027 period		
	2.4	1 st group of policy briefs formulated for the steering of green transition in the WB – 2 briefs	Policy desk analyses and semi- structured interviews.	200 MB
	2.5	1 st group of policy briefs formulated for the steering of green transition in the WB – 3 briefs	Policy desk analyses and semi- structured interviews	200 MB
	Enhan	ce research skills & mainstream 'WB gree	n transition' into teaching	
	3.1	Scientific research Publication Plan	Data will be gathered during the two co-design workshops	100 MB
	3.2	Application package submitted for the edited book	Data will be produced/elaborated by the POLITO research team and partners through internal questionnaire s	10 MB
	3-3	1 st package of combined curricula of the teaching exchange and secondment plans/dossiers	Data will be produced/elaborated by the POLITO research team and partners through internal questionnaire s	200 MB
3	3.4	2 nd package of combined curricula of the teaching exchange and secondment plans/dossiers	Data will be produced/elaborated by the POLITO research team and partners through internal questionnaire s	200 MB
	3.5	Report on the integration of green transition research results into teaching activities	Data will be produced/elaborated by the POLITO research team and partners through internal questionnaires	10 MB
	3.6	Supervisors' reports on theses co- supervised	Data to be provided by PhD students and supervisors	150 MB
	3.7	Report on the 1 st stand-alone teaching events (curricula + research results)	Data will be produced/elaborated by all partners collected during the stand-alone activities	200 MB
	3.8	Report on the 2 nd stand-alone teaching events (curricula + research results)	Data will be produced/elaborated by all partners collected during the stand-alone activities	200 MB
	Assess	sing just green transition impacts and cost	1	
	4.1	Report on WB green transition conceptualisation	Information from reports and policy documents	
4	4.2	The regional mapping report	Desk review of websites, reports, literature, and papers; interviews when needed. Mapping excel sheets frameworks and original documents used in mapping	500 KB
	4.3	Comparative report on green transition governance challenges	Desk review of websites, reports, literature, and papers; interviews when needed.	100 KB



			Desk research, including reviewing	200 KB
	4.4	Database of green transition practices and impacts in WB	websites, reports, literature, and	
			papers; interviews when needed;	
			statistical data; excel database.	
			Desk research, including reviewing	
			of websites, reports, literature,	
			papers; surveys; informal	
	4.5	Research Study Report 1	interviews; focus groups; field	
			observation; open space	
			measurements; secondary data	
			from institutional public databases.	
			Desk review of websites, reports,	
		Research Study Reports 2	literature, papers; surveys; informal	
	4.6		interviews; focus groups; field	
			observation; open space	
			measurements; secondary data	
			from institutional public databases.	
	4.7	A monitoring framework for WB		
		green transition		
	Dissemination, Communication, Exploitation ar			
		Dissemination, Communication and Exploitation (DCE) Strategy	Document analysis, manual	
	5.1		processing, partner text	5MB
			contributions	
	5.2	Project Website		
5			Data will be produced by POLITO	20 MB
)	5.3	Sustainability Plan	on the bases of partners'	
			opinions/considerations	
	5.4	1 st report on communication and		
	3.4	dissemination		
	5.5	2 nd report on communication and		
	٥٠٥	dissemination		



Horizon Europe Programme

HORIZON-WIDERA-2021-ACCESS-02-01

Twinning Western Balkans

Table 4. Stylised facts on the data (formats, origin, size and other attributes)

[1] WP	[2] D	[3] Deliverable Title	[4] File name:	[5] Dataset description	[6] Relation to strategic	[7] Origin of the data	[8] Type of data	[9] Collection method	[10] Format of data	[11] Personal data
	Proje	ct management and coord	lination		objectives					
	1.1	Report on project management bodies	D1.1_Title_V1_ mmddyy							
	1.2	Report on RAB meetings - minutes and results (1 st Report)	D1.2 Report on RAB meetings - minutes and results							
	1.3	Report on RAB meetings - minutes and results (2 nd Report)	D1.3 Report on RAB meetings - minutes and results		SO1	New	Alphanumeric strings	Co-design workshop	MS Word [DOCX]	No
	1.4	Reports on IPR, critical risks and mitigation, and ethics	D1.4_Title_V1_ mmddyy							
1	1.5	Data Management Plan	D1.5_Data Management Plan_V1_12202		SO ₂	New	Alphanumeric strings	Desk review and contribution from partners	MS Word [DOCX] PDF	No
	1.6	D1.6 Evaluation Scheme	D1.6_ Evaluation scheme_Vo3_1 02922	The evaluation scheme consists of the evaluation scheme of the project's activities and results based on the impact section of the proposal. In addition, it contains the steps for carrying out the monitoring and evaluation regularly.	SO1 SO2 SO3 SO4	New	Characters	Document analysis, manual processing, partner text contributions	MS Word (DOC/DOC X), PDF	No



	1.7	Evaluation report on results and impact pathways	D1.7_ Evaluation report_Vo3_o6 2925	The evaluation report provides an overview of the outcomes and impacts reached in fostering excellence in the "Western Balkans' green transition" scientific research and innovation.	SO1 SO2 SO3 SO4	New	Characters	Document analysis, manual processing, partner text contributions	MS Word (DOCX) PDF	No
--	-----	--	--	---	--------------------------	-----	------------	---	--------------------------	----



