Towards a new zero food waste mindset based on holistic assessment

[D7.6] First update of the Data Management Plan

Deliverable N°	D7.6	Work Package N°	7	Task/s N°	7.2
Work Package Title	Impact maximisation				
Linked Task/s Title	Data management plan elaboration and update				
Status	Final			(Draft/Draft Final/Final)	
Dissemination level	PU- Public			(PU-Public, PP, RE-Restricted, CO-Confidential)	
Due date	M18 (FEB)		Submission date	28/02/2024	
Deliverable version	2.0				

INDEX

TABLES LIST

1. Introduction and scope

ToNoWaste is a project funded by the European Union under the programme Horizon Europe in the topic HORIZON-CL6-2021-FARM2FORK-01-13.

The project starts 01/09/2022 with a project duration of 48 months.

The mission of ToNoWaste is to encourage actors in European food systems, using evidence-based tools and lessons learned, to make better decisions towards more sustainable food production and consumption patterns.

ToNoWaste main objective is to provide farmers, supply chain companies as well as consumers and policymakers with more objective, integrated, and standardized information about the impacts and global co-benefits of their daily actions in terms of food waste. ToNoWaste will inspire them to co-create a portfolio of positively assessed pathways to shift Europe towards a healthier, more resilient, inclusive, and sustainable food production and consumption.

1.1 Specific objectives of the project

(O1) To Design an open innovation ecosystem that engages European researchers, municipalities, farmers, supply chains and citizens to share open access scientific knowledge about FWPR (Food Waste Prevention and Reduction) and its assessment. (WP1)

ToNoWaste seeks to create synergies with other ongoing actions related to FWPR at EU level keeping in touch with four H2020 sister projects to reuse data and collaborate in the actions assessment for avoiding duplication.

(O2) To unveil what better decision means in the fresh food value chain (FFVC), supporting the FWPR actions with the best impacts for the food system sustainability. (WP1)

ToNoWaste has selected FFVC because Milan urban food policy pact prioritized to make fresh food accessible for all due to its potential to solve dietary-related illnesses (e.g., diabetes, heart disease and cancer). Therefore, O2 will investigate how to make FWPR compatible with FFVC sustainable development with a cost-benefit approach (RO1).

(O3) To co-create a new science-based framework (SBF) for evidence-based decision making in food systems. (WP2)

O3 will look for synergies with H2020 sister projects, city councils and JRC to define logical steps for environmental/social/economic holistic impact FWPR assessment (RO2).

(O4) To transform the SBF into Quantitative Decision-Making Methods (QDMM) that supports researchers and professionals in decisions related to FWPR in the FFVC. (WP2)

O4 requires the SBF decomposition into specific workflows for the fresh products under study, considering its origin and business processes involved to establish the limits of acceptance/significance for each decision maker (R03).

(O5) To engage more and more FSC actors in the mindset and behavioural shift offering open access to: i) consumer perception of the FWPR problem in fresh food value chain (FFVC) and potential solutions; ii) learning contents, technical guidelines to implement the best practices available - including date marking and smart food packaging, as well as iii) apps that automate the participation and monitoring process for facilitating decision making for supply chain actors (WP4 and WP5).

The behavioural change will be prompt by results of social research (RO4) focused on understanding the consumers' and producers' perception of the problem and the solutions proposed by decision-makers. ToNoWaste will facilitate the co-creation of FWPR guidelines to identify hotspots of problems, plan actions, assess corrective solutions and document improvements. During Multi-actor workshops and other networking events, we will validate the tools (PR, DEM) by discussing the practical learnings (KH1) and quantitative data from actions assessment (KH2).

(O6) To take advantage of synergies among R&I projects and local/national FWPR actions to co-create specific accounting tools and an integrated platform for assessing the root causes behind FW along the value chain as well as fostering the most beneficial FWPR actions. (WP2 and WP3)

O6 will require the creation of accounting tools for professionals and its integration into an open platform for non-expert users (DEM) to facilitate the decision-making process to all the actors involved in the value chain. DEM will maximize the impact at EU level using open-source technologies as FIWARE. The previous/current FWPR actions in sister H2020 projects will be compared to detect the best practices that maximise the overall positive impacts.

(O7) To foster the organisational change with new coaching services and best practices in FSC. (WP6)

O7 is based on the creation of learning contents, training actions and a business coaching service oriented to support entrepreneurs. ToNoWaste will take advantage from current innovation HUBs related to urban FFVC where food companies (mainly SMEs) can co-create more sustainable business models.

