

Plan Overview

A Data Management Plan created using DMPTool

Title: Rotary Inclined Gasifier

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Principal Investigator: Kieran Mitchell

Data Manager: Kieran Mitchell

Project Administrator: Kieran Mitchell

Funder: National Science Foundation (nsf.gov)

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Grant: N/A

Template: NSF-ENG: Engineering

Project abstract:

A Rotary Inclined Gasifier is an innovative gasifier that can be deployed at Universities and larger buildings. It can convert the trash and or biomass into a fuel to generate electricity and heat, dispose of the trash, earn carbon credits with minuscule emissions.

Start date: 01-01-2021

End date: 05-31-2021

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Rotary Inclined Gasifier

Products of Research

What types of data (experimental, computational, or text-based), metadata, samples, physical collections, models, software, curriculum materials, and other materials will be collected and/or generated in the course of the project? The DMP should describe the expected types of data to be retained, managed, and shared, and the plans for doing so. What descriptions of the metadata are needed to make the actual data products useful and reproducible for the general researcher? For collaborative proposals, the DMP should describe the roles and responsibilities of all parties with respect to the management of data (including contingency plans for the departure of key personnel from the project) both during and after the grant cycle.

This program will analyze the types of municipal waste that is generated at a State University of New York Campus. The phase 1 will gather samples of the different types of waste and process these waste streams in the prototype gasifier located at The State University of New York (SUNY), Cobleskill Campus. The result will be the type and quantity of fuels generated and the Biochar that is remaining. The Data generated will quantify the quality and the characters of the fuel generated. This data will be reported on excel spread sheets. A financial analysis will also be performed. This data will be in a excel spreadsheet and will document the savings compared to the current trash disposal program and the reduction in fuel costs to generate electricity and heat on the campus. The process of the study will be documented in a word. The Engineers at Caribou Biofuels and the Engineers at SUNY will maintain their data and, in addition consolidate the data into a Google Doc's spreadsheet shared by the team. David Connolly will be the technical lead for Caribou Biofuels and David Waage will be the technical lead for SUNY Cobleskill. Kieran Mitchell will be the administrator and lead for the the financial analysist of the project. In the event that there is a transition in the roles and responsibilities, all data will be transferred and managed by Kieran Mitchell, CEO of Caribou Biofuels or his designate.

Data Formats and Standards

In what format and/or media will the data or products be stored (e.g., hardcopy notebook and/or instrument outputs, ASCII, html, jpeg or other formats)? Where data are stored in unusual or not generally accessible formats, how may the data be converted to more accessible formats or otherwise made available to interested parties? When existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies. In general, solutions and remedies to providing data in an

accessible format should be offered with minimal added cost.

Experimental data and financial analysis will be performed on Excel or Google doc's. Narratives and procedures will be recorded on word and google docs. The consolidated narratives will be recorded on google docs.

Dissemination, Access and Sharing of Data

What specific dissemination approaches will be used to make data available and accessible to others, including any pertinent metadata needed to interpret the data? In this case, "available and accessible" refers to data that can be found and obtained without a personal request to the PI, for example by download from a public repository. What plans, if any, are in place for providing access to data, including websites maintained by the research group and contributions to public databases/repositories? For software or code developed as part of the project, include a description of how users can access the code (e.g., licensing, open source) and specific details of the hosting, distribution and dissemination plans. If maintenance of a website or database is the direct responsibility of the research group, what is the period of time the website or database is expected to be maintained? What are the practices or policies regarding the release of POST-AWARD MANAGEMENT data – for example, are they available before or after formal publication? What is the approximate duration of time that the data will be kept private? “Data sharing” refers to the release of data in response to a specific request from an interested party. What are the policies for data sharing, including, where applicable, provisions for protection of privacy, confidentiality, intellectual property, national security, or other rights or requirements? Research centers and major partnerships with industry or other user communities should also address how data are to be shared and managed with partners, center members, and other major stakeholders; publication delay policies (if applicable) should be clearly stated.

Kieran Mitchell, CEO of Caribou Biofuels will be the lead manager of the data for the NSF study. The conclusions and the data in a table format will be available on the Caribou Biofuels website, <https://cariboubiofuels.com> The maintenance of Caribou Biofuels is continuously maintained and the results and data from the NSF grant will be available for a minimum of three years. The data and narratives that are generated are for public access. Trade secrets on the exact mechanical workings of the gasifier will be restricted and will be approved by Caribou Biofuels, before decimation. The intellectual property of the gasifier is owned and maintained by the State University of New York Research Foundation with an exclusive license to Caribou Biofuels.

Re-Use, Re-Distribution and Production of Derivatives

What are your policies regarding the use of data provided via general access or sharing? For data to be deemed “re-usable,” it must be accompanied by any metadata needed to reproduce the data, e.g., the means by which it was generated, detailed analytical and procedural information required to reproduce experimental results, and other pertinent metadata. Practices for appropriate protection of privacy, confidentiality, security, intellectual property, and other rights should be communicated. The rights and obligations of those who access, use, and share your data with others should also be clearly articulated. For example, if you plan to provide data and images on your website, will the website contain disclaimers or condition regarding the use of the data in other publications or products?

The engineering, scientific and financial analysis of the gasifier analysis at SUNY is free to share and will be published on the Caribou Biofuels website. The condition regarding the use of the data will be published on the website along with the data.

Archiving of Data

When and how will data be archived and how will access be preserved over time? For example, will hardcopy logs, instrument outputs, and physical samples be stored in a location where there are safeguards against fire or water damage? Is there a plan to transfer digitized information to new storage media or devices as technological standards or practices change? Will there be an easily accessible index that documents where all archived data are stored and how they can be accessed? If the data will be archived by a third party, please refer to their preservation plans (if available). Where no data or sample repository exists for collected data or samples, metadata should be prepared and made publicly available over the Internet and the PI should employ alternative strategies for complying with the general philosophy of sharing research products and data as described above

The data will be archived on the computer of Kieran Mitchell at Caribou Biofuels, on a sharable google docs debased storage and available on the Caribou Biofuels website. An additional copy will be retained on the computer of Caribou Biofuels lead engineer, David Connolly.