[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
WP	D	Deliverable Title	File name:	Dataset description	Relation to the strategic objective	Origin of the data	Type of data	Collection method	Format of data	Personal data
	Streng	then the organisational and	d institutional capacit	ies of WB partr	ners to carry out	research an	d increase the policy rele	vance of research	n outputs.	
	2.1	Shared Strategic Research Agenda	D2.1_Research Agenda_V1_mmd dyy	[]	SO ₂	New	Alphanumeric strings Qualitative Names, e-mails, and affiliations of stakeholders	Document analysis, workshops, manual processing	MS Word [DOCX]	Yes Not to be disclosed externally
	2.2	Joint proposals submitted to funding organisations in the EU and WB	D2.2_Title_Versio n_ mmddyy	[]	SO ₂	New	Alphanumeric strings Qualitative Formal administrative data	Partner text contributions	MS Word [DOCX]	[]
2	2.3	Proposal for a WB regional partnership on green transition for the 2025-2027 period	D2.3_Title_Versio n_ mmddyy	[]	SO ₂	New	Alphanumeric strings Qualitative Names, e-mails, and affiliations of stakeholders	Workshops	MS Word [DOCX]	Yes Not to be disclosed externally
	2.4	1 st group of policy briefs formulated for the steering of green transition in the WB — 2 briefs	D2.4_Title_Versio n_ mmddyy	[]	SO ₂	New	Alphanumeric strings Qualitative	Data/report analysis, workshops	MS Word [DOCX]	[]
	2.5	1 st group of policy briefs formulated for the steering of green transition in the WB – 3 briefs	D2.4_Title_Versio n_ mmddyy	[]	SO ₂	New	Alphanumeric strings Qualitative	Data/report analysis, workshops	MS Word [DOCX]	[]



[1] WP	[2] D	[3] Deliverable Title	[4] File name:	[5] Dataset description	[6] Relation to the strategic objective	[7] Origin of the data	[8] Type of data	[9] Collection method	[10] Format of data	[11] Personal data
	Enha	nce research skills & mainstr	eam 'WB green transition'	into teaching						
	3.1	Scientific research Publication Plan	D3.1_Scientific Research Publication Plan_Vo_mmddyy		SO1	New		Co-design workshop	MS Word [DOCX]	No
	3.2	Application package submitted for the edited book	D ₃ .2_Application package submitted for the edited book_Vo_mmddyy		SO1	New	Characters (qualitative)	Co-design workshop/int ernal questionnaire s	MS Word [DOCX]	No
3	3.3	1 st package of combined curricula of the teaching exchange and secondment plans/dossiers	D3.3_1 st Packages of combined curricula of the teaching exchange and secondment plans/dossiers_Vo_mm ddyy		SO1	New	Characters (qualitative)	Reports	MS Word [DOCX]	No
J	3.4	2 nd package of combined curricula of the teaching exchange and secondment plans/dossiers	D3.4_2 nd Packages of combined curricula of the teaching exchange and secondment plans/dossiers_Vo_mm ddyy		SO1	New	Characters (qualitative)	Reports	MS Word [DOCX]	No
	3.5	Report on the integration of green transition research results into teaching activities	D3.5_Report on the integration of green transition research results into teaching activities_Vo_mmddyy		SO1	New	Characters (qualitative)	Reports	MS Word [DOCX]	No
	3.6	Supervisors' reports on theses co-supervised	D3.6_ Supervisors' reports on theses co- supervised_Vo_mmddy y		SO ₁	New	Characters (qualitative)	Reports	MS Word [DOCX]	No



3.7	Report on the 1 st stand- alone teaching events (curricula + research results)	D3.7_Report on 1 st stand-alone teaching events (curricula + research results) _Vo_mmddyy	SO1	New	Characters (qualitative)	Reports	MS Word [DOCX]	No
3.8	Report on the 2 nd stand- alone teaching events (curricula + research results)	D3.8_Report on 2 nd stand-alone teaching events (curricula + research results) _Vo_mmddyy	SO1	New	Characters (qualitative)	Reports	MS Word [DOCX]	No



[1] WP	[2] D	[3] Deliverable Title	[4] File name:	[5] Dataset description	[6] Relation to the strategic objective	[7] Origin of the data	[8] Type of data	[9] Collection method	[10] Format of data	[11] Personal data
	Asses	sing just green transition	impacts and costs in t	he WB						
	4.1	Report on WB green transition conceptualisation	D4.1_Report_gree n_transition_versi on_country_xxx	Interviews with stakeholders and statistical data	SO ₃	New	Alphanumeric strings Data from desk research, surveys, and interviews	Questionnaires and/or focus groups interviews or focus groups	MS Word [DOCX]	Yes, with informed consent
	4.2	The regional mapping report	D4.2_Title_Versio n_mmddyy				Alphanumeric strings Data from desk research, surveys, and interviews reviews	Questionnaires and/or focus groups	MS Word [DOCX] MS Excel [XLSX]	
4	4.3	Comparative report on green transition governance challenges	D4.3_Comparative _governance_chall enges_versionx_co untry_xxx	Desk research and review	SO ₃	reuse	Alphanumeric strings Data from desk research, surveys, and interviews	Questionnaires and/or focus groups	MS Word [DOCX] MS Excel [XLSX] SPSS [SAV]	
	4.4	Database of green transition practices and impacts in WB	D4.4_Title_Versio n_mmddyy				Alphanumeric strings Data from desk research, surveys, and interviews	Questionnaires and/or focus groups	MS Word [DOCX] MS Excel [XLSX] SPSS [SAV]	
	4.5	Research Study Report 1	D4.5_Title_Version _mmddyy				Alphanumeric strings Data from desk research, surveys, and interviews	Questionnaires and/or focus groups	MS Word [DOCX] MS Excel [XLSX] SPSS [SAV] Arc GIS	