(O8) To co-create new EU policies considering the diversity on regulatory ecology about FWPR. (WP6)

O8 will consider the new accounting and reporting methodology developed for ensuring a deeper integration of sustainability into the corporate governance and regulation of public supporting schemes for innovative businesses (KH4). The project will investigate how to transform the best FWPR actions in terms of KPIs into new standards and labels for fostering the organisational change. The project will use the Covenant of Majors and Milan Urban Food POLICY Pact for the open discussion of the white paper where other agencies like DG AGRI and JRC will be invited.

1.2   Scope of the deliverable

Data management monitoring during the first reporting period to update our inventory status and check if we are following the stablished internal rules in D7.3.

2. Data summary

Below is the status at M18 of the data inventory generated in each work package and the explanation about how is being managed:

2.1 WP1 Data – Collaborative investigation of the new decision-making framework

Objectives:

(O1) To design an open innovation ecosystem that engages European researchers, municipalities, FFVC and citizens into the creation of open access scientific knowledge about FWPR.

(O2) To jointly unveil what "best" decision means for supporting the best FWPR actions in the fresh food value chain (FFVC) considering impacts on the sustainability of the food system. Workshops are scheduled in 2.2.1.

Leads: UJI; Participants: All the partners + JRC.

Types and formats of data:

- • File on literature review in sustainability assessment of food waste and other related contents.
- • File with Systematic mapping of EU projects. Step-by-step
- • Files with the procedures about the organization and results of the technical workshops.
- • Databases of FLWPR actions in the city pilots.

All these data will be considered PUBLIC but with a 12-month embargo period for scientific publications.

Purpose of the data generated/collected:

- • To identify what does it mean to take best decisions regarding FLWPR solutions.
- • To identify STEEPLED factors that influence in the decision-making process.
- • To define the assessment framework, including accounting methodologies.

Origin of the data:

- • UJI will carry out the literature review using Cordis, Scopus, WoS and Google Scholar databases.
- • UJI and OEAW will carry out technical workshops with different stakeholders and food system experts.
- • Delphi process and STEEPLED led by OEAW.
- • Internal technical committees.
- • Previous EU research and innovation projects.

The data will be internally shared among partners participating in ToNoWaste using the specific SharePoint for those involved in WP1.

Who will reuse data and how?

- • The data will be subject to scientific analysis by two UJI PhD students.

- Data will be shared with partners involved in the rest of WPs to support their tasks.
- Data will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the SharePoint.

To whom might it be useful ('data utility')?

- Generated data will be useful to worldwide scientific community and private companies searching for FLWPR actions assessment and sustainability.
- Metadata will be shared using our open repository after the embargo period.

2.2 WP2 Data – Development of the new impact measurement system and ICT tools

Objectives:

(O3) To co-create a new science-based framework for evidence-based decision making in food systems.

(O4) To transform SBF into QDMM that facilitates FWPR decision making in FFVC (WP2)

To develop the tools prototype (PR1) that automates the research output 3 (RO3)

Leads: UJI; Participants: UD, WU, STRA, OEAW, UiO, ZWA, ZEN+ JRC.

Types and formats of data:

- File on literature review in sustainability indicators for the assessment of food waste and other related contents.
- Tables and Figures on social, environmental and economic evaluation in FLWPR actions.
- Excel files with social, economic, environmental indicators for the evaluation in FLWPR actions.
- Excel files with metadata on indicators included in social, economic and environmental databases.

All these data will be considered PUBLIC but with a 12-month embargo period for scientific publications.

Purpose of the data generated/collected:

- To operationalize the sustainability assessment framework.

Origin of the data:

- UJI will carry out the literature review using Cordis, Scopus, WoS and Google Scholar databases.
- Internal technical committees.
- Previous EU research and innovation projects.
- Economic, Social and environmental databases like, SHBD or Ecoinvent.

The data will be internally shared among partners participating in ToNoWaste using the specific SharePoint for those involved in WP2.

Who will reuse data and how?

- The data will be subject to scientific analysis by two UJI PhD students.

- Data will be shared with partners involved in the rest of WPs to support their different tasks.
- Data will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the Sharepoint.

To whom might it be useful ('data utility')?

- Generated data will be useful to worldwide scientific community and private companies searching for sustainability assessment of FLWPR actions.
- Metadata will be shared using Our Open repository after the embargo period.

