ANNEXURE A
TWENTY-YEAR LIQUID FUELS ROAD MAP

This Terms of Reference shall be read in conjunction with the Request for Proposals for the same task and the standard Terms and Conditions.

Relevant documents include, among others, the following:

Legislation (Acts of Parliament (as amended) and corresponding Regulations):
(1) Petroleum Products Act, 1977 (Act No.120 of 1977);
(2) Central Energy Fund Act, 1977 (Act No. 38 of 1977);
(3) Gas Act, 2001 (Act No. 48 of 2001);
(4) Petroleum Pipelines Act, 2003 (Act No.60 of 2003);
(5) Gas Regulator Levies Act, 2002 (Act No. 75 of 2002)
(6) Petroleum Pipelines Levies Act, 2004 (Act No. 28 of 2004);
(7) National Energy Regulator Act, 2004 (Act No. 40 of 2004); and
(8) National Energy Act, 2008 (Act No. 34 of 2008)

Policy-related documents:
(2) Moerane Commission Report of 2006;
(3) The Energy Security Master Plan – Liquid Fuels of 07 August 2007;
(4) The National Biofuels Industrial Strategy of December 2007; and

It should however be noted that the ubiquitous nature of energy and the convergence of energy carriers would require reference of other pieces of legislation, policy documents and publications that are even external to the liquid fuels sector.

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TERMS OF REFERENCE FOR THE APPOINTMENT OF SERVICE PROVIDER TO DEVELOP A TWENTY YEAR LIQUID FUELS ROAD MAP

1. GENERAL/BACKGROUND

Every area of human activity is underpinned or enabled by the provision of energy in its appropriate quantity and form. The South African economy is heavily dependent on liquid fuels for the transportation of goods and people across its geographical expanse. Petrol and diesel are almost exclusively used for road transport of passengers and freight, powering more than ninety percent (90%) of the transport sector.

The liquid fuels of primary concern are petrol, diesel, jet fuel, illuminating paraffin (IP) and liquefied petroleum gas (LPG). South Africa’s demand for these liquid fuels currently exceeds domestic supply. The liquid fuels are manufactured by six refineries as shown in Table 1 below and the shortfall is met through imports:

<table>
<thead>
<tr>
<th>Refinery</th>
<th>Area and Province</th>
<th>Type</th>
<th>Capacity*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chevron Refinery</td>
<td>Cape Town, Western Cape</td>
<td>Crude</td>
<td>100,000</td>
</tr>
<tr>
<td>Engen Refinery</td>
<td>Durban South, KwaZulu Natal</td>
<td>Crude</td>
<td>125,000</td>
</tr>
<tr>
<td>Natref</td>
<td>Sasolburg, Free State</td>
<td>Crude</td>
<td>108,000</td>
</tr>
<tr>
<td>PetroSA</td>
<td>Mossel Bay, Western Cape</td>
<td>Synthetic (GTL)</td>
<td>45,000</td>
</tr>
<tr>
<td>Sasol Synfuels</td>
<td>Secunda, Mpumalanga</td>
<td>Synthetic (CTL)</td>
<td>150,000</td>
</tr>
<tr>
<td>Sapref</td>
<td>Durban South, KwaZulu Natal</td>
<td>Crude</td>
<td>180,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>708,000</strong></td>
</tr>
</tbody>
</table>

*Barrels of crude oil equivalent per day

Table 1: South Africa’s installed refining capacity

Slightly more than seventy percent (70%) of the country’s liquid fuels demand is met by crude oil and finished product imports while the balance is satisfied by local production of synthetic fuels from both coal and gas. Liquid fuels are transported by pipeline, rail, road, sea and a combination thereof to depots across the country. These products are then distributed directly to commercial customers and to points of resale, particularly, retail service stations.

The country’s resilience and ability to cope with disruptions in the supply chain were tested in December 2005 by severe fuel shortages that nearly brought the economy to a standstill. The outcry from this incident highlighted the importance of the liquid fuels industry to the entire economy. The Energy Security Master Plan - Liquid Fuels approved by Cabinet in August 2007 and gazetted in
September of the same year, estimates that the unavailability of liquid fuels in the country would cost the economy an estimated R925 million a day (at 2005 figures).

In respect of liquid fuels, the Department has deemed it necessary that a long term (twenty years) Road Map be developed for continued security of supply to enable South Africa’s growth and development. This requires a holistic approach in identifying and mitigating supply risks along the entire value chain in view of the existing or envisaged PESTEL (political, economic, social, technological, environmental and legal) environment and changes therein.

