	Request for Information (RFI) Template	Document Identifier	240-72663051	Rev	1
		Effective Date	October 2022		
		Review Date	October 2027		
		EOI/RFI Number	E1072CXMWP		

PART A REQUEST FOR AN EXPRESSION OF INTEREST (EOI)/ REQUEST FOR INFORMATION (RFI)			
Description of the works/goods/services	E1072CXMWP - Request to obtain information about high efficiency low emission technology		
Deadline for submission	25 April 2024	At (South African Standard Time)	10h00
Tender Office address	E-Tendering method will be used.		
Enquiries	Sello Ndlovu E-mail address: ndlovupe@eskom.co.za Tel: 011 800 6427		

Eskom Holdings SOC Ltd ("Eskom") invites you to submit a:

- **Request for information (RFI)** to submit information for the works/goods/services as stated in the table. This RFI is a stand-alone information-gathering and market-testing exercise, intended only to inform and assist Eskom's further deliberation and development of a strategy to obtain information about high efficiency low emission technology

We look forward to receipt of your response.

Yours faithfully




Procurement Manager

Shamani Padayachee

Date: 19 March 2025

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DEFINITIONS

In this Document, except as otherwise defined herein, the following terms shall have the following meanings:

B-BBEE	- means Broad-Based Black Economic Empowerment.
Document	- this document which outlines the requirements of the Request for information of solar photovoltaics (PV) technologies and associated components, services, and capabilities.
ERIC	- Eskom Research and Innovation Centre that is located at Lower Germiston Road, Rosherville, Gauteng.
Procurement Process	- Means the procurement process being conducted in terms of this RFI in respect of the Project or requested information.
RT&D	- Research, Testing and Development, a business unit in Eskom.
Respondent	- any entity or consortium that submits a Response to this Document.
State Owned Company or SOC	- a legal entity that is or has previously been created by the Government in order to partake in commercial activities on the Government's behalf, where in the context of the Project, such entity may include any entity with a mandate to engage in the energy or financing sector.
RE	- Renewable.
HELE	- High efficiency low emission technology
Gx, Dx and Tx	- Generation, Transmission and Distribution.


INTRODUCTION AND BACKGROUND

The burning of coal for electricity production, and its subsequent release of gaseous and solid emissions, has a negative impact on the environment and climate. Greenhouse gases (GHG) and particulate matter (PM) contribute to the continual rise in atmospheric temperature (i.e., global warming) and impacts on human health. To combat these negative effects, the use of renewable energy technologies for electricity production is expected to increase annually. However renewable energy (RE) is an intermittent supply and there will be a need for base load to safeguard continually supply of electricity.

Eskom's energy capacity from coal will over the years also decline as more power plants will be reaching their end-of life. However, there is abundant coal reserves in South Africa which will need to be responsibly and economically utilised; paired with the need for base load in the

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electricity grid, new plants that are more efficient and emit less might be considered. High Efficiency Low Emission (HELE) technologies utilising coal offer economical (lower kilograms of coal per megawatt hour generated), and responsible use of coal (less emission emitted per MWh generated).

Eskom therefore invites suppliers and original equipment manufacturers to provide information related to HELE technologies, that Eskom will utilise to develop a strategy towards the demonstration and sub-subsequent construction of a HELE technology for the benefit of the country and its environment.

PURPOSE AND STRUCTURE OF THE RFI

- 1) The objective of this RFI is to obtain market information from interested Suppliers/Service providers for HELE Technologies.
- 2) The future HELE projects specifications will be developed based on the technologies that are available in the market.
- 3) Information from Suppliers/Service provider will be used by Eskom to verify known information on HELE technologies, update knowledgebase on current and emerging technologies and pilot projects,
- 4) Information from Suppliers/Service provider will also be used by Eskom to inform strategic business decisions and evaluate potential High Efficiency Low Emission (HELE) technologies that are suitable for possible implementation at Eskom sites.
- 5) Service providers/Suppliers are encouraged to provide complete information as much as possible.
- 6) Responses submitted should be as comprehensive as possible and include information requested and any supporting documentation in respect thereof. If proprietary information is included in the response, the clauses on the use of such information must be indicated.


BENEFITS TO ESKOM

- Net-Zero strategies and programs promulgated world-wide aim to reduce the release of greenhouse gases and ensure that these gases are captured from the atmosphere by 2050. Intermittent renewable energy and energy storage will significantly reduce the total GHG emission, however significant support from base load technologies will be required. HELE technologies can provide the base-load support required for effective renewable energy utilisation, as well as ensure that the aspiration of Net-Zero is met.
- Development of a business strategy for the implementation of a HELE technology that is suitable to South African environment; Eskom needs to acquire relevant information (taking into account the South Africa's coal quality for power generation) from the market and further make informed decision on the HELE technologies to consider.

ADDITIONAL INFORMATION:

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No.	Questions	Response
4.1	<p>Provide Supplier name, technology name and technology description, including:</p> <ul style="list-style-type: none"> Type of technology utilised. Unique features in the technology. Capacity. Design life. General arrangement drawing. Footprint requirement for the technology. Technology preferred coal fuel quality and characteristics. Suitability for sub-bituminous coal. Suitability for low-quality (high ash, low CV) sub-bituminous coal. Key technology risks. Technology operational flexibility (Ramp rates, lowest load, highest load). The preferred demonstration size and cost. 	
4.2	<p>The Respondent to provide technology performance characteristics, including:</p> <ul style="list-style-type: none"> Boiler efficiency. Turbo-generator efficiency. Overall cycle efficiency. Start-up and Shut-down times. Ramp rate. Gaseous and particulate emissions per kWh. Capacity and performance degradation rate. 	
4.3	Provide a process and flow diagram of a typical installation (including overall mass/material/heat balance, inputs, and outputs), as well as applicable design codes.	
4.4	Provide functional descriptions and operating parameters of all key components.	
4.5	Describe the control and operating philosophy of the technology.	
4.6	<p>Describe the maintenance philosophy of all key components, including:</p> <ul style="list-style-type: none"> Typical wear parts and replacement durations. Service intervals and duration. Typical service costs, including repairs, spares and labour for each type of service. Reliability and availability statistics from previous installations. Specialised engineering, operating and maintenance skills. 	
4.7	The Respondent to provide information on the budgetary cost estimated for the design, supply, and installation of the technology [capital and operating expenditure] in ZAR/kW.	

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No.	Questions	Response
4.8	Provide the life cycle costs of the technology, including: <ul style="list-style-type: none"> CapEx in ZAR/kW. Fixed Operation and Maintenance costs in ZAR/kW. Variable Operation and Maintenance costs in ZAR/kW. Ongoing CapEx in ZAR/kW. 	
4.9	Provide information on typical timelines for both Greenfields and Brownfields installation.	
4.10	Provide information on the required capabilities exchange post demonstration/installation:	
	<ul style="list-style-type: none"> Training Requirements. 	
	<ul style="list-style-type: none"> Upskilling/retraining requirements. Certification of operator requirements. 	
4.11	Reference installations: <ul style="list-style-type: none"> Name of power station installed. Number of units installed. Unit capacity (Boiler, turbine, and unit). Date of installation. Date of commercial operation. Operational performance data (boiler, turbine and unit efficiency). Emission performance data (gaseous and particulates). Typical guarantees and warranties that would be offered for the equipment and systems supplied. 	
4.12	Intellectual property (license and ownership - if licensee, provide details including terms and conditions).	
4.13	Provide any other additional information in respect of the technology which you may deem necessary to bring to the attention of Eskom.	

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PART B RESPONSE SHEET IN TERMS OF A REQUEST FOR AN EXPRESSION OF INTEREST/ REQUEST FOR INFORMATION To be completed by the supplier			
To	Eskom Holdings SOC Ltd	Date	
Attention			
Tel no		Fax no and /or e-mail address	
From		Address	
Address			
Sender			
Description of the works/goods/services	E1072CXMWP - Request to obtain information about high efficiency low emission technology		


Please find below our response to Eskom's questions:

1. RESPONDENT INFORMATION

No.	Question	Please indicate your response in this column
1.	Name of the Respondent	
2.	The name and contact details of the person appointed by the Respondent as its representative in the event that Eskom needs to contact the company for clarification or further details.	
3.	Company profile and description of key service offerings and capacities.	
4.	Is the respondent/company an existing registered Eskom vendor? (Please provide vendor registration details)	
5.	Provide details on respondent/Company empowerment, localisation credentials (Black Youth & Women Owned Enterprise, BBBEE Enterprise etc)	
6.	Is the company locally based or have a local office in South Africa? If no, indicate if the company is familiar with the requirements of South African State-Owned Companies tendering processes.	

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2. SECTION A – HELE TECHNOLOGIES:

No.	Question	Please indicate your response in this column
A1.1	<p>Provide Supplier name, technology name and technology description, including:</p> <ul style="list-style-type: none"> Type of technology utilised. Unique features in the technology. Capacity. Design life. General arrangement drawing. Footprint requirement for the technology. Technology preferred coal fuel quality and characteristics. Suitability for sub-bituminous coal. Suitability for low-quality (high ash, low CV) sub-bituminous coal. Key technology risks Technology operational flexibility (Ramp rates, lowest load, highest load). The preferred demonstration size and cost. 	
A1.2	<p>The Respondent to provide technology performance characteristics, including:</p> <ul style="list-style-type: none"> Boiler efficiency. Turbo-generator efficiency. Overall cycle efficiency. Start-up and Shut-down times. Ramp rate Gaseous and particulate emissions per kWh Capacity and performance degradation rate. 	
A1.3	<p>Provide a process and flow diagram of a typical installation (including overall mass/material/heat balance, inputs, and outputs), as well as applicable design codes.</p>	
A1.4	<p>Provide functional descriptions and operating parameters of all key components.</p>	
A1.5	<p>Describe the control and operating philosophy of the technology.</p>	
A1.6	<p>Describe the maintenance philosophy of all key components, including:</p> <ul style="list-style-type: none"> Typical wear parts and replacement durations. 	

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	<ul style="list-style-type: none"> • Service intervals and duration. • Typical service costs, including repairs, spares and labour for each type of service. • Reliability and availability statistics from previous installations. • Specialised engineering, operating and maintenance skills. 	
A1.7	The Respondent to provide information on the budgetary cost estimated for the design, supply, and installation of the technology [capital and operating expenditure] in ZAR/kW.	
A1.8	Provide the life cycle costs of the technology, including: <ul style="list-style-type: none"> • Capital Expenditure in ZAR/kW • Fixed Operation and Maintenance costs in ZAR/kW • Variable Operation and Maintenance costs in ZAR/kW • Ongoing Capital Expenditure in ZAR/kW 	
A1.9	Provide information on typical timelines for both Greenfields and Brownfields installation.	
A1.10	Provide information on the required capabilities exchange post demonstration/installation: <ul style="list-style-type: none"> • Training Requirements. • Upskilling/retraining requirements. • Certification of operator requirements. 	
A1.11	Reference installations: <ul style="list-style-type: none"> • Name of power station installed. • Number of units installed. • Unit capacity (Boiler, turbine, and unit) • Date of installation • Date of commercial operation • Operational performance data (boiler, turbine and unit efficiency) • Emission performance data (gaseous and particulates) • Typical guarantees and warranties that would be offered for the equipment and systems supplied. 	
A1.12	Intellectual property (license and ownership - if licensee, provide details including terms and conditions).	
A1.13	Provide any other additional information in respect of the technology which you may deem necessary to bring to the attention of Eskom.	

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CLARIFICATION MEETING (NOT COMPULSORY)

Date: 10 April 2025

Venue: Via Teams

Time: 10h00 – South African Standard Time

Link: [Join the meeting now](#)

Please e-mail Sello Ndlovu at ndlovupe@eskom.co.za to be send the link

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