2.3 WP3 Data – Technical development of decision support open access platform

Objectives:

(O6) To take advantage of synergies between R&I projects and local/national food waste preventive actions to co-create an integrated platform where users can evaluate their actions using the methodology for jointly fostering the actions that caused the most beneficial impacts and better integrate the value chain.

Leads: UD; Participants: ZEN, AKAR, UJI, EROS, HEA, HAL+ JRC.

Types and formats of data:

- Design information in text documents and Excel files
- Excel files with data about prevention strategies and their impact
- Databases generated from IoT, IoH systems and surveys
- LCA inventories

All these data will be considered PUBLIC but with a 12-month embargo period for scientific publications.

Purpose of the data generated/collected:

- To identify behaviours
- To classify prevention strategies
- To calculate KPIs
- To simulate sceneries

Origin of the data:

- Data provided by pilots
- Other public data shared from FOODRUS project

Initially the data will be internally shared among partners participating in ToNoWaste using the specific SharePoint for those involved in WP4. Then this data will be integrated in the

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7

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platform and accessible for the partners. Public data will be shared by the TONOWASTE platform.

Who will reuse data and how?

• The data will be subject to scientific public and experts.

• Data will be shared with partners involved in WP3, WP4 and WP5 to assess behaviour patterns and in WP5 for the validation of the platform.

• Data will be shared with FOODRUS project partners

• Data will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the Sharepoint.

• Open data will be shared with non-experts in the TONOWASTE Open Access Platform

To whom might it be useful ('data utility')?

• Generated data will be useful to worldwide scientific community and private companies searching for food waste related data

• Metadata will be shared using Our Open repository after the embargo period as well as through the TONOWASTE Open Access Platform.

2.4 WP4 Data – Social research to foster changes in consumer behaviour and business practices,

Objectives:

(O5) To engage more and more market actors from the entire value chain in the mindset and behavioural shift thanks to the open access.to consumer perception of the FWPR problem in FFVC and potential solutions.

Gender dimension will be considered by designing: i) the recruitment protocols and surveys using gender sensitive indicators, ii) the expert panels and iii) citizen groups participating in the study to facilitate the gender dimension analysis regarding the project decision-making processes and the proposal of solutions. Furthermore, specific methodologies for disaggregated data analysis and evaluation of designs with separate groups will pay attention to the differences in user experience and behaviour.

Leads: WU; Participants: AKAR, ZAB, EROS, MERC, LNV, UJI, CACV, CUIN; STRA, CARI, BIO, ZWA, OEAW, UD + JRC.

Types and formats of data:

• Online questionnaires, transcripts, or surveys (.odt, .pdf)

• Possible digital audio will be transcribed into text responses and stored as such (.pdf or .odt)

• Textual/numeric raw (anonymised), intermediate, and final data from surveys (.csv, .txt)

• Scripts from the analysis (.R)

• Regarding the survey data base, a readme.txt file will be created explaining the content of the data files. Folders will include the following content:

Metadata

- When multiple processing steps are distinguished subfolders with syntax and intermediate data per step (raw, intermediate, and final) will be created.
- Publications: All these data will be considered PUBLIC but with a 12-month embargo period for scientific publications.

Purpose of the data generated/collected:

- To identify variations of capabilities, opportunities, motivations around food waste reduction strategies and behaviours of a range of actors along the supply chain, as a result of specific actions.

Origin of the data:

- For data collected from end-consumers: Akaryon will, via the app, collect the data and send it to WUR already anonymised (with identifiers).
- For data collected from stakeholders along the supply chain, the origin will be via online surveys or individual interviews.

Who will reuse data and how?

- The data will be subject to scientific analysis by the PhD student at WU.
- Data will be shared with partners involved in the rest of WPs to support their different tasks.
- Data will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the SharePoint.

To whom might it be useful ('data utility')?

- Generated data will be useful to worldwide scientific community and private companies interested in knowing the impact of FLWPR actions.
- Metadata will be shared using Our Open repository after the embargo period.

2.5 WP5 Data – Validation of results, search for synergies in relevant environment

Objectives:

(O5) To engage more and more FSC actors in the mindset and behavioural shift with open access to demonstrative actions in pilots about: i) consumer perception of the FW problem in FFVC and potential solutions; ii) how to apply learning contents, such as technical guidelines to implement new solutions -including data marking and smart food packaging, and iii) the use of apps that automate the participation and monitoring process for facilitating their decision making about FWPR (WP4 and WP5).

Leads: OEAW; Participants: All, European platforms.

