



**The State of Israel
The Ministry of National Infrastructure, Energy and Water Resources**

Public Tender no. 55/2016

Public Tender No. 55/2016 on providing assistance in pre-feasibility study for constructing and operating a GTL (Gas to Liquid) Plant in Israel

To the extent relevant, we attach herein an unofficial English translation of the main elements of Public Tender 55/2016 of the Ministry of National Infrastructure, Energy and Water Resources.

We wish to emphasize that this translation has been provided for the purpose of convenience only, and only the published Hebrew version shall obligate the Ministry.

General:

The Ministry of National Infrastructure, Energy and Water Resources (hereinafter: **the Ministry**) through the Office of the Chief Scientist (hereinafter: **the Division**) hereby publish a tender on providing assistance for pre-feasibility study for constructing and operating a GTL plant in Israel (hereinafter: **the tender**), and all as specified in the tender documents.

The assistance amount provided for pre-feasibility study in the tender herein shall constitute 50% of the cost of the pre-feasibility study in accordance with the bid of the bidder or a total of NIS 200,000, the lower of the two.

Opening the tender box and announcing the tender winners is conditioned by maintaining a budget source.

Entering into a contract with the Ministry under this tender is through an agreement, attached as **Appendix B**, between the bidder and the Ministry, as the bidder takes it upon himself to execute the pre-feasibility study for constructing and operating a GTL plant in Israel in reference to a specific site in Israel (one or more) which he shall offer in the bid.

1. Professional threshold conditions

Only bidders who consider themselves as having potential to construct and operate a GTL plant in a specific site in Israel and who meet the preconditions specified in the section hereof may bid in the tender herein.

The overall bid must meet the preconditions specified in the section hereof, and it shall be composed of several participating bodies, and one of the bodies participating in the bid – and under the condition it is a legal entity incorporated in



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Israel – shall be defined as the bidder and serve as the party in front of which the contract with the Ministry shall be made.

For the purpose of the tender, the bidder must enter into contract with other participating bodies that meet some of the preconditions below that are an integral part of the bid (e.g. the bidder owns the international infrastructure and shall enter into a contract with a bidder holding the technology for pre-feasibility study in reference to one or more specific site).

The bid should meet **each** of the following preconditions:

- A. The bid includes a participant owning **a national/ local infrastructure which may support the construction of a GTL plant in Israel** (such as, refinery facility, pipeline transport for oil and its products, filling facility, suitable land for the purpose, etc.);
- B. The bid includes a bidder who **owns proven technology** or an official representative of the holder of the technology or the owner of the license/ concession to use the proven technology (as defined above) to construct a GTL plant;
- C. The bid includes a bidder who has **proven knowledge and experience in engineering consultation or planning or management of a project** responsible for constructing at least two (2) petrochemical facilities or energy facilities which were built for at least 100 million dollars each.

The bidder must attach to his bid a signed statement of intent to enter into any contract with the additional bodies participating in the bid mentioned above.

The Ministry shall enter into an agreement with the bidder alone, and he alone shall be liable to the Ministry to execute the entire pre-feasibility study as specified in the tender herein.

It should be clarified that there is no prevention for an individual bidder to take part in several bids **as long as these bids refer to different sites.**

The bidder must prove he and the rest of the parties who participate in the bid meet the preconditions mentioned above through documents specifying the relevant experience, including:

- Examples of works, similar projects the bidder performed and are pertinent to the bid;



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- In reference to the technology owner – an organized list of the GTL plants/facilities that were established and are operational around the world using the offered technology, which includes the plant/ facility location, year of construction and operation, extent of production, type of manufactured products, details of relevant contacts, etc.;
- In reference to the representative who owns the technology – an official letter from the owner of the technology indicating the bidder is an official representative of the owner of the technology, and an organized list of the GTL plants which were established and are operational around the world using the offered technology based on the above mentioned specification;
- In reference to the local infrastructure owner – specification of the local infrastructure facilities the bidder owns;
- In reference to the holder of knowhow and engineering experience – specification of the experience and specification of the petrochemical facilities to which he provided engineering consultation, planning or construction management.

2. A quality evaluation of the of the Bid (100% of the final score)

In this stage, the bids are evaluated based on the quality of the bid, assessment of the qualification of the bidder and other participating parties, their experience, and their skill, under the weights specified in the table below:

	Description of Criterion	Maximum Score
1	<p>The basic suitability of the offered site/ infrastructure held by the bidder and/or other participating parties for the requirements of the GTL plant.</p> <p>This section shall be reviewed in accordance with the details of the offered site, as specified in the bid, while the scoring shall be given based on criteria of:</p> <ul style="list-style-type: none">- The existing affiliation between the offered site and the bodies from which the bidder is comprised– 7%;	%25



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	<ul style="list-style-type: none">- The planning/ statutory suitability of the proposed site for a GTL plant – 7%;- The proximity of the site to related infrastructures – 6%;- Other additional relevant considerations – 5%;	
2	<p>The extent of technological maturity/applicability of the technology offered by the bidder and/or the additional participating bodies in the establishment of a GTL plant.</p> <p>This section shall be reviewed in accordance with the details of the technology offered in the bid for constructing and operating the facility, when scores shall be based on the criteria of:</p> <ul style="list-style-type: none">- Degree of technological applicability in other facilities operational around the world – 10%;- The extent of technological integrity concerning all the necessary elements to establish and operate a GTL facility (is it an all-inclusive technology or technology for a single component out of the entire process, etc.) – 5%;- Adjustability of the implementation of the technology regarding different extents of production (does the technology enable modularity in the establishment of a plant, is the technology suitable only for large facilities, etc.) – 5%;- Other additional relevant considerations – 5%.	%25
3	<p>The extent of experience and knowledge in engineering or planning during construction or operation of energy, petrochemical plants and infrastructure in general, and GTL plants in particular.</p> <p>This section shall be reviewed based on the details of the comprehensive engineering and planning experience of the bidder</p>	%25