		D4.6_Title_Versio		Alphanumeric strings	Questionnaires	MS Word	
		n_mmddyy		Data from desk	and/or focus	[DOCX]	
	Docoarch Ctudy			research, surveys, and	groups	MS Excel	
4.6	Research Study Reports 2			interviews		[XLSX]	
	Reports 2					SPSS	
						[SAV]	
						Arc GIS	
	A monitoring	D4.7_Title_Version		Alphanumeric strings	Questionnaires	MS Word	
, ,	A monitoring framework for WB	_mmddyy		Data from desk	and/or focus	[DOCX]	
4.7				research, surveys, and	groups	MS Excel	
	green transition			interviews		[XLSX]	



GreenFORCE – 101059411 Deliverable 1.5

[1] WP	[2] D	[3] Deliverable Title	[4] File name:	[5] Dataset description	[6] Relation to the strategic objective	[7] Origin of the data	[8] Type of data	[9] Collection method	[10] Format of data	[11] Personal data
	Asses	sing just green transition	impacts and costs	in the WB	· •					
	5.1	Dissemination, Communication and Exploitation (DCE) Strategy	D5.1_DCE Strategy_Vo3_ 102822	The dissemination, Communication and Exploitation (DCE) Strategy establishes the basis for developing a common dissemination, communication & exploitation plan in the project.	SO ₄	New	Characters	Document analysis, manual processing, partner text contributions	MS Word (DOCX) PDF	No
5	5.2	Project Website					Alphanumeric strings Data from desk research, surveys, and interviews	Questionnaires and/or focus groups		
	5.3	Sustainability Plan	D5.3 Sustainability Plan_ Vo_mmddyy		SO ₁	Reports	Alphanumeric strings Data from desk research, surveys, and interviews Qualitative	Questionnaires and/or focus groups Reports	MS Word [DOCX]	No
	5.4	1 st report on communication and dissemination								
	5.5	2 nd report on communication and dissemination								

Source: GreenFORCE Project Partners





1.6. Data utility outside the project

Question: To whom might your data be useful ('data utility') outside your project?

The data used and/or generated in the framework of the GreenFORCE Project is useful to a broad category of users, including policymakers, policy implementers and practitioners, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), social and green entrepreneurs, business sector and business associations, international donor and development organisations, and other actors.

Table 5. Data utility

_	F ₂ 1	·	r,1
[1] WP	[2] D	[3] Deliverable Title	[4] Data utility
VVI	_	ct management and coordination	Data othicy
	1.1	Report on project management bodies	Partners in the project, researchers and donors
	1.2	Report on RAB meetings - minutes and results (1st Report)	Partners in the project, researchers and donors
	1.3	Report on RAB meetings - minutes and results (2 nd Report)	Partners in the project, researchers and donors
1	1.4	Reports on IPR, critical risks and mitigation, and ethics	Partners in the project, researchers and donors
	1.5	Data Management Plan	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	1.6	Evaluation Scheme	Partners in the project and researchers and donors
	1.7	Evaluation report on results and impact pathways	Partners in the project, researchers and donors
		gthen the organisational and institutional ca ase the policy relevance of research outputs.	pacities of WB partners to carry out research and
	2.1	Shared Strategic Research Agenda	Partners in the project, researchers and donors
	2.2	Joint proposals submitted to funding organisations in the EU and WB	Partners in the project, researchers and donors
2	2.3	Proposal for a WB regional partnership on green transition for the 2025-2027 period	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	2.4	1 st group of policy briefs formulated for the steering of green transition in the WB — 2 briefs	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	2.5	1 st group of policy briefs formulated for the steering of green transition in the WB – 3 briefs	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	Enhar	nce research skills & mainstream 'WB green t	
3	3.1	Scientific research Publication Plan	Partners in the project, researchers and donors

5	Disser	mination, Communication, Exploitation and	Sustainability
	4.7	A monitoring framework for WB green transition	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	4.6	Research Study Reports 2	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	4.5	Research Study Report 1	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
4	4.4	Database of green transition practices and impacts in WB	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	4.3	Comparative report on green transition governance challenges	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	4.2	The regional mapping report	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	4.1	Report on WB green transition conceptualisation	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
	Asses	sing just green transition impacts and costs i	in the WB
	3.8	Report on the 2 nd stand-alone teaching events (curricula + research results)	Partners in the project, researchers and donors
	3.7	Report on the 1 st stand-alone teaching events (curricula + research results)	Partners in the project, researchers and donors
	3.6	Supervisors' reports on theses co- supervised	Partners in the project, researchers and donors
	3.5	Report on the integration of green transition research results into teaching activities	Academia, researchers, students, partners in the project, donors
	3.4	2 nd package of combined curricula of the teaching exchange and secondment plans/dossiers	Academia, researchers, students, partners in the project, donors
	3.3	1 st package of combined curricula of the teaching exchange and secondment plans/dossiers	Academia, researchers, students, partners in the project, donors
	3.2	Application package submitted for the edited book	Policymakers, researchers and regional stakeholders



5.1	Dissemination, Communication and Exploitation (DCE) Strategy	Partners in the project, researchers and donors
5.2	Project Website	Experts, researchers – academia and research institutions, public policy influencers (CSOs, NGOs, citizen groups), international donor and development organisations, and other actors
5.3	Sustainability Plan	Partners in the project, researchers and donors
5.4	1 st report on communication and dissemination	Partners in the project, researchers and donors
5.5	2 nd report on communication and dissemination	Partners in the project, researchers and donors

2. FAIR data

The GreenFORCE Project will embrace an open science and access practice, providing online access to scientific information produced for research (peer-reviewed or not) and research data (re-used/generated data) and data management.

2.1. Making data findable, including provisions for metadata

Question: Will data be identified by a persistent identifier?

The data produced in the framework of the GreenFORCE Project, deposited in institutional repositories, repositories of scientific publishers or other repositories, are at least identifiable through the persistent URI – Uniform Resource Locator. If these institutions are registered for DOI (through any Registration Agency), both URI and DOI will be assigned.