The Twenty-Year Liquid Fuels Road Map should lay a foundation and provide a framework for ensuring security of supply in the short-, medium- and long-term in a manner that is cost-effective and supportive of the country’s growth and development goals. Among other things, the Road Map should enable Government to:

1) Ensure that South Africa has access to reliable, affordable, clean, sufficient and sustainable sources of energy to meet the country’s liquid fuels demand;
2) Create an environment that encourages investment into liquid fuels infrastructure;
3) Improve price stability and/or affordability of liquid fuels;
4) Ensure that in the design of the energy demand sectors, like transport, due regard is given to continued availability of liquid fuels;
5) Ensure that there is an integrated government-wide approach to dealing with liquid fuels;
6) Promote diversity in the supply of liquid fuels (e.g. meeting demand with biofuels and other renewable / alternative energy carriers);
7) Reduce liquid fuels usage through efficiency interventions;
8) Enable improved competitiveness of the South African economy; and
9) Empower all stakeholders to deal with any liquid fuels supply disruptions that may occur.

Stakeholder consultation
1) The project will involve a wide range of participants and stakeholders, which include, inter alia, liquid fuels industry and related industries, organised labour, regulatory bodies, government departments and other organs of state. Interested parties include the general public, the media and the investment community. Hence effective communication and the use of appropriate methods of communication are critical for project success.
2) Stakeholder consultation will take the form of individual organisation interviews or questionnaires, as well as workshops where appropriate. Stakeholder consultations will be primarily used both to garner views as well as to communicate to stakeholders about the project.
3) Stakeholder analysis should precede project execution and be revisited throughout project development. Among other things, the analysis shall entail identifying stakeholders to be consulted during the various stages of the project as well as their interests and possible contribution to the development of the project.
4) Therefore the overarching approach will entail clearly outlining the objective / purpose of the communication; key audience / stakeholders; method(s) of communication and follow-up.

5) Other key aspects to be considered in respect of communication and stakeholder consultation entails information security and confidentiality; publicity and promotion of project; authority to liaise with the media (which should lie with the Department of Energy).

2. SCOPE OF WORK

2.1 The project will broadly entail the following:

2.1.1 A situational analysis of the current local and international liquid fuels supply-demand balance. This should then be drilled down to the South African market situation by product and geographical area / region. This should also include crude oil and natural gas;

2.1.2 Generate various scenarios for supply-demand trends up to 2030.

2.1.3 Generate concomitant supply options for the above-mentioned demand-supply trends with their logistical requirements. These options should consider integration with other energy carriers like biofuels and other alternative energy resources;

2.1.4 Forecast fuel specifications and standards underpinning the supply options as they get adopted over the years up to 2030. An estimate of capital investment expenditure to produce or import fuel of applicable fuel specifications and standards should be provided;

2.1.5 Generate domestic liquid fuels productions for the supply options. These will entail developing a refinery model that will indicate the possible / preferred type, location, capacity, product slate and risk factors for each envisaged refinery;

2.1.6 Assess import requirements and provide justification for such imports in contrast to domestic production; and

2.1.7 Provide market supply routes and associated logistics infrastructure for all supply-demand scenarios / options

2.1.8 Ingrained in the approach should be the security of supply risk management, which would include the use of tools like SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis and decision trees. Hence foresight of unintended consequences for each scenario / options would be important for the choice of an appropriate roadmap.

2.2 All options should highlight the recommended enabling policy / legislative framework to be adopted.

2.3 However, scope refinement will be done prior to commencement with the project during the kick-off / inception meeting. During the said meeting principles to deal with scope creep should be agreed upon.

3. PROJECT OUTPUT

The contractor will be required to deliver a Roadmap for liquid fuels in South Africa over a twenty-year period up to year 2030. The Roadmap should delineate various costed alternatives and a selected pathway at specified times in respect of:
3.1 A forecast of demand of the main fuels and their specifications and standards (considering Clean Fuels 2 and beyond);

3.2 The current and future domestic refining environment (juxtaposed to current and foreseen international refining environment). This should entail:

3.2.1 Liquid fuels production from indigenous sources, mainly coal-to liquids (CTL);
3.2.2 Expansion of existing refineries - brownfields;
3.2.3 Construction of new refineries – greenfields; and
3.2.4 Auxiliary services and equipment;
3.2.5 Supply options to meet the forecasted demand;
3.2.6 Current and foreseen structural and operational bottlenecks along the entire liquid fuels value / supply chain;
3.2.7 Importation of crude oil, gas and finished products; and
3.2.8 Supporting regulatory / legislative framework, technological development and human capital. Included in the regulatory framework should be overarching issues on pricing.

4. PROJECT DELIVERABLES
The contractor will be required to deliver:

4.1 electronic and hard copies of the Road Map for liquid fuels in South Africa over a twenty-year period up to year 2030;
4.2 a supply / demand balance model;
4.3 refining and logistics model;
4.4 a presentation on the 'liquid fuels road map' scenario planning, which should also indicate the preferred or chosen scenario / option up to 2030. This will actually be an extraction of the content of the Road Map; and
4.5 a high level implementation plan, inclusive of the recommended phase-in or transitional mechanisms.

5 TRANSFER OF SKILLS
5.1 Bidders must submit, at the same time as the bid, to the Department of Energy a skills transfer plan and program.

6 PROJECT DURATION/COMPLETION DATE
6.1 The expected duration of the project is six months after the signing of a contract.

7 COMPULSORY BRIEFING SESSION
7.1 A compulsory information session will be held at the Department of Energy Head Office-70 Mentjes Street, Travenna Campus, Sunnyside as per Annexure 1 attached.
8 INTELLECTUAL PROPERTY
8.1 Outputs, data, models, copyrights, trademarks and logos arising from the project and generated in the execution of the project shall vest in the Department of Energy.

9 BID EVALUATION METHODOLOGY / CRITERIA
9.1 Project Cost
9.1.1 The consultant will be requested to give a quote regarding the work to be undertaken for this project. The cost must be VAT inclusive and should be quoted in South African Rand.
9.1.2 The estimated project costs should include all foreseeable stakeholder consultation sessions, including workshops. These should as far as practicable be held at low-cost or free venues in a cost-efficient manner.
9.1.3 Costing shall be aligned with the project activities / project phases.
9.1.4 Financial proposal shall be separate from the technical proposal

9.2 Previously Disadvantaged Individuals
9.2.1 Provision of the Preferential Procurement Policy Framework Act (PPPFA) will apply

9.3 Qualifications
9.3.1 The Department of Energy requires the services of a suitably qualified consultant to develop a Twenty Year Liquid Fuels Road Map. The Project team, which will function under the leadership of the Department of Energy, should at least comprise: a Project leader; Project administrator; refinery experts; logistics infrastructure and operations experts (pipeline, rail, ports, depots, storage and distribution); supply experts; econometrics / economic analysis experts; planners and modellers; and statisticians. There should be a commitment to ensure access to other experts like legal and environmental experts as and when required.
9.3.2 CV's should be attached on the Technical proposal to indicate all academic qualifications of the Project team leader and members.

9.4 Company Experience
9.4.1 Bidders are required to demonstrate a good understanding of the liquid fuels industry and the various segments of its value chain.
9.4.2 Bidders are required to provide proof that they have facilitated similar and/or related projects. In this respect the following minimum details are required: name and contact number of reference (client); project description; duration of the project; project cost; project team; and project outputs and outcomes

9.5 Team Leader and Members Experience
9.5.1 Team Experience in similar or related projects
9.6  **Project Planning / Methodology**

9.6.1 The bidder must give a detailed description of the methodology it will utilize to successfully complete the task directive.

9.6.2 The methodology should include the envisaged project governance structure, which should assist both project development and execution by facilitating:

9.6.2.1 Effective communication and information flow among project members;
9.6.2.2 Quick decision-making;
9.6.2.3 Good risk management (which mainly encompasses risk identification, analysis and mitigation); and
9.6.2.4 Compliance to applicable law, particularly corporate governance and competition law.

9.6.3 The nature of the project requires that the project team be divided into various work streams, focusing on the various key aspects of the project, each with its own stream leader and team members. Hence the project plan should include key milestones for the various work streams.

9.7  **Evaluation Criteria**

9.7.1 Bids will be evaluated in accordance with the criteria indicated on the below table.

9.7.2 The 90/10 principle in terms of the Preferential Procurement Policy Framework Act is applicable.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functionality</td>
<td>60</td>
</tr>
<tr>
<td>Qualification</td>
<td>10</td>
</tr>
<tr>
<td>Company Experience</td>
<td>5</td>
</tr>
<tr>
<td>Experience: Team Leader and Members</td>
<td>15</td>
</tr>
<tr>
<td>Project Plan / Methodology</td>
<td>30</td>
</tr>
</tbody>
</table>

Phase 2: Price Specific Goals Evaluation

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Cost</td>
<td>30</td>
</tr>
<tr>
<td>Historically Disadvantage Individual (HDI)</td>
<td>10</td>
</tr>
<tr>
<td>People with no franchise prior to the 1993 constitution</td>
<td>7</td>
</tr>
<tr>
<td>Women Equity</td>
<td>2</td>
</tr>
<tr>
<td>Disability</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

9.7.3 Only bidders who obtain at least 60% (36 points) under Technical Evaluation will be considered for further evaluation.
9.7.4 In respect of Project Plan / Methodology criterion it would not be feasible to proceed with the evaluation of a bid that does not render the envisaged deliverable.

9.7.5 Bidders are requested to submit two (2) copies plus the original.

9.7.6 Bidders are requested to separate financial proposal from technical proposal.

10 CONDITIONS

10.1 The Project Leader should at all times be available.

10.2 The Department of Energy is not obliged to award a tender and has the right to re-advertise the Terms of Reference.

10.3 Compliance to applicable law, particularly corporate governance and competition law is an imperative.

10.4 Final proposals must be deposited into the Tender Box on the ground floor of the Department [Trevenna Campus, corner of Mentjes and Schoeman Streets, Sunnyside, Pretoria, 0002] as per SBD1 document.

11 ENQUIRIES

11.1 Enquiries regarding the Bid documents may be directed to:

Ms Daisy Maraba/Lebogang Mosuwe
Tel No: (012) 444 4373/444 4187
E-mail address:daisy.maraba@energy.gov.za

Or

Technical Enquiries
Mr M Mkhize
Tel No: (012) 444 4016