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	<p>and/or the additional participating bodies for establishing and operating energy, petrochemical plants, and infrastructures, when the scoring shall be provided based on criteria of:</p> <ul style="list-style-type: none">- The extent of planning and/or engineering experience the bidder has regarding energy facilities, infrastructure, and petrochemicals in general – 7%;- The extent of planning and/or engineering experience the bidder has regarding GTL facilities – 7%;- The extent of planning experience in establishing infrastructure facilities in Israel – 6%;- Other additional relevant considerations – 5%.	
4	<p>The content of the bid – the bid includes a pre-feasibility study of the technology in more than one specific site or a pre-feasibility study of several technologies in one specific site.</p> <p>As long as the bidder classifies the information as confidential, both in the bid and in the expected products, the impact of such classification on the Ministry's possible use of the products for its needs shall be reviewed, and it shall be manifest in the scoring of this section. (See section above). The greater the extent of the bid in reference to the content of the feasibility study, the higher the score.</p>	%10
5	<p>The general impression from the quality of the bid and the overall synergy between all the tender participants and their potential contribution to the pre-feasibility study.</p>	%15
	Total	%100



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Appendix A1 – Professional Specification for Pre-feasibility study

1. **Background**

- a. In January 2013, the Israeli government approved a plan for reducing dependency on petroleum for transportation, for economic and environmental reasons, and in order to obtain energetic security.

The plan defined objectives to reduce the use of petroleum for transportation by 30% by the year 2020 and by 60% by the year 2025, as opposed to the forecast of "business as usual." in the consumption of oil-based fuels for transportation.

- b. Following the recent discoveries of natural gas in Israel, the government reviewed the possible uses of natural gas, and among other things, producing and using synthetic natural gas-based fuels in Israel's transportation industry.
- c. As part of this, the Ministry reviewed a possibility to build a GTL (Gas to Liquid) plant in Israel for production and supply of synthetic fuels (petrol, diesel fuel, and kerosene) from natural gas for Israel's transportation sector.
- d. Throughout May 2014, the Ministry requested information (RFI) on the basic feasibility of establishing and operating a GTL plant in Israel. The Ministry received four responses to the request by different interested parties who focused mainly on the various types of existing technology for producing fuels from natural gas, on the critical importance to locate the suitable site for the plant, and on the economic, regulatory and other relevant issues for the plant construction.
- e. Following the RFI, the Ministry discovered that in order to draft a policy on promoting a GTL plant in Israel, as well as facilitating different policy tools, it needs to collect and analyze specific and concrete information on the different possibilities for GTL production, which is mostly held by interested parties.
- f. Since such information requires additional in-depth study, which involves considerable expenditure, the Ministry is interested in assisting entrepreneurs and bodies who also see commercial potential in the construction and operation of a GTL plant in Israel, with funding some of the necessary costs for preparing the pre-feasibility study.
- g. The pre-feasibility study for the construction of GTL plant shall analyze and study the technological, engineering, environmental, regulatory and economic considerations stemming from the establishment of a GTL plant (hereinafter: "**pre-feasibility study**"), in reference to a specific site in Israel (one or more)



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offered by the bidder as part of his bid (hereinafter: "the site") all in accordance with the tender herein.

- h. It should be clarified that the pre-feasibility study was designed to assist entrepreneurs to study the different implications necessary to make a decision on the establishing of a GTL plant based on data they shall gather throughout the study, and provide the government information and data for the formulation of policy and enabling regulation in the field.**
- i. Moreover, it should be clarified that the publication of this tender and/or providing financial assistance to fund the preparation of the pre-feasibility study should not be considered as guarantee and/or decision by the Ministry to support and/or enable the future construction of a GTL plant, or a guarantee of the Ministry to enter into any contracts with the tender winners, beyond the content of the tender herein. It should be emphasized that the very publication of the tender was designed to allow entrepreneurs, and the Ministry, to broaden the extent of review and study on the technological, engineering, environmental, regulatory, and economic considerations arising from the construction of such GTL plant in Israel.**

2. Description of the topics of the pre-feasibility study for constructing and operating a GTL plant in Israel

Studying the pre-feasibility for constructing and operating a GTL plant **shall be performed in reference to at least one specific site in Israel**. The bidder must present in his bid the site/s he intends to inspect in the study.

The study shall pertain to the construction of a GTL plant that produces **at least 3,000 barrels of synthetic fuel per day** (from one or more modules).

The pre-feasibility study shall review the technological, engineering, planning, environmental, regulatory and economic implications, and any other relevant concern, which arise from establishing the plant in Israel.

The execution of any part of the study shall be subjected to the approval of the Ministry to continue the feasibility study, based on the findings and degree of relevance found in earlier stages of the study which were completed and approved by the Ministry.

The pre-feasibility study must include - at least- an analysis and detailed inspection of the following topics:

Part 1 – Economic review of the existing requirements and constraints and adapting the suggested site to GTL plant construction



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In this part, the bidder shall consider the conformity between the current conditions in the relevant site to the ones required in order to establish and operate a GTL plant, based on a pre-characterization of the plant, its requirements and impacts, and the physical and regulatory conditions in Israel's economy.

The bidder shall review the following components accordingly:

1. