

BACKGROUND INFORMATION DOCUMENT

SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS AND WASTE MANAGEMENT LICENCE APPLICATION FOR THE PROPOSED BIOGAS FACILITY AT CSIR, PRETORIA

(CHAND REFERENCE NO. 03046)

(DEA REFERENCE NO. PENDING)

1. PURPOSE OF THIS DOCUMENT

This document provides you with information about the proposed biogas facility at the CSIR campus (Farm SCIENTIA 627) in Pretoria. It describes the following:

- Background information regarding the planning for this project;
- Information about the sites and the proposal being considered;
- An overview of the environmental assessment and related Public Participation Processes; and
- Suggestions on how you can participate in the process.

2. BACKGROUND AND CONTEXT

The Counsel for Scientific and Industrial Research's (CSIR) is moving toward becoming self-sufficient with regard to energy provision. This is motivated by many factors including the availability of land and the availability of waste in the area coupled, high and continuously rising landfill gate fees, high electricity consumption and continuously increasing electricity prices as well as decreasing security of electricity supply.

It is, therefore, the intention of the CSIR to establish a biogas facility with a maximum power output of 3MW on the property.

A full Scoping and Environmental Impact Assessment (S&EIA) process is required along with a Waste Management Licence (WML) application and potentially a Water Use Licence (WUL). These applications will run in a combined process and will be submitted to the National Department of Environmental Affairs (DEA), who is the decision-maker (given that the CSIR is predominantly state-owned).

3. DESCRIPTION AND ZONING OF THE SITE

There are currently three sites under consideration. Note that all three sites are

located within the CSIR Campus in Lynnwood, Pretoria.

The entire campus falls within the urban edge, is zoned as "Government" and is earmarked for mixed use development in terms of local planning and land use frameworks.

A Scoping exercise will be carried out to confirm which site is the preferred alternative, however the chosen site would have to conform to the following basic criteria:

1. Be relatively flat and stable in terms of topography.
2. Be accessible in terms of existing infrastructure.
3. Be close to the main CSIR transformer that should be the most feasible point of connection.
4. Be able to allow easy access for waste trucks.
5. Be relatively close to CSIR's heating requirements.
6. Be approximately 15,000 m² (1.5ha).
7. Be located a fair distance from CSIR neighbours.
8. Avoid any environmentally sensitive areas.

Each site is described below with their location within in campus illustrated in Figure 1.

Site 1

This site is vacant and covered in a mixture of natural and alien vegetation. It is located within a Critical Biodiversity Area as designated in the Gauteng Conservation Plan (C-Plan).

Site 2

Site 2 is also vacant and comprises largely of manicured gardens.

Site 3

Site 3 has been cleared and photovoltaic energy system has been established on the site.

4. WHAT IS PROPOSED

The CSIR proposes to construct a waste to energy facility with the purpose of providing the

CSIR with energy in order to reduce their reliance on the grid and save energy costs. There is potential to provide surplus power to the City of Tshwane (CoT), however this is not the main intention of the project and would, if at all, only be realised in the future.

The proposed plant would be located on the CSIR property and would provide an output of up to three megawatts (MW), cover an area of up to 10,000m², and would likely source feed stock from the municipality and shopping malls within a 50km radius from the site. Only one hundred percent organic feedstock would be accepted (noting that no sorting of waste would take place on site) and that up to 45 000 tons of organic feedstock would be accepted at the proposed facility per year.

The proposed facility would require a larger than average gas store (3 x 9,000m³ tanks) to provide the baseload capacity during hours of high demand where the other wind and solar projects on the property would not be able to supply the energy.

The preferred technology with respect to the processing and treatment of the waste at the proposed facility cannot yet be confirmed at present. However, the design would require flexibility in order to accommodate a range of various feed stock types and composition in order to adapt to future demands.

The construction of an access road would also be required and the required width would be approximately 5m, exclusive of the road reserve.

With regard to the process, the facility would operate 24 hours a day, seven days per week and 350 days per year (with downtime accounted for). Waste would be received during normal work hours between 8:00 and 17:00, six days a week.