Types and formats of data:

- Tables on criteria for pilots' selection
- Excel files with data on ecological assessment of fresh food waste in pilots
- Databases on food waste prevention and reduction in pilots

All these data will be considered PUBLIC after reviews but with a 12-month embargo period for scientific publications.

Purpose of the data generated/collected:

- To identify potentials to prevent and reduce food waste in pilots.

Origin of the data:

- Task team will carry out the pilot projects

The data will be internally shared among partners participating in ToNoWaste using the specific SharePoint for those involved in WP5.

Who will reuse data and how?

- The data will be subject to scientific analysis by the PhD students at OEAW.

- Data will be shared with partners involved in WP5, WP2, WP6 and WP3

- Data will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the SharePoint.

To whom might it be useful ('data utility')?

- Generated data will be useful to worldwide scientific community and private companies searching for Food Waste prevention and reduction.

- Metadata will be shared using Our Open repository after the embargo period.

2.6 WP6 Data – Cocreation of new policies and guidelines for fostering the change.

Objectives:

(O7) To foster the organisational change with new services and best practices in Fresh Food Value Chain (WP6)

(O8) To co-create new EU policies considering the diversity on regulatory ecology about FWPR (WP6)

Leads: UiO; Participants: UJI, UD, EROS, OEAW, PERS, HAL, LNV, CARI, HEA, ZAB.

Types and formats of data:

- File on literature review in organisational change for food waste reduction and other related contents.

- File on literature review in creation of EU policies for food waste reduction and other related contents.

- Tables and Figures on drivers for, barriers to, and strategies on organisational change and policy creation, as well as stakeholder collaboration

- Interview transcriptions

- NVIVO files with data on drivers for, barriers to, and strategies on, as well as stakeholder collaboration

All these data will be considered PUBLIC but with a 12-month embargo period for scientific publications.

Purpose of the data generated/collected:

- To identify organisational change processes for food waste reduction, and collaboration.

- To identify policies for food waste reduction

Origin of the data:

- UiO, UJI will carry out the literature review using Cordis, Scopus, WoS and Google Scholar databases.

- Internal technical committees.

- Stakeholder workshops

- Previous EU research and innovation projects.

- Economic, Social and environmental databases like, SHBD or Ecoinvent.

The data will be internally shared among partners participating in ToNoWaste using the specific SharePoint for those involved in WP6.

Who will reuse data and how?

- The data will be subject to scientific analysis by a PhD scholar from UiO and the researchers in the WP6

- Data will be shared with partners involved in the other WPs to support their different tasks.

- Data will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the SharePoint.

To whom might it be useful ('data utility')?

- Generated data will be useful to worldwide scientific community and private companies searching for organisational change processes of FLWPR actions

- Metadata will be shared using Our Open repository after the embargo period.

2.7   WP7 Data – Impact maximisation

Objectives:

To maximise the project outcomes and its transformation into wider impacts established in section 2

Leads: ZAB; Participants: All

Types and formats of data:

a)   EIP-AGRI practice abstracts are being elaborated in word and CACV transform them into PDF to be published in the website. We are waiting to the EUCAPNETWORK answer about the definitive template to be used in the future.

b)   Dissemination results (mainly publications) will be collected in PDF format.

c)   Communication contents (mainly press releases) to be published that contain text, tables and figures will be elaborated in word format and the original images in jpg.

(a), (b) and (c) will be considered PUBLIC after the submission and acceptance of the object by the publisher. Partners agree with the communication to all the consortium (see consortium agreement)

d)   Exploitation is being monitored with an Excel file for the KERs and we have prepared specific questionnaires to monitor each one in word format.

e)   Databases with contacts that must be included in newsletters and mailing for events will be collected in excel format.

(d) and (e) are considered confidential because they contain personal or sensitive data.

Purpose of the data generated/collected:

a)   The EIP-AGRI practice abstracts facilitate knowledge flows on innovative and practice-oriented projects from the start till the end of the project. The use of this format also enables farmers, advisors, researchers and all other actors across the EU to contact each other.

b)   They are mainly scientific publications to disseminate the public results. They include am original Digital Object Identifier (DOI) of the publisher but it is also mandatory to upload the object to our open repository (https://repositori.uji.es/xmlui/handle/10234/199177) to get the official DOI for the periodic reporting.

c)   They include all the contents for the web, social media channels and marketing.

