



## **End of Life Decisions for Wind Farms: An Opportunity for Climate Action and for Energy Communities**

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### **Data Management and Dissemination Plan Deliverable 1.3**

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The Wind Value project is based in the Environmental Research Institute of University College Cork (UCC), Ireland with assistance from Cork University Business School, UCC. The PI may be found at the Cleaner Production Promotion Unit, G0.3, Environmental Research Institute, Ellen Hutchins Building, Lee Road, Cork T23 X10. The Research Team comprises: Luca Bernardi, Peter Deeney, Claire Ducourtieux, Niall Dunphy, Fabian Gogolin, Paul Leahy, Dorcas Allan Mikindani, John O'Brien and Rebecca Windemer.

## Executive Summary

This research project seeks to estimate a financial valuation for onshore wind farms in Ireland. It will develop decision support tools which will assist wind farm managers to decide between decommissioning, repowering and life-extension for the end-of-life of a wind farm. This research will also assist local communities who may be interested in buying part or all of their local wind farm.

The Data Management Plan (DMP) implements the FAIR principles making the project data findable, accessible, interoperable and reusable. The DMP also aims to make the research as open as possible but as closed as necessary. The methods to do this are outlined in this report as well as a summary of the types of data which are expected to be produced. The DMP makes wide and open dissemination of the research easier and long-lasting.

# 1 Introduction

The aims of the Data Management Plan (DMP) are that Wind Value will follow FAIR principles and that the research will be as open as possible. The FAIR principles (Findable, Accessible, Interoperable and Reusable) enable the research to be of lasting value. The wide availability of the research in an open manner enables it to have lasting impact. Wind Value will update this DMP during the course of the research as the needs of the project become clearer. The two principal objectives of the DMP is to facilitate the work of the project and disseminate its output.

## 2 Data Collection

During the Wind Value project, several types of data will be created / collected, a summary is given in the Table 1. Simple Readme text files with metadata will be stored alongside these data files, a simple txt format will enable these explanatory files to be accessible in the long term.

Type of Data	Format	Size MB	Primary or Secondary	Ethical or Legal
Posters and Presentations	Powerpoint, Beamer	< 1 each	Primary and Secondary	N
Video	MP4	10 each	Primary	Y <sup>1</sup>
Website	Wordpress	20	Primary and Secondary	Y <sup>1</sup>
Twitter	Tweets	5	Mostly Secondary	Y <sup>1</sup>
Bibliographies	Bibtex, Endnote	<1	Secondary	N
Papers & Reports	Word, Overleaf, L <sup>A</sup> T <sub>E</sub> X	<1 each	Primary	N
Commodity Prices	Excel, csv	<50	Secondary	Y <sup>2</sup>
Interview Transcriptions	Word	<1	Primary	Y <sup>3</sup>
Sound Recordings	MP3	<10	Primary	Y <sup>3</sup>
Backup of Teams	Dropbox	<500	Primary and Secondary	Y <sup>4</sup>

Table 1: Types of Data in the Project; for Y<sup>1,2,3,4</sup> see Section 3

## 3 Ethical and Legal Compliance

The Research Data Service of the Boole Library in UCC will be a resource for questions ethical and legal issues. Care will be taken when using other people's data to ensure that we have permission where required. The following issues were highlighted in Table 1.

<sup>1</sup> The people identified in the photos used on the website and Twitter posts will be asked for their permission.

<sup>2</sup> Non-disclosure agreements may be signed where required in the case of obtaining data from windfarms etc. These will be in alignment with UCC's Office of Corporate and Legal Affairs.

<sup>3</sup> Application will be made for UCC's ethical approval committee (SREC) for the interviews required in WP 7. This will include short term storage of sound files and longer storage of transcriptions. GDPR compliance applies does not apply here as the data will be anonymised.

<sup>4</sup> Since Dropbox is located outside the EU, no personal data will be stored there.

## 4 Storage and Backup During Active Research

The default location for all data during active research is the Wind Value Teams account. This has two owners, Dr Deeney and Ms Mikindani. This is preferable to using Microsoft's One Drive as that facility depends entirely on one owner. The file structure will be as follows: Literature, Conferences, Work Package 1, Work Package 2, . . . Work Package 8, and other sections as required. Given the possibility of a cyber-attack on the university, there will be monthly backups of data to Dropbox not including any material subject to GDPR. Dropbox is located outside the EU and is not subject to the same protections as Teams, however in the event of a catastrophic attack, as was recently seen in Munster Technological University, it is wise to have an independent backup.

## 5 Data Sharing and Long-term Preservation

In conjunction with the UCC library's Data Service accounts will be opened in CORA and Zenodo to store the project's output. An account in Github has been opened to share software. The website can be stored using Archive.org and/or Perma.cc. The data generated from this project will follow the "FAIR" principles of being findable, accessible, interoperable and reusable. The above repositories will provide DOI references so that the output from the project can continue to be found and accessed. By using proprietary formats such as pdf, xlsx and docx, as well as simple txt files, the data will remain interoperable into the future. Taking care that the metadata is stored alongside the project data will facilitate the data being reusable by other researchers. (There will be an information meeting on 9th March 2023, in the next reporting period, concerning the Digital Repository of Ireland. The advice available at this may add another repository the long term data storage possibilities.)

## 6 Requirements and Resourcing

The PI of the project, Peter Deeney, will be responsible for leading the DMP and informing the research team of procedures. This will include a naming convention for versions of documents so that there is a clear understanding across the team of terminology. This is not such a large issue as Teams allows several editors to work on the same document simultaneously, thus avoiding much of the possible confusion over document versioning. The amount of data stored in Teams in UCC is effectively boundless, so we may store as much information as required. Since we are not storing large datasets there are no problems anticipated with limits from Archive.org, CORA, Dropbox, Perma.CC or Zenodo.

## 7 Dissemination Plan

The dissemination of the output of the project will include the following methods:

- Project Website <https://windvalue.ie/>
- Project Twitter account @WindValue
- Presentations at conferences
- Open Access Publications in Scientific Journals
- Zenodo, CORA, other searchable data repositories which are open to the public

The project website has proven to attract many more visits than initially targeted. It allows easy public access to research outputs, and its success may stem from the running blog about energy news and the activity on the Twitter account. The Tweets have attracted considerable attention and followers from academia and beyond.

We are targeting the two main Irish academic finance conferences: The Irish Academy of Finance and the Irish Accounting and Finance Association. The international conferences include those from the: Commodity and Energy Market Association and Commodity Markets Winter Workshop. At these we will meet other researchers and receive feedback which will improve papers for journal submissions. The journals to be targeted include: Accounting, Finance and Governance Review; Energy Economics; European Journal of Operational Research; International Review of Financial Analysis and Renewable & Sustainable Energy Reviews.

In order to keep the output from the project available on a long term basis, Zenodo, Cora and the other publicly accessible repositories mentioned above in Section 6 will be used.

Occasional events organized by UCC and others will be used as they occur to disseminate the findings and ideas from Wind Value.

## **8 Acknowledgments**

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