In general, anaerobic digestion (AD) is a multi-stage biological process whereby bacteria, in the absence of oxygen, decompose organic matter to carbon dioxide, methane and water. In this way the sludge is stabilised and noxious odours are removed while the organic matter in the sludge is converted into a combustible gas (Ross et al, 1992). The solid and liquid by-products can also be used as fertiliser or refuse derived fuels.

5. LEGISLATIVE REQUIREMENTS

Although many pieces of legislation are applicable to this proposed development, there are two key pieces of legislation guiding this Scoping and Environmental Impact Assessment process, namely the National Environmental Management Act No. 107 of 1998, as amended (NEMA) and the National Environmental Management: Waste Act No.59 of 2008, as amended (NEM:WA).

Listed Activities that may have an impact on the environment are listed in the EIA Regulations (i.e. Government Notices No. 327, No.324, and No.325).

The following Listed Activities may be triggered by the proposed development (note that specific triggers would depend on the final site selected as well as future capacity requirements to be confirmed by the project engineers):

Government Notice No.327 – Listing Notice 1

- (19) *The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse...*
- (11(ii)) *The development of facilities or infrastructure for the transmission and distribution of electricity inside urban areas or industrial complexes with a capacity of 275 kilovolts or more...*
- (25) *The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2000 cubic metres, but less than 15000 cubic metres.*

Government Notice No.325 – Listing Notice 2

- (4) *The development of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.*
- (6) *The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent...*

Government Notice No.324 – Listing Notice 3

- (4(c)(iv)) *The development of a road wider than 4 metres with a reserve less than 13, 5 metres, in Gauteng, at sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans...*
- (12(c)(ii)) *The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in*

accordance with a maintenance management plan.

Within critical biodiversity areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans;

In addition, the Listed Activities triggered in terms of the NEM:WA are indicated in Table 1.

Table 1 Listed Activities triggered in terms of NEM: WA

Activity No(s):	Provide the relevant Category B Waste Management Activity(ies) as set out in List of Waste Management Activities (GN No. R. 921)
3	The recovery of waste including the refining, utilization, or co-processing of the waste at a facility that processes in excess of 100 tons of general waste per day or in excess of 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises. The proposed facility would process approximately 45,000 tons of waste per annum. Although it is the intention of the CSIR to use general waste, certain components thereof may be considered hazardous and the inclusion of this Listed Activity allows for a more flexible EA.
10	The construction of facilities for activities listed in Category B of this Schedule (not in isolation to associated activity).

As such, a **Scoping and Environmental Impact Assessment (S&EIA)** process will be undertaken with a view to obtaining the environmental authorisation and WML from the DEA.

This process has to be undertaken by independent consultants.

Chand Environmental Consultants has been appointed as the independent Environmental Assessment Practitioners (EAP) to undertake the environmental and WML process.

Environmental and WML authorisation, which may be granted subject to conditions, will only be considered once the process has been completed.

Further to the above, there would also be a need for an Atmospheric Emissions Licence (AEL) in terms of the National Environmental Management: Air Quality Act No. 39 of 2004, as amended (NEM:AQA) and potentially a Water Use Licence (WUL) in terms of the National Water Act No. 36 of 1998 (NWA).

6. SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT

The aim of the process is to identify and assess relevant alternatives as well as to ascertain whether there are issues, concerns, benefits and/or opportunities associated with the proposed development. The impacts of the proposed development would be assessed and

mitigation measures to reduce or avoid adverse impacts would be devised.

A **Scoping Study** serves to 'scope out' insignificant and irrelevant environmental issues as it relates to the site and the project context.

A Scoping Report incorporates the findings of all specialist input that was required based on the biological and social sensitivities on and around the site. The draft report will document:

- A description of the study area;
- A description of the scope of the activity;
- An indication of alternatives considered;
- An identification of preliminary potential impacts and risks associated with the environment and possible mitigation measures;
- The relevant legislation and guidelines pertinent to the development;
- The public participation process to be undertaken;
- Information on the methodology that will be adopted in assessing the potential impacts that have been identified; and
- A Plan of Study for the EIA phase.

Note that comments received on this BID and/or new information that becomes available subsequent to the compilation of the draft documentation would inform any required changes to the Scoping Report prior to commencement of the formal application process.

The Scoping Report will be subjected to a formal public participation process once application has been made to the DEA during which organs of state and I&APs will have the opportunity to comment on the draft report.

The WML application will run in parallel with the S&EIA process, while the WUL application (if required) would most likely be made during the EIA phase. The AEL application would be compiled with information from the S&EIA process, but would only be submitted (to the City of Tshwane) upon receipt of Environmental Authorisation, unless otherwise required by the City of Tshwane.

Comments and issues raised will be recorded, responded to and incorporated into the final documentation which will be submitted to the DEA for acceptance.

Once the Scoping Report is accepted, the **EIA phase** will commence with the compilation of

an Environmental Impact Report (EIR). The EIR will comparatively assess the significance of environmental impacts of the different project alternatives based on the findings of the specialist assessments and the issues raised by the public during the Scoping phase. The EIR will include a draft Environmental Management Programme (EMP), which would incorporate proposed management or mitigation measures that should be implemented to address the environmental impacts that have been identified. These documents will also be made available for comment from I&APs.

The EIR, accompanied by the Environmental Management Programme (EMPr), the specialist reports and a record of the public participation process will ultimately be submitted to the DEA to inform their final decision on the application.

The information arising out of the specialist investigations and public participation process (PPP) as indicated below will be taken into account by the project team, and will be considered by the authorities in their decision-making.

6.1 Public Participation

Public input is an important legislated requirement of the environmental assessment process. The proposed PPP for this study will include a number of steps, as listed below:

- Issuing notification of this proposal to:
 - *Owners and occupiers of land adjacent to the site;*
 - *The municipal councillor and local ratepayers association;*
 - *The municipality which has jurisdiction (i.e. City of Tshwane), and*
 - *Any organ of state having jurisdiction.*
- Placing an advert in two local newspapers;
- Placing a notice on the site;
- Focus Group Meetings with key parties affected; and
- Public review of the Scoping and EIA Reports (note that reports will be made available on Chand's website, at local public libraries and will be delivered to the relevant State Departments).

6.2 Specialist Input

The following specialist studies will be undertaken to inform the Scoping Report and EIR:

- **Air Quality;**
- **Botanical;**

- **Traffic;**
- **Heritage;**
- **Risk Assessment;**
- **Freshwater; and**
- **Stormwater.**

The need for further specialist investigation, if any, will be determined during the process.

6.3 Alternatives

It is a requirement of the S&EIA process that feasible alternatives be considered as part of the proposal.

Three site alternatives as well as the no-go alternative will be considered during the scoping phase.

Operational, design, and/or technological alternatives for the accepted site alternative (resulting from the approval of the Scoping Report and plan of study for EIA phase) would be assessed during the EIA phase. The no-go alternative will also be assessed in the EIA phase.

Further alternatives may be established later in the process, upon input from I&APs and specialists.

7. HOW YOU CAN GET INVOLVED

Should you have any comments, **please register as an I&AP**, by providing a full set of contact details, and provide written comment (if you wish to do so) on this document by no later than **28 June 2018** to:

Mellissa McJames (Administrator)
 Chand Environmental Consultants
 PO Box 238, Plumstead, Cape Town, 7801
 Tel: (021) 762 3050 Fax: 086 665 7460
 Email: info@chand.co.za

YOUR OPPORTUNITY TO BE INVOLVED

Your active participation will contribute to ensuring responsible selection and development of the preferred site, as well as responsible decision making by the authorities.

The first step in the process is for any members of the public who feel they are affected by or have an interest in the proposed project, to register as I&APs. All registered I&APs will receive continuous communication regarding the proposed project and will be notified of the availability of reports for comment.



Figure 1 Location of Proposed Sites

