**Watt’s Next Consultancy**

**Formal Data Management Plan for Namibia Energy Transition Contract**

**Plan in strict adherence to the** **Digital Curation Centre’s: Checklist for a Data Management Plan, v4.0**  
*(2013). Checklist for a Data Management Plan. v.4.0. Edinburgh: Digital Curation Centre. Available online:* [*DCC Website*](http://www.dcc.ac.uk/resources/data-management-plans)

# Administrative Data

**ID**

*MSc in Energy Systems - Small Group Case Study*

**Funder**

While no entity has paid for nor provided financial support for any facet of this report, it has been commissioned by the University of Oxford Department of Engineering Science via the MSc in Energy Systems degree program.

**Project Name**

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**Project Description**

As a leading energy and sustainability consultancy, Watt’s Next Consultancy has been hypothetically commissioned by the Ministry of Mines and Energy of Namibia to develop a comprehensive nation energy transition strategy. The transition must achieve significant system benefits, aligning with a commitment to achieving NetZero emissions by 2050, while also ensuring economic stability and growth. The objective is to devise a transition plan that not only achieves environmental sustainability but also fosters economic prosperity.

Deliverables include a detailed report, accompanied by a 2-page executive summary, as well as a video presentation outlining the formal strategy proposed by the firm. In addition to the base project requirements, Watt’s Next Consultancy has provided a github repository containing all code and input data used in the preparation of the transition strategy including files used for plotting.

**Consultant Information (Name/ID)**

Caleb Butler – \*\*\*\*\*\*\*\*\*\*\*

Frederik Schiele – \*\*\*\*\*\*\*\*\*\*\*

Ian Pimenta – \*\*\*\*\*\*\*\*\*\*\*

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**Project Data Contact**

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**Dates**

* **Date of First Version**: May 10, 2024
* **Date of Last Update**: May 10, 2024

**Related Policies**

*Digital Curation Centre’s: Checklist for a Data Management Plan, v4.0*

*2016 FAIR Guiding Principles for Scientific Data Management and Stewardship*

*The University of Oxford’s:*

* + *Code of Practice and Procedure on Academic Integrity in Research*
  + *University Information Security Policy and Implementation Guidance*
  + *Plagiarism Guidance*
  + *Data compliance*

Watt’s Next Consultancy has identified the aforementioned policies and regulations as being potentially relevant to the work carried out via this contract. Accordingly, the all members have endeavored to adhere to them to the best of their knowledge and understanding. The firm has made a concerted effort to, within its capacity, to uphold these policies. However, a formal acknowledgement must be made of the complexity and breadth of such policies, which may require extensive expertise and resources to fully comprehend.

# Data Collection

**Data Collection**

Rather than the creation of new data via collection or measurement, this project compiles data from online publicly available sources. The majority of data is used directly to create plots and figures and is cited directly. The remaining data is used as a model inputs for the various models used in the completion of this contract (OSeMOSYS, PandaPower, QGIS). All of this data is available directly and transparently on the project GitHub page.

**Data Creation**

A concerted effort has been made to reuse existing data wherever possible through the use of the Climate Compatible Growth Initiative’s Starter Kit for Namibia. Beyond this, data was created through the submissions of cloud model runs on the OSeMOSYS cloud computing platform. \*1-2 sentences from Freddi\*

Files have been structured in a logical, organized manner and uploaded to a GitHub Data Repository. Core directories are accompanied by READme.txt files to guide individuals through navigating the overall file structure. In the case of OSeMOSYS model files, successive iterations of model running configurations are denoted with a \_v(x), where x represents the version number. Beyond distinctly unique scenario iterations deemed worthy of an additional file, general excel and document file’s version control is handled through Microsoft OneDrive’s version control.

To be conscience of data digital footprints, only final scenario model output data (RAW) has been uploaded to the GitHub directory. Core output data from the OSeMOSYS model is stored in its own directory, with each scenarios’ final results being stored in their own directory. OSeMOSYS data output is stored in .csv format.

**Data Quantity**

*Approximate data size including all relevant model, input, and output files*

OSeMOSYS - **2.98 GB**

Python/Pandapower – **11.6 MB**

QGIS –

Deliverable Content (Presentation Video, Report) – **(, ~38MB)**

Total Estimate:

**Data Quality**

Data quality in large part is dependent on the integrity and accuracy of utilized models; however, the firm fulfills their responsibilities by uploading any/all input data used in modelling along with model code to ensure reproducibility. Model runs have been peer reviewed and revised by various members of Watt’s Next Consultancy to improve data quality.

# Documentation

Data documentation is handled through the use of embedded ReadME files and intuitive file naming.

# Ethics and Legal Compliance

**Consent**

Consent has been given by all members of the team to share all data via the Github

**Ethics**

To ensure accurate, representative data was used in the project, Watt’s Next Consultancy engaged stakeholders from the Ministry of Mines and Energy in Namibia and received direct links to pertinent publicly available government data.

**Copyright and Intellectual Property Rights**

All content, including text, graphics, images, and any other material provided, created, or generated by Watt’s Next Consultancy is subject to copyright and intellectual property rights. This includes but is not limited to articles, reports, presentations, software code, and any other form of creative expression produced by Watt’s Good Consultancy.

The authors intend for all data to be open source; however, as stated by the university:

*“The University [of Oxford] in its statutes claims ownership of certain forms of intellectual property that students create in the course of, or incidentally to, their studies, but generally does not claim ownership of copyright created by students.”*

Accordingly, content may be subjected to University regulations.

# Storage and Backup

**Project Execution**

During the development of the Namibia Energy Transition Strategy, data was hosted on a Watt’s Next Consultancy virtual Microsoft Teams directory. Team members regularly created local backups of relevant files. Access to the directory was/is locked and access can only be granted through a course director or administrator approval.

**Post Project Storage**

Data is hosted on the project GitHub Page

**Link:** [**https://github.com/frdrk16/NamibiaNZ/tree/main**](https://github.com/frdrk16/NamibiaNZ/tree/main)

# Selection and Preservation

Any input files needed to reproduce modelling results along with any modelling outputs used in deliverables have been added to the GitHub page. As for preservation of data, GitHub page will host data repository. Additionally report and presentation content will be preserved as per the University’s student record retention policy, which in sections D.1, D.8 & D.9 outlines assessment data will be preserved for 6 years prior to completion of degree program. On the assumption of timely degree completion of group members, content should be available out to 2030.

# Data Sharing

Data is shared via GitHub link above.

# Responsibilities and Resources

**Ian J. Pimenta** is the Namibia team data management lead and point of contact for inquiries about data access.