Origin of the data:

a)   CACV leads the practice abstracts elaboration and submission. The master PDF files are included in WP7 private channel SharePoint to facilitate the collaborative work with all the partners.

b)   Dissemination contents are being directly elaborated by all the authors collaborating in each object. They will directly submit the object to the publishers and inform to all the beneficiaries before the acceptance of the publication.

c)   Communication contents and toolkits are directly included in WP7 SharePoint before the publication to facilitate the collaborative work.

Exploitation questionnaires (d) are sent to all the beneficiaries three months before the end of each reporting period and they will submit it to the innovation manager by email. This information will be collected and included into a summary to be shared with the executive board to monitor the progress of the project.

The private data from participants (e) will be internally collected by the leading partner of each action that achieved the declaration of consent. Pseudo anonymised information can be internally shared among partners participating in the specific WP SharePoint channel.

Who will reuse data and how?

•   EIP-AGRI abstracts are public and can be directly reused by all the entities interested in one they are published in the EIP website. The object must be referenced to the EIP website and project ACRONYM mentioned.

•   ToNoWaste scientific publications will be available in the open repositories and metadata can be share upon an email request by other researchers to the authors. The publication metadata datasets will be shared to the JRC without embargo and uploaded to open repository at the end of the project to facilitate the transference.

•   Scientific data not mentioned before will be shared with JRC without any embargo period by giving access to authorised researcher from JRC to the SharePoint.

To whom might it be useful ('data utility')?

- Scientific publications will be useful to worldwide scientific community and private companies of the food value chain. Therefore, ToNoWaste website and social media channels will give visibility to the open access repository to enhance the results impact.

- Contacts databases are sensitive and confidential, but ToNoWaste partners are aware of the relevance of this data for cities authorities that are engaging citizens to participate in actions. Therefore, the curators of each dataset will specifically ask about consent to participants to share this data with local authorities to be invited to other related events and participatory actions if necessary.

2.8 WP8 Data – Project management

Objectives:

To provide overall scientific direction and to drive the progress of the project, steering efforts of the partners for the achievement of milestones, outcomes, and impacts. To provide a unified scientific, technological, and strategic view throughout the project implementation.

To continuously assess the degree of fulfilment of the project's objectives.

To ensure that the project is appropriately managed according to the work plan, supporting the Scientific Coordination in organising and supervising the work.

Leads: UJI; Participants: All

Types and formats of data:

- Tables and Figures on milestones, outcomes, and impacts.
- Databases on management information necessary for the project.

Purpose of the data generated/collected:

- To assess the degree of fulfilment of the project's objectives.

Origin of the data:

- ToNoWaste Consortium.

The data will be internally shared among partners participating in ToNoWaste using the specific SharePoint for those involved in WP8.

Who will reuse data and how?

- Nobody.

To whom might it be useful ('data utility')?

- For the European Commission.

3. FAIR data

3.1 Making data findable

Outline the discoverability of data (metadata provision)

All data produced in the project will be stored in English language and common formats to make it easily interoperable. Likewise, as much as possible, free software applications will be used to ease exchange between project partners and scientific community.

All produced data will be shared between researchers from the same WP by depositing it in a private SharePoint, accessible just to task leaders participating in that WP. Access to these contents will also be allowed to researchers (hired postdocs, technicians) of this or another WP who may need to use or reuse the data generated.

Note: the internal details of the SharePoint access link have been omitted for cybersecurity reasons as this is a public deliverable. These links have been sent to all partners and can be checked by project officers at any time under request.

Data Protection Officer will create a specific Community in Our Open repository https://repositori.uji.es/xmlui/handle/10234/199177 to link all the project contents with an specific tag and to facilitate stakeholders to find all the related data.

Outline the identifiability of data and refer to standard identification mechanism.

All research tasks related to ToNoWaste performed by the involved investigation groups will be written down in notebooks and routinely supervised by the corresponding task leaders. Periodic reports for each of the tasks will be prepared on informatic support (ppt, word, pdf...) to inform the remaining members of each WP. Leader of each WP, when appropriate depending on the expected time to obtain results from each of the different tasks, will ask to each task leader for reports on each of the activities of the WP.

Outline naming conventions used

All the open data available in Our Open repository will use the ToNoWaste acronym as main tag to facilitate the availability.

ToNoWaste specific tags for the open contents updated in Our Open repository: https://repositori.uji.es/xmlui/handle/10234/199177

Food waste, food losses, sustainability, sustainable food system, social assessment, environmental assessment, economic assessment, interventions

Outline the approach towards search keyword

Food waste; Circular economy; Economic impact; Food policy impact; Social innovation; Sustainability assessment; Farm2fork

Outline the approach for clear versioning

Datasets will be edited by the leaders of each WP and the coordinator will revise them. They will be versioned considering this versioning strategy: <major>.<minor>.<patch>

- Major — increasing the major version we will declare that the complete dataset was updated for publishing it at the end of a reporting period (RP)

- Minor — version increment implies adding new functionality for continuous improvement each RP

- Patch — also known as bugfix version to develop the dataset internally during the RP.

