Plan Overview

A Data Management Plan created using DMPonline

Title: Assessing & Enhancing Energy Efficiency of HVAC System in Saudi Arabia's Residential Buildings

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Template: University of Manchester Generic Template

Project abstract:
The aim of this project is to develop a holistic strategy to address residential energy demand in Saudi Arabia, focusing on optimising energy use by enhancing energy efficiency and sustainable practices. To achieve this aim and objectives, an extensive literature review was undertaken on area related to HVAC performance from three perspectives namely building characteristics, operational & maintenance factors, and climate & environmental factors. Furthermore, a research methodology was drawing to fulfil each objective. It includes five stages plus the conclusion and recommendations. Each stage has different research method. For example, the first stage is assessing factors affecting HVAC performance from three perspectives namely, building characteristics, operation & maintenance factors and climate & environmental factors- by Literature Review. The other stages are based on primary data collection from various methods including future climate data, on-site building audits, stakeholders survey and experts' consultation. Then the modelling and simulation stage will be performed, considering current and future climate data. Finally, some analysis methods will be conducted to validate the results.

ID: 173878

Start date: 01-01-2025

End date: 31-12-2028

Last modified: 21-03-2025

Assessing & Enhancing Energy Efficiency of HVAC System in Saudi Arabia's Residential Buildings

Manchester Data Management Outline

1. Will this project be reviewed by any of the following bodies (please select all that apply)?

- None of the above

2. Is The University of Manchester collaborating with other institutions on this project?

- No - only institution involved

3. What data will you use in this project (please select all that apply)?

- Re-use existing data (please list below)
- Acquire new data

Future Climate Data
Architectural Drawing

4. Where will the data be stored and backed-up during the project lifetime?

- P Drive (postgraduate researchers and students only)

5. If you will be using Research Data Storage, how much storage will you require?

- Not applicable

6. Are you going to be receiving data from, or sharing data with an external third party?

- No

7. How long do you intend to keep your data for after the end of your project (in years)?

- 0-4 years

Guidance for questions 8 to 13

Highly restricted information defined in the [Information security classification, ownership and secure information handling SOP](#) is information that requires enhanced security as unauthorised disclosure could cause significant harm to individuals or to the University and its ambitions in respect of its purpose, vision and values. This could be: information that is subject to export controls; valuable intellectual property; security sensitive material or research in key industrial fields at particular risk of being targeted by foreign states. See more [examples of highly restricted information](#).

If you are using 'Very Sensitive' information as defined by the [Information Security Classification, Ownerships and Secure Information Handling SOP](#), please consult the [Information Governance Office](#) for guidance.

Personal information, also known as personal data, relates to identifiable living individuals. Personal data is classed as special category personal data if it includes any of the following types of information about an identifiable living individual: racial or ethnic origin; political opinions; religious or similar philosophical beliefs; trade union membership; genetic data; biometric data; health data; sexual life; sexual orientation.

Please note that in line with [data protection law](#) (the UK General Data Protection Regulation and Data Protection Act 2018), personal information should only be stored in an identifiable form for as long as is necessary for the project; it should be pseudonymised (partially de-identified) and/or anonymised (completely de—identified) as soon as practically possible. You must obtain the appropriate [ethical approval](#) in order to use identifiable personal data.

8. What type of information will you be processing (please select all that apply)?

- No confidential or personal data

9. How do you plan to store, protect and ensure confidentiality of any highly restricted data or personal data (please select all that apply)?

- Not applicable

10. If you are storing personal information (including contact details) will you need to keep it beyond the end of the project?

- Not applicable

11. Will the participants' information (personal and/or sensitive) be shared with or accessed by anyone outside of the University of Manchester?

- Not applicable

12. If you will be sharing personal information outside of the University of Manchester will the individual or organisation you are sharing with be outside the EEA?

- Not applicable

13. Are you planning to use the personal information for future purposes such as research?

- No

14. Will this project use innovative technologies to collect or process data?

- No

15. Who will act as the data custodian for this study, and so be responsible for the information involved?

Mustafa Alobaid

16. Please provide the date on which this plan was last reviewed (dd/mm/yyyy).

2025-06-01

Project details

What is the purpose of your research project?

This PhD research aimed, to develop a holistic strategy to address residential energy demand in Saudi Arabia, focusing on optimising energy use by enhancing energy efficiency and sustainable practices.

What policies and guidelines on data management, data sharing, and data security are relevant to your research project?

Already Mentioned

Responsibilities and Resources

Who will be responsible for data management?

Mustafa Alobaid

What resources will you require to deliver your plan?

Online resources

Data Collection

What data will you collect or create?

Primary Data such as future climate data, energy consumption bill, and architectural drawing.

How will the data be collected or created?

1. National Centre for Meteorology in Saudi Arab **(Future Climate Data).**
2. Gathering information regarding insulation types, HVAC type and specification, window type and specification, and any other significance data that will assist in improving energy consumption. **(Occupants and/or Homeowners).**
3. Collecting historical energy usage from utility bills. (**Saudi Electricity Company).**
4. Collecting architectural drawing, plans, etc. **(Al-Qatif Municipality).**

Documentation and Metadata

What documentation and metadata will accompany the data?

Online (PhD Project) when this project is finished the data will be available for secondary users to view and use it.

Ethics and Legal Compliance

How will you manage any ethical issues?

Already Done the participant information sheet and the consent form.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

The data will be available for any researchers but any use of the data should be citied.

Storage and backup

How will the data be stored and backed up?

Research Data Storage

How will you manage access and security?

It will be published online

Selection and Preservation

Which data should be retained, shared, and/or preserved?

All data in the PhD project

What is the long-term preservation plan for the dataset?

Make it available for anyone interested in such type of research.

Data Sharing

How will you share the data?

At the end of this PhD, the data will be available online.

Are any restrictions on data sharing required?

No restriction.

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