General, Step-by-step Procedure of TCG Projects

0. BEFORE THE PRELIMINARY SECTION
(Must be paid by the owner of the feed materials)

1. Basic Data

1.1. Technical basic Data (FEEDSTOCK DATA ENG V14 A3 P1 10 10 2021 .xlsx)

1.1.1. Representative Sampling

(https://www.grainscanada.gc.ca/en/grain-quality/sampling-grain/guide-taking-representative-sample/)

The basic purpose of sampling is to collect a manageable mass of feed material which is representative of the total mass of feedstoc material from which it was collected. A representative sample with respect to one or more variables **(1) Moisture, 2) Volatile compounds, 3) Ash content, 4) Fixed carbon, 5) Carbon content of volatile, 6) Energy content)** is a sample in which the distrbution of these variables is exactly the same as in the total mass of feed material from which the sample is a subset.

THESE REPRESENTATIVE SAMPLES – one from each feed material, like MSW, shredded light fraction, other organic waste/material – must be analysed by Ultimate and proximate analysis.

1.1.2. Proximate and Ultimate Analysis

https://www.sgsgroup.us.com/en/mining/analytical-services/coal-and-coke/proximate-and-ultimate-analysis

1.1.2.1. Proximate Analysis

Moisture (ASTM D3173, ISO 11722, AS1038.3)
Moisture is the water that exists in the coal at the site, time, and under the conditions it is sampled. SGS experts determine the amount of moisture in your samples by measuring the loss in mass between an as-mined sample and a sample that has been heated under controlled conditions to drive off the water that is not contained within the chemical structure of the coal
Sulfur (ASTM D4239, ISO 351, AS1038.6)
It is important to measure the sulfur content in coal samples to evaluate the potential sulfur emissions from coal combustion, or for contract specifications purposes. SGS has the facilities and the know-how to provide you with timely accurate results.
Calorific Value (ASTM D5865, ISO 1928, AS1038.5)
The calorific value of coal or coke is the heat liberated when the solid fuel undergoes complete combustion in oxygen. In order to obtain accurate results, SGS burns your fuel sample in a bomb calorimeter and measures the total heat energy.
Volatile Matter (ASTM D3175, ISO 562, AS1038.3)
Volatile matter includes the components of coal, except for water, which are liberated at high temperature in the absence of oxygen. Volatile matter is a key health and safety concern as coals high in volatiles have an increased risk of spontaneous combustion. SGS determines the volatile matter in your coal sample by measuring the mass of volatiles before and after weight analysis under strictly controlled conditions.
Fixed Carbon (ASTM D5142, ISO 17246)

The fixed carbon content of coal is determined by subtracting the percentages of moisture, volatile matter and ash from the original mass of the coal sample: the solid combustible residue that remains after a coal has had the volatiles driven off. SGS experts conduct a fixed carbon test to estimate of the amount of coke your coal sample will yield.
ASH
SGS conducts a variety of fundamental ash analysis tests including ash elemental tests, ash fusion tests and coal ash analysis.

1.1.2.2. Ultimate Analysis

Ultimate analysis tests produce more comprehensive results than the proximate analyses. SGS uses the results from ultimate analysis tests to determine the elemental composition of the coal including moisture, ash, carbon, hydrogen, nitrogen, sulfur, and oxygen (by difference). We determine each element through chemical analysis and express it as a percentage of the total mass of the original coal or coke sample.

1.2. Financial basic Data (5Q Questionnaire ENG 20 06 2021 OK.docx)

All relevant data - like the Gate fee(Tipping Fee), selling price(s) of end product(s), salaries, etc. are - have to be provided by the owner, to develop the financial model and the Business Plan.

I. PRELIMINARY SECTION
(The expences of this section are covered by our company)

RECEIVING THE LOI/RWA, SIGNED BY THE GOVERNMENT OF BENEFICIARY

1.Who is the OWNER (O) of the FEED MATERIAL (FM) ?
2.Who will be the FINANCER (F) of the PROJECT(P)?

0. Harmonization and acceptance of the procedure

1. Development of the final wording of the NCNDA and signing the document,

2. Supplying of data (the client provides the basic technical and financial data requested to develope the basic technological and financial models)

3. Clarifying questions (the client specifies the requirements, the final product(s) e.t.c. and we clarify all other additional issues and data for the modelling) versions

4. **PRELIMINARY MODELING** (Technological model, financial model, time schedule)

5. Overview of the models, answering the questions to be occured, depending on the accuracy and quantity of the basic data received.

6. Decision making. The parties decide to go forward to the second section – if the project modelled can fulfil the requirements of both parties - or they close the "Section I" without entering into cooperation.

If the Parties are satisfied with the results of the Preliminary Modeling, and they can work together, then "Section II" after the following two steps.

SUBMISSION OF BUSINESS PLAN

SIGNING THE CONTRACT FOR FINANCING

II. PRE-FEASIBILITY STUDY SECTION
(Payable section based on the **Pre-Feasibility Study(PFS)** contract specified in point 7. bellow)

7. Preparing and signing PFS Contract is the **DRAFT I&II&III STAGES Contract** is not signed yet.

8. Identification of the more accurate basic technological and financial data, that are needed for the more accurate and detailed modeling of the project. (quantity and quality parameters of the feedstock, site specification, infrastructure, e.t.c., site visit, meetings)

9. Completing the PFS considering the needs of the decision making process of the purchaser/investor.

10. The Presentation of PFS, the client wire transfers the attorney-client fee to our company, the PFS document is provided by our company for the client.

11. The client decides to go forward to the Section III, or they close the section without entering into the third section.

In case of DECISION TO perform TCG project the expenses of the "Section II." will be considered (included) in the purchase price. They are not extra cost for the purchaser.

III. FEASIBILITY STUDY (FS) SECTION

12. Preparing and signing the **FS Contract**, if the **DRAFT I&II&III STAGES Contract** is not signed yet.

13. The step by step development and working-out of the TCG Project, including the details of the design, and the building, the permit of both the installation, and the operation.

14. The presentation of FS. The client wire transfers the attorney-client fee to our company, the FS document is provided by our company for the client.

In case of DECISION TO perform TCG project, the expenses of the "Section III." will be considered (included) in the purchase price. They are not extra cost for the purchaser.

IV. EXECUTION SECTION (ES) OF THE TCG PROJECT

15A. If in the Section III/12, there was signed the FS Contract, then in this section, there will be signed the TCG BUY SELL AGREEMENT (BSA)

15B. If in the Section III/12, there was signed the BSA, then the TCG PROJECT has begun.

Directorate of TCG Project Development

SYNEN GROUP
INTERNATIONAL