3.2   Making data openly accessible

Specify which data will be made openly available? If some data is kept closed provide rationale for doing so

All the research data generated in TONOWASTE will be opened after a 12 month embargo period, upon authorisation by the researchers who originated those data and the revision of the Executive Board, depending on the nature of the data generated.

All data generated in a determinate task will be registered and monitored by the corresponding research team in the internal repository of the institution that capture the data for the task and, when representative results are available (enough number of experiments/replicates/prospections), statistically analysed (if needed) and considered as results by the corresponding task leader, they will be shared with all members from the same WP. WP leader will decide the adequate time and manner (mail, meeting, skype, congress, web page site) to share results with the remaining members of the consortium, once get the approval of Executive Board.

All the research data will be preliminary shared with scientific community and general public in congresses, meetings, etc. and by scientific publications in indexed journals, open accessible. Published papers will be shared using our Open repository open repository.

Data access to non-consortium members will be previously discussed and agreed by all partners involved, the Executive Board and the Coordinator to avoid conflicts of interests.

All data generated based on available literature on food waste and aimed to inform the farming sector and the society will be produced to be fully available since the beginning.

Specify how the data will be made available

Scientific publications and congress conferences.

Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g. in open source code)?

Software tools to access the data are free.

Specify where the data and associated metadata, documentation and code are deposited

- The research data will be firstly available only for internal purposes in each WP using the one drive internal repository.
- The research data will be updated in Our Open repository, after exploiting the data with publications or patents, when approved by the Executive Board

Specify how access will be provided in case there are any restrictions

Described above.

3.3   Making data interoperable

Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability.

A glossary with the key terminology has been created and internally agreed.

Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies?

Standard vocabulary in all cases. The scientific vocabulary will have been previously validated by the reviewers of the scientific publications published.

3.4   Increase data re-use

Describe data quality assurance processes

Executive Board and Work package Leaders will review the internal repositories annually to determine potential synergies with sister projects.

Specify the length of time for which the data will remain re-usable

Datasets containing personal information will be securely deleted at the conclusion of the project, in adherence to GDPR regulations. However, the anonymized scientific data amassed under TONOWASTE will be released for potential reuse once the experiments are finalized. It's worth noting that, to safeguard competitive advantages, a data embargo may be imposed, encompassing the conclusion of scientific publications, patent drafts, and PhD thesis completions. This embargo, lasting a maximum of three years, will be upheld after the project's completion.

Scientific datasets generated and openly shared through TONOWASTE publications can be accessed by third parties, subject to prior discussions and agreements involving all contributing partners in the data generation process. Approval from the Executive Board is also required to mitigate potential conflicts of interest. Usage restrictions for scientific data, software, and code are delineated in the grant agreement and may vary based on institutional and national policies. In cases where restrictions are in place, metadata will still be provided freely with the data owner's prior permission.

Requests for full access to the data will be evaluated by the data owner, and access may be granted based on their decision. The objective is to maintain the availability of scientific datasets to demonstrate the publications integrity for a period of up to five years after the project's completion..

4.   Allocation of resources

4.1   Estimation of costs

The TONOWASTE internal repository will be hosted at SharePoint. Costs for establishing and maintaining the data repository are covered by the financial budget of ZAB.

While the repository is not maintained after the end of the project, all files stored within the repository shall be stored after the project to meet the requirements of good scientific practice. A strategy for storage of the files after the project is being developed and will be included in the DMP later.

4.2   Responsibilities for data management (Data protection responsibles)

According to Art 37 GDPR a controller shall designate a data protection officer if specific criteria are met. The project ToNoWaste data protection (DPR) officer can be contacted through tnwdatapr@uji.es email. The DPR shall deal with and coordinate all data protection topics and measures and shall also be the contact point for data subjects.

Project coordinator has contacted all the partners to certify that all the partners will accomplish with the GDPR and all the partners declared a specific contact person responsible for data protection for the project:

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those of the author(s) only and do not necessarily reflect those of the European Union.
Neither the European Union nor the granting authority can be held responsible for them

17

Table 1 DPR list

jcandel@zabala.es	ZAB
protecciondatos@uji.es	UJI
dpo@eroski.es	EROS
ainhoa.alonso@deusto.es; privacidad@deusto.es; dpo@deusto.es	UD
ainara_llona@eroski.es	EROS
felix@cuinatur.com	CUIN
cmartinez@agro-alimentariescv.coop	CACV
klas.tallvid@hufb.se	HEA
kpapado@chemeng.ntua.gr	HAL
lyberatos@chemeng.ntua.gr	HAL
foodsave@halandri.gr	HAL
personvernombud@uio.no	UIO
michael.eder@strat.eco	STRA
lorraine@zerowasteaustria.at	ZWA
Julia.Tauber-Lewisch@caritas-wien.at	CARI
erodrigues@zenithwings.com	ZEN
lidia.garcia@lasnaves.com	LNV
msotoud@oeaw.ac.at; datenschutz@oeaw.ac.at	OEAW
Franz Niederl niederl@akaryon.com	AKAR
DPO@wur.nl	WUR
sabrina.dreisiebner-lanz@joanneum.at	ERNTE
julia.tauber-lewisch@caritas-wien-at	CARI
vmanez@mercavalencia.es	MERC

DPRs are also responsible of:

- Collecting the users request for access to and download of data.

- Preparing, checking the list of User groups and members for each user group

- Definition, creation, updating of the data repository structure, i.e.: structure of folders and subfolders, names, contents and access, upload, download rights.

- Co-creation with ZAB of the data repository's folders/sub-folders for each user group and document type (e.g. data, metadata, templates)

- Communication to the users any unplanned interruption of communication tools.

ZAB as WP leader is responsible for:

- Initial set-up of the software components of the data repository

- Maintenance of the data repository

- Carrying out the initial Security assessment of the repository

- Perform Security Assessment on a regular basis (e.g. one year) in order to guarantee the agreed security level

- Reporting and blocking any possible security threat, taking appropriate measures accordingly

- Ensure the creation and management of the internal repository, as one of the components of the data repository.

ZAB responsibilities include:

- setting up and upgrading, when needed, the repository.

- creation, maintenance and upgrading of the User Group Account database.

- co-creation of the data repository's folders/sub-folders for each user group and document type (e.g. data, metadata, templates)

- capacity management of hardware and software components

- comply with personal data protection rules (Regulation EC 45/2001)

ZAB is not responsible for the interruptions of the data repository services that are due to force majeure.

5. Data security

5.1 Data confidentiality and integrity

Although none of the data generated in this project are considered sensitive data, the data confidentiality and integrity are implemented at various levels:

- Locally stored data in each partner facilities may be at risk for data recovery depending on routines in operation under institutional policies. Partners are expected to adopt suitable tested backup strategy that allow for full recovery of the data in case of a catastrophic event in which the responsible person or location of the data storage is compromised. The responsibility for data security and long-term stories lies with the institutions.

- In general, the consortium will share information to elaborate project deliverables using the SharePoint platform for internal communication and an institutional SharePoint account for the project management.

- More specifically, if any of the partners has confidential and/or sensitive data, they will send it directly by email to the final recipient to which they want to send such information.

- Consortium partners will impose a strict policy on all employees, co-workers, subcontractors having access to the data. This policy will include, but is not limited to, allowing copies on local devices only during processing of the data with guaranteed erasure after being processed extending the access control policies to the local copies contractual clauses agreement to terms and conditions before access is granted, etc.

- Data will be anonymised up to the level as to not interfere with the quality of the research.

- Lastly, awareness on data privacy and security will be enhanced (e.g., by attending a webinar on this matter prior to be granted access to the repository; attending this webinar shall be mandatory at least yearly during the project implementation.)

- All DPRs received a registration form for all persons in each beneficiary entity involved in the project and ZAB has proceeded to selectively invite each of them in the relevant channels to ensure the protection of IPR. Personal data was omitted in the next table for cybersecurity reasons.

- The registered users list was updated in January 2024 to remove HiG and include new members from the other beneficiaries.