Research information (including scientific research and research data) will be identified by:

- DOI Digital Object Identifier (when applicable) for journal articles. If no DOI is assigned, depositing
 in an Open Access Repository (OAR) such as Zenodo benefit from Zenodo DOI support when needed;
- ISSN International Standard Serial Number for papers/data papers for journals;
- ISBN International Standard Book Number in case of books;

As per the author, all researchers are equipped with ORCID Numbers (31 researchers in PMB document D1.1).

The file naming convention for the deliverables prepared in the framework of the GreenFORCE Project is [Deliverable number] [Name of the deliverable] [Country acronym] [Version] [DDMMYYYY]. [extension]

Ex. D1.1_ Report on project management bodies_AL_V1_30032022.docx

Deliverable number as specified in Table 3.1c of Project Proposal List of

deliverables [ex. D1.1]

Name of the deliverable

Full Name of the deliverable as specified in Table 3.1c of Project Proposal

List of deliverables [ex. Report on project management bodies]

Use the acronym for country names in the case of country specific

deliverables:

AL Albania SRB Serbia

Country acronym SRB Serbia

NM North Macedonia

IT Italy SW Sweden

Vx The version number of the deliverable [ex. V.1]

ddmmyy Date the delivery [ex. 30032022]

<u>**Question:**</u> Will rich metadata be provided to allow discovery? What metadata will be created? What disciplinary or general standards will be followed? In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how.

The rich "data about the data" will be provided based on the Metadata Standard applied by Zenodo (compliant with DataCite's Metadata schema – mandatory and recommended terms) at the dataset level.

The datasets generated/collected will be made available by uploading them in the data repository and identifiable by a PID (ex. DOI) per each data set generated /collected and associated metadata.

Zenodo uses JSON Schema as the internal representation of metadata and offers export to other popular formats such as Dublin Core or MarcXML (and BibTeX, CSL, DataCite, DCAT, JSON, JSON-LD, GeoJSON, Mendeley) as summarised in Table 6. Offering a multiple choice in exporting the metadata increases the interoperability described in Section 2.3.



Table 6. Metadata information to be provided

Communities:		The drop-down list in the Zenodo upload section [select communities in which you wish your upload to appear]
Upload type	Upload type	Zenodo accepts a wide range of information: publications, posters, presentations, datasets, images, audio/video, software, lesson, physical object, workflow, and other
	Publication Type	select among the categories listed
	DOI	
	Publication date	year-month-day
	Title	text full name of the research information
	Author	full Name, affiliation and orcid
D 1 1 C 11	Description	text
Basic information	Version	number
	Language	text
	Keywords	text, text, text
		text, text, text
	Additional notes	[software needed to access and read the data]
		open access, embargoed access, restricted access,
Licensing	Access rights	closed access
	Licence	select from range
Funding	Specify grants which have funded your research	
Related identifiers	Related identifiers	Specify identifiers of related publications and datasets. Supported identifiers include DOI, Handle, ARK, PURL, ISSN, ISBN, PubMed ID, PubMed Central ID, ADS Bibliographic Code, arXiv, Life Science Identifiers (LSID), EAN-13, ISTC, URNs and URLs.
Contributors	Contributors	full Name, affiliation and orcid
References	References	add a full list of references
	Journal title	Text
Journal	Volume	Number
Journal	Issue	Number
	Pages	Number
	Conference title	Text
	Acronym	Text
Conference	Dates	Year-month-day
	Website	link
	Session	number
	Publisher	Text
	Place	Text
Books, parts of books,	ISBN	Number
reports	Book title	Text
	Pages	Text

The metadata for the records in Zenodo are immediately indexed and are searchable in the search engine of Zenodo immediately after publication.

The metadata file will be associated with the data it describes. It can be embedded in the data file or provided as a separate (text, spreadsheet) linked file to the data it describes.

<u>Question:</u> Will search keywords be provided in the metadata to optimise the possibility for discovery and re-use?



The metadata will include search keywords for any research information deposited in the repository (when applicable and suitable for the specific data type).

Question: Will metadata be offered in such a way that it can be harvested and indexed?

Metadata will follow the Zenodo Metadata Schema (compatible with DublinCore and DataCite metadata schema).

2.2. Making data accessible

2.2.1. Repository

Question: Will the data be deposited in a trusted repository?

The research information (anonymised) produced in the framework of the GreenFORCE Project will be deposited in a trusted repository. The selected repository is Zenodo (www.zenodo.org), open to researchers, research organisations and research groups, offering free-of-charge deposit research information (publications and research data and providing the possibility for a link between them). Zenodo is owned and provided by OpenAIRE - the Open Access Infrastructure for Research in Europe and funded by the European Commission. Founded in the CERN data centre, Zenodo is a trusted repository, compliant with open data requirements and offering participation in open science. Furthermore, it is possible to create a community (ex., GreenFORCE Project page) in Zenodo, which facilitates research information upload, linkage to the project and increases visibility. If this is the case, a curator must be assigned.

Some partners already have OpenAIRE-compliant repositories (such as UB-GEF – GERY https://gery.gef.bg.ac.rs; Politecnico di Torino - PORTO@IRIS). Nordregio has adopted an internal closed repository and an external mapping repository - https://nordregio.org/maps. Co-PLAN & CEA rely on internal repositories (in-house archives and google drive cloud ones, not public). Politecnico di Torino has implemented a geospatial content management system based on the GeoNode web-based application (https://sdg11lab.polito.it/).

UB-GEF GERY repository will be used as a secondary back – up source for GreenFORCE Project research data.

The GreenFORCE Project is committed to ensuring open access to scientific publications – Green and/or Gold open access. Scientific publications (peer or not peer-reviewed) will be made available online. The OA to research data and publications produced in the framework of the GreenFORCE Project follows the H2020 Guidelines to Open Access. The two alternatives are:

- Green OA or self-archiving. In this case, the final peer-reviewed documents are deposited in Zenodo (ensuring open access within 6 months maximum). In addition, publishers may allow the deposit of a copy in an open-access repository (including an embargo period for Horizon 2020 of less than 6 months).
- Gold OA or open-access publishing. Research documents are published in open-access journals immediately (via payment of author processing charges APC).

<u>Question:</u> Have you explored appropriate arrangements with the identified repository where your data will be deposited?

Zenodo is always available, and no particular arrangements must take place. Furthermore, the secondary repository, UB GEF – GERY, has agreed to allow the upload of the research data produced in the framework of the GreenFORCE Project.

<u>**Question:**</u> Does the repository ensure that the data is assigned an identifier? Will the repository resolve the identifier to a digital object?

Zenodo assigns DOI (when the resource does not have a DOI) for every published record in the repository.



2.2.2. Data

<u>Question:</u> Will all data be made openly available? If specific datasets cannot be shared (or need to be shared under restricted access conditions), explain why, clearly separating legal and contractual reasons from intentional restrictions. Note that in multi-beneficiary projects it is also possible for specific beneficiaries to keep their data closed if opening their data goes against their legitimate interests or other constraints as per the Grant Agreement.

The general approach of the GreenFORCE project is to make all data openly available. Nevertheless, a clear explanation or rationale has to be provided in case data cannot be openly available (like sensitive or partially restricted data). Also, transparent accessing and use conditions will be made available.

Table 7. Data accessibility

[1]	[2]	[3]	[4]	[5]		
WP	D	Deliverable Title	Accessibility	Reasons for restriction:		
			(a) open	a) Legal and contractual		
			(b) authorisation	b) intentional		
			& authentication	3,		
	Project	management and coordination	a dotnericiation			
	Project management and coordination					
	1.1	Report on project management bodies	Authorisation & authentication	Legal and contractual		
				(Dissemination level –		
				sensitive)		
	1.2	Report on RAB meetings - minutes	Open			
		and results (1st Report)				
	1.3	Report on RAB meetings - minutes	Open			
1		and results (2 nd Report)	Орен			
	1.4	Reports on IPR, critical risks and	Authorisation & authentication	Legal and contractual		
_				(Dissemination level –		
		mitigation, and ethics	authentication	sensitive)		
	4.5	Data Management Blan	Onen			
	1.5	Data Management Plan	Open			
			Authorisation &	Legal and contractual		
	1.6	Evaluation Scheme	authentication	(Dissemination level –		
			authentication	sensitive)		
		Evaluation report on results and				
	1.7	impact pathways	Open			
	Strengthen the organisational and institutional capacities of WB partners to carry out research and					
	increase the policy relevance of research outputs.					
	2.1	Shared Strategic Research Agenda	Open			
				Legal and contractual		
	2.2	Joint proposals submitted to funding	Authorisation &	(Dissemination level –		
2		organisations in the EU and WB	authentication	sensitive)		
		Proposal for a WB regional partnership		Jensitive)		
	2.3	on green transition for the 2025-2027	Open			
		period	Open			
		, ,				
	2.4	1 st group of policy briefs formulated				
		for the steering of green transition in	Open			
		the WB – 2 briefs				
		1st group of policy briefs formulated				
	2.5	for the steering of green transition in	Open			
		the WB – 3 briefs				
	Enhance research skills & mainstream 'WB green transition' into teaching					
3	3.1	Scientific research Publication Plan	Authorisation & authentication	Legal and contractual		
				(Dissemination level –		
				sensitive)		
		Application package submitted for the	Authorisation &	Landand and the		
	3.2	edited book	authentication	Legal and contractual		

				(Dissemination level – sensitive)		
	3.3	1 st package of combined curricula of the teaching exchange and secondment plans/dossiers	Open			
	3.4	2 nd package of combined curricula of the teaching exchange and secondment plans/dossiers	Open			
	3.5	Report on the integration of green transition research results into teaching activities	Open			
	3.6	Supervisors' reports on theses co- supervised	Authorisation & authentication	Legal and contractual (Dissemination level – sensitive)		
	3.7	Report on the 1 st stand-alone teaching events (curricula + research results)	Open			
	3.8	Report on the 2 nd stand-alone teaching events (curricula + research results)	Open			
	Assessing just green transition impacts and costs in the WB					
	4.1	Report on WB green transition conceptualisation	Open			
	4.2	The regional mapping report	Open			
4	4.3	Comparative report on green transition governance challenges	Open			
	4.4	Database of green transition practices and impacts in WB	Open			
	4.5	Research Study Report 1	Open			
	4.6	Research Study Reports 2	Open			
	4.7	A monitoring framework for WB green transition	Open			
	Dissemination, Communication, Exploitation and Sustainability					
5	5.1	Dissemination, Communication and Exploitation (DCE) Strategy	Open			
	5.2	Project Website	Open			
	5.3	Sustainability Plan	Open			
	5.4	1 st report on communication and dissemination	Open			
	5.4	2 nd report on communication and dissemination	Open			

<u>Question:</u> If an embargo is applied to give time to publish or seek protection of the intellectual property (e.g. patents), specify why and how long this will apply, bearing in mind that research data should be made available as soon as possible.

The data will be available as soon as the publishable version is available. Nevertheless, this aspect is to be assessed based on datasets that are to be produced during project implementation.

Question: Will the data be accessible through a free and standardised access protocol?

All GreenFORCE Project data used and/or generated will be accessed based on an open (accessed without barriers), free (no costs added), standardized communication protocols (TCP/IP, HTTP) for individuals and machines. Using standardised communication protocols contributes to better accessibility of the data (with authorisation and authentication procedures when necessary).



<u>**Ouestion:**</u> If there are restrictions on use, how will access be provided to the data, both during and after the end of the project?

For restricted access data, a well-documented authorisation procedure has to be established to access the data (define who grants access to the data PBM/ Author? – it can be a button which automatically sends an e-mail requesting authorization). Upon authorisation, the second step is authentication, which allows secure access (ex., registration through username & password). The procedure will be valid during and after the end of the project.

Question: How will the identity of the person accessing the data be ascertained?

For the data that are openly accessible, no identity verification procedure is applied.

For the data that are not openly accessible, a two-factor authentication method will be used (2FA).

In the first stage, the user is invited to request authorisation to access the openly available data. Upon granting the authorisation, the user's authentication process includes providing personal data (Name & surname, e-mail, and affiliation) and user name and password creation. Then, the e-mail verification method is employed in the second authentication step. After that, the user will receive a login link via e-mail, which has to be followed after accessing the e-mail address provided in the previous stage.

<u>Question:</u> Is there a need for a data access committee (e.g., to evaluate/approve access requests to personal/sensitive data)?

This aspect needs to be discussed based on the data re-used/generated during project implementation.]

2.2.3. Metadata

<u>Question:</u> Will metadata be made openly available and licenced under a public domain dedication CCo, as per the Grant Agreement? If not, please clarify why. Will metadata contain information to enable the user to access the data?

The metadata produced in the GreenFORCE Project will be licenced under Creative Commons licences (CCo). In our approach, the selected licence should ensure the widest re-use possible except in particular cases when NC or ND is required.

<u>Question:</u> How long will the data remain available and findable? Will metadata be guaranteed to remain available after data is no longer available?

Data and metadata availability is ensured through the GreenFORCE Project website (remain reusable for as long as project resources and infrastructure allow) in the open repository of Zenodo and GERY indefinitely.

Nevertheless, the availability of data and metadata has to be assessed further with project progression.

<u>Question:</u> Will documentation or reference about any software be needed to access or read the data be included? Will it be possible to include the relevant software (e.g., in open-source code)?

The metadata will include the reference to the software needed to access and read the data.

2.3. Making data interoperable

<u>Question:</u> What data and metadata vocabularies, standards, formats or methodologies will you follow to make your data interoperable to allow data exchange and re-use within and across disciplines? Will you follow community-endorsed interoperability best practices? Which ones?

The repository chosen for the project (Zenodo) is not domain-specific. Nevertheless, guaranteeing compliance with the DATACITEs metadata schema, metadata meets one of the broadest cross-domain standards. Therefore, the metadada used for research information in the framework of the GreenFORCE Project uses the Zenodo format, an accessible, interoperable and widely applicable language for all records. Furthermore, the



JSON Schema for the metadata representation allows for export into other prevalent formats, such as Dublin Core and MARCXML.

The use of community-endorsed interoperability best practices has to be assessed in the latter stage of the project (when more information on the dataset produced will be available).

<u>Question:</u> In case it is unavoidable that you use uncommon or generate project-specific ontologies or vocabularies, will you provide mappings to more commonly used ontologies? Will you openly publish the generated ontologies or vocabularies to allow re-using, refining or extending?

If project-specific ontologies are used, mapping to more commonly used ones will be provided. In this case, vocabulary will be made openly available. To be assessed at a later stage of the project.

<u>Question:</u> Will your data include qualified references to other data (e.g., other data from your project, or datasets from previous research)?

To be assessed at a later stage of the project.

2.4. Increase data re-use

<u>Question:</u> How will you provide documentation needed to validate data analysis and facilitate data re-use (e.g. readme files with information on methodology, codebooks, data cleaning, analyses, variable definitions, units of measurement, etc.)?

The metadata are richly described, containing, at minimum, the mandatory terms of DataCite (but strongly recommended to include other recommended terms) and Zenodo enrichments.

<u>Question:</u> Will your data be made freely available in the public domain to permit the widest re-use possible? Will your data be licensed using standard re-use licenses, in line with the obligations set out in the Grant Agreement?

The data (and metadata) will be released in the public domain under CCo licenses. In addition, a CC-BY licence shall be used, allowing other researchers to re-use legally the data generated in the GeenFORCE Project via proper citing of the creation of the data.

The metadata will be released in the public domain

As need be, we may only have to use the NC and ND levels for specific sensitive data. This will be specified in the metadata of the specific data once the research designs are finalised. We expect these indications to be final in the updated version of DMP in Month 18.

Zenodo does not impose any requirements on the typology of licences. However, data users will be subject to a licence (to be specified in the metadata by the uploader) for data download.

<u>Question:</u> Will the data produced in the project be useable by third parties, in particular after the end of the project?

The data produced in the GreenFORCE Project will be usable under the selected license (CCo, CC-BY, CC BY-NC, CC BY-ND) and uploaded in the open repository Zenodo (ensuring their availability after the project).

Question: Will the provenance of the data be thoroughly documented using the appropriate standards?

The data produced in the GreenFORCE Project will be thoroughly documented in the metadata (a text string).

Question: Describe all relevant data quality assurance processes.

Data quality in the GreenFORCE Project will be ensured throughout the lifecycle of the data, including (where applicable):

- Accuracy;
- Relevance, data meeting the requirements for its intended use;
- Completeness, no missing values or records;



- Timeless, updated data;
- Consistency, data format, and cross-referenceable.

The data quality assurance includes three moments:

- Before data collection takes place in this stage, the researcher must ensure the data collection process is correct, well understood and appropriate collection methods adopted.
- During the data collection process, the researcher must make sure that the process goes smoothly, have a shared understanding and make sure no fake information is provided.
- After data collection in this stage, data cleaning (removing null values, special characters, replacing abbreviation with full words or using the same word, formatting) and storage (the original data).