Table 2 Example of selective access rights in SharePoint

Entity	role	Update	WP1	WP2	WP3	WP4	WP5	WP6	WP7-CROSS	WP8&9-MANAG-ET
AKAR	Team member	30/09/2022	X		X	X	X		X	X
AKAR	DPO-AKAR	30/09/2022			X	X	X		X	X
AKAR	Team member	30/09/2022	X		X	X	X		X	X
AKAR	Team member	30/09/2022				X			X	
AKAR	Team member	30/09/2022							X	
CACV	DPO-CACV	19/09/2022				X	X	X	X	X
CACV	Team member	10/10/2022	X			X	X	X	X	X
CARI	DPO-CARI	20/09/2022	X			X	X	X	X	X
CARI	DPO	07/10/2022				X	x	x	x	x
CARI	Team member	07/10/2022				X	x	x	x	x
CARI	Team member	07/10/2022				X	x	x	x	x
CARI	Team member	07/10/2022				X	x	x	x	x
CUIN	DPO-CUIN	19/09/2022	X			X	X		X	X
ERNTE	DPO	07/10/2022	X			X	X		X	X
ERNTE	Team member	08/10/2022	X			X	X		X	X
ERNTE	Team member	09/10/2022								X
EROS	DPO-EROS	13/09/2022	X		X	X	X	X	X	X
EROS	DPO	16/09/2022	X		X	X	X	X	X	X
EROS	Support to EROSKI	16/09/2022	X		X	X	X	X	X	X
EROS	Support to EROSKI	16/09/2022	X		X	X	X	X	X	X
EROS	Support to EROSKI	16/09/2022	X		X	X	X	X	X	X
EROS	Sustainability technician	16/09/2022	X		X	X	X	X		
EROS	Head of sustainability	16/09/2022	X		X	X	X	X		
HAL	DPO-HAL	19/09/2022	X		X	X	X	X	X	X
HEA	DPO-HEA	19/09/2022	X		X	X	X	X	X	X
LNV	DPO-LNV	23/09/2022	X		X	X	X	X	X	X
LNV	Team member	23/09/2022								X
LNV	Team member	24/09/2022							x	
MERC	DPO	10/10/2022	X			X	X	X	X	X
OEAW	DPO	03/10/2022	x	x		x	x	x	x	x
OEAW	Team member	10/10/2022								x
OEAW	Team member	10/10/2022								x
OEAW	Team member	10/10/2022	x	x	x	x	x	x	x	x
OEAW	Team member	10/10/2022	x	x		x	x	x	x	
OEAW	Team member	10/10/2022	x	x		x	x	x	x	
STRA	DPO-STRA	19/09/2022	X	X		X	X	X	X	X
STRA	Team member	20/09/2022	X	X		X	X	X	X	X
STRA	Team member	11/10/2022						x	x	x
STRA	Team member	11/10/2022						x	x	x
UD	DPO-UD	13/09/2022	X	X	X	X	X	X	X	X
UD	Team member	14/09/2022	X	X	X		X			
UD	Team member	14/09/2022								X
UD	Team member	14/09/2022				X	X	X	X	
UD	Team member	14/09/2022			X					
UIO	Team member	19/09/2022	X	X				X	X	X
UIO	DPO-UIO	19/09/2022	X	X				X	X	X
UJI	coordinator	13/09/2022	X	X	X	X	X	X	X	X
UJI	DPO-UJI	13/09/2022	X	X	X	X	X	X	X	X
UJI	Team member	03/10/2022	X	X	X	X	X	X	X	X
UJI	Team member	11/10/2022	x	x			x	x		
UJI	Team member	11/10/2022	x	x		x	x	x		
UJI	Team member	11/10/2022	x	x	x		x	x		
UJI	Team member	11/10/2022	x	x	x		x	x		
UJI	Project manager	11/10/2022	x	x	x		x	x	x	x
WUR	Team member	03/10/2022	x	x		x	x		x	x
WUR	Team member	04/10/2022	x	x		x	x		x	x
WUR	DPO	03/10/2022								
ZAB	DPO	13/09/2022	X	X	X	X	X	X	X	X
ZEN	DPO-ZEN	23/09/2022								X
ZEN	Team-member	23/09/2022	X	X	X	X	X		X	X
ZEN	Team-member	23/09/2022	X	X	X	X	X			
zen	Team-member	23/09/2022								X
ZWA	DPO-ZWA	20/09/2022	X	X		X	X		X	X
ZWA	Team-member	09/21/2022	x	x		x	x		x	x
ZWA	Team member	09/21/2022	x	x		x	x			
HEA	Team member	2022.10-19	x		x	x	x	x	x	x
HEA	Team member	19/10/2022	x		x	x	x	x	x	x
HAL	Team member	02/11/2022	X		X	X	X	X	X	X
PERS	Team member	23/11/2022	X			X	X	X	X	X
PERS	DPO	23/11/2022	X			X	X	X	X	X