3. Other research outputs

<u>Question:</u> In addition to the management of data, beneficiaries should also consider and plan for the management of other research outputs that may be generated or re-used throughout their projects. Such outputs can be either digital (e.g., software, workflows, protocols, models, etc.) or physical (e.g., new materials, antibodies, reagents, samples, etc.).

To be completed throughout the project implementation.

<u>Question:</u> Beneficiaries should consider which of the questions pertaining to FAIR data above, can apply to the management of other research outputs, and should strive to provide sufficient detail on how their research outputs will be managed and shared, or made available for re-use, in line with the FAIR principles.

To be completed throughout the project implementation.



4. Allocation of resources

<u>Question:</u> What will the costs be for making data or other research outputs FAIR in your project (e.g. direct and indirect costs related to storage, archiving, re-use, security, etc.)?

To be estimated and included in the revised version of the DMP in the 18th month of GreenFORCE Project implementation.

<u>Question:</u> How will these be covered? Note that costs related to research data/output management are eligible as part of the Horizon Europe grant (if compliant with the Grant Agreement conditions).

The GreenFORCE Project Coordinator, Co-PLAN – Institute for Habitat Development, is responsible for the Deliverable 1.5 Data Management Plan. Nevertheless, all project partners share the responsibility for FAIR data management. The Grant Agreement (Annex 5, page 166) states that "only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement."

Long-term preservation, storage, archiving and other costs beyond the project are estimated and addressed by the consortium (to be included in the revised version of the DMP in the 18th month of project implementation).

Question: Who will be responsible for data management in your project?

Co-PLAN leads the DMP for the GreenFORCE Project. However, Working Package leaders are responsible for data management of data produced in their WP, ensuring alignment to DMP provisions.

Co-PLAN Merita Toska
POLIS University Elona Karafili

POLITO Andrea Ajmar, Giancarlo Cotella, Erblin Berisha

Nordregio Carlos Tapia
UB-GEF Bojana Trebinjac
CEA Vesna Garvanlieva

<u>Question:</u> How will long-term preservation be ensured? Discuss the necessary resources to accomplish this (costs and potential value, who decides and how, what data will be kept and for how long)?

Long-term preservation of the data will be ensured through the following:

- in the open-source repository Zenodo indefinitely (no costs added, all research data under open-access);
- in the open-source repository GERY (UB-GEF) indefinitely (no costs added, all research data under open-access);
- in all partner's archives for at least 10 years after project completion (all research and non-research data and documents produced in the framework of the GreenFORCE Project, costs beard by the partner organisations);
- in Co-PLAN, Institute for Habitat Development archive indefinitely (all research and non-research data and documents produced in the framework of the GreenFORCE Project, costs beard by the organisation);
- in the project website for the duration of the project (all research and non-research data and documents produced in the framework of the GreenFORCE Project based on level of sensitivity/publicness).



5. Data security

<u>Question:</u> What provisions are or will be in place for data security (including data recovery as well as secure storage/archiving and transfer of sensitive data)?

Data protection is an essential topic for the GreenFORCE Project Consortium. All partners are individually responsible for data security.

Encryption and backup are recommended to keep data consistent over the project's lifetime and beyond. If the file gets lost and/or corrupted, it will be replaced with the correct one.

For any dataset produced, the responsible partner will provide for the measures to be adopted to ensure data security, privacy and ethical considerations.

Data, metadata and documents will be shared **among GreenFORCE Project Partners** through Trello (uploaded in Trello) and Google Drive/One (to be decided which platform will be used). For sensitive data, a confidentiality agreement is to be made.

Data, metadata and documents will be shared **with the donor** through the Single Electronic Data Interchange Area (SEDIA) system of the project platform online.

Data, metadata and document sharing between **GreenFORCE Project Partners & third parties** will be done through non-disclosure agreements (NDA) & material transfer agreements (MTA) in the case of confidentiality issues during exchanging.

Question: Will the data be safely stored in trusted repositories for long-term preservation and curation?

All data (without restrictions, confidentiality and/or sensitive ones) will be stored safely in the open science data repository (Zenodo) and published in open-access journals.

Zenodo is a repository storing research data safely for the future in CERN's Data Centre. All files uploaded to Zenodo are stored in CERN's EOS service in an 18 petabytes disk cluster. Each file copy has two replicas located on different disk servers.

Nevertheless, some recommendations to mitigate risks of data losses are:

- Long-term preservation is ensured through Zenodo (cloud-based storage), excluding those data which
 are classified as sensitive and/or confidential;
- Back up data in the secondary/alternative open repository (UB-GEF GERY);
- Enabling firewalls in computers/laptops and regularly updating antivirus/malware software;
- Back up data in respective institution database (or space) and external hard disks.



6. Ethics

<u>Question:</u> Are there, or could there be, any ethics or legal issues that can have an impact on data sharing? These can also be discussed in the context of the ethics review. If relevant, include references to ethics deliverables and the ethics chapter in the Description of the Action (DoA).

Ethics (together with data protection) in research is a major topic for the GreenFORCE Project Consortium. The processes of data re-use, generation, sharing/transferring and storage must guarantee the highest data protection standards and research integrity. In particular, handling sensitive data and avoiding research information misuse are important topics for the GreenFORCE Project.

The GreenFORCE Project partners must comply with ethical principles and values set in Art. 14 "Ethics and Values" of the Grant Agreement (page 31) and in Annex 5 (page 156):

- Ethical principles: "The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles."
- Values: "The beneficiaries must commit to and ensure the respect of basic EU values (such as respect for human dignity, freedom, democracy, equality, the rule of law and human rights, including the rights of minorities)."

The research projects (and research information produced, including data and policy papers, research papers, and books) will be carried out in respect of the principle of research integrity², including (Grant Agreement, Annex 5, pages 158-159):

- "Reliability in ensuring the quality of research reflected in the design, the methodology, the analysis and the use of resources;
- honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair and unbiased way;
- respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment accountability for the research from idea to publication, for its management and;
- the organisation, for training, supervision and mentoring, and for its wider impacts and means that beneficiaries must ensure that persons carrying out research tasks follow the good research practices, including ensuring, where possible, openness, reproducibility and traceability and refrain from the research integrity violations described in the Code."

The GreenFORCE Project has adopted the Ethics Guidelines, and the DMP in all its versions is aligned with its provisions. The Ethics Guidelines include ethical and privacy protection provisions in subsection 4.3.1 Data Collection and Privacy Protection.

However, no legal issues are foreseen. If during the research activity carried out during the project duration (and beyond) ethical issues arise, the Grant Agreement provisions and the Ethical Guidelines of the GreenFORCE Project provisions will be respected. In addition, with research information gaining more structure and substance, any ethical and legal issues will be addressed in the revised Version 2 of DMP in the 18th month of the project.

<u>**Question:**</u> Will informed consent for data sharing and long-term preservation be included in questionnaires dealing with personal data?

The GreenFORCE Project will request informed consent for collecting, sharing and re-using the data gathered throughout the planned research activity of all partners involved.

Personal data processing by GreenFORCE Project in the research activity will be conducted in respect of Article 15, "Data Protection" of the Grant Agreement and specifically ensuring (as listed in point 15.2):

² European Code of Conduct for Research Integrity of ALLEA (All European Academies)



- Processed lawfully, fairly and in a transparent manner in relation to the data subjects
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes;
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
- accurate and, where necessary, kept up to date;
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures the appropriate security of the data.

The informed consent is described in Section 4.3.2 of the GreenFORCE Ethics Guidelines, including participants' right to be informed and consent for participation in research projects (like in surveys, interviews etc.). The consent is suggested to be "...voluntary, informed and clear, and it is preferably documented."

In the case of *questionnaire-based surveys*, the researchers must include a paragraph informing the respondent on the scope of the survey, the privacy policy regarding personal data treatment and confidentiality, the use of the data and transfer to third parties' policy (Questionnaire with the note). The questionnaire, including the note, must be attached to the research information produced and stored as a project document.

In the case of (*semi-structured*) *interviews*, the researchers are advised to submit and have back a signed authorisation from interviewees for the use of the information, re-use, sharing and transferring (Informed Consent). Furthermore, in the research information produced, there must be a note (or in the methodological approach) affirming that the interviewee signed informed consent. Also, signed informed consent letters will be stored as a project document.

In the case of *not publicly available data and/or sensitive information obtained through requests to any institution/individual*, authorisation for use and disclosure has to be signed and provided by the interested institution/individual (Authorisation for Use and Disclosure). Furthermore, the authorisation for the use and disclosure of the information has to be attached to the research information produced and stored as a project document.

In the case of materials subject to licences/property rights, necessary permissions have to be provided, and the following information has to be inserted: " $[O-[year]-[name\ of\ the\ copyright\ owner]$. All rights reserved. Licensed to the [name of granting authority] under conditions" as suggested in the Grant Agreement, Point 16.3 (Licence of Permit for the use). In addition, the permission to use materials subject to licences/property rights has to be attached to the research information produced and stored as a project document.

In the case of non-research data, the project will process participants' data (Name and institutional affiliation) in activities such as events, workshops, and co-design / co-creation activities, as standard social science and humanities research methods. Each person participating in events where personal data (Name, institutional affiliation, contact) is requested will consent by willingly providing this information and signing the forms. Provision of this information is, however, non-obligatory. The data will only be used for the organization of activities (where human participants have to be reinvited) or for technical reporting purposes; however, the information will be summarized and anonymized to the largest extent possible.



7. Other issues

<u>Question:</u> Do you, or will you, make use of other national/funder/sectorial/departmental procedures for data management? If yes, which ones (please list and briefly describe them)?

Task	Who?	When?
Collection of all ORCID numbers of researchers in the GreenFORCE Project	Merita Toska	January 2023
Creation of account and/or community "GreenFORCE" in Zenodo	Merita Toska	January 2023
Creation of account and/or community "GreenFORCE" in GERY	Merita Toska Bojana Trebinjac	January 2023
Creation of account and/or community "GreenFORCE" in Research Gate	Merita Toska	January 2023

References

European Commission (2017)., Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020. European Commission - Directorate General for Research & Innovation. http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

Template for Data Management Plan

https://view.officeapps.live.com/op/view.aspx?src=https://www.tuwien.at/fileadmin/Assets/forschung/Zentrum_Forschungsdatenmanagement/data-management-plantemplate_HE_2021.docx&wdOrigin=BROWSELINK

DataCite Metadata Working Group. (2021). DataCite Metadata Schema Documentation for the Publication and Citation of Research Data and Other Research Outputs. Version 4.4. DataCite

Other information sources:

https://doi.org/10.14454/3w3z-sa82

https://www.tuwien.at/en/research/rti-support/research-data/rdm-infos-tips/dmp/dmp-horizon-europe

https://www.cms.hu-berlin.de/en/dl-en/dataman-en/work/secure/fileformat

https://www.cms.hu-berlin.de/en/dl-en/dataman-en/work/create-dmp

https://zenodo.org

https://git-scm.com

http://www.doi.org

https://www.rd-alliance.org/metadata-standards-directory

https://b2share.eudat.eu/

https://openknowledge.worldbank.org/handle/10986/38189?show=full

https://ardc.edu.au/resource/fair-data-self-assessment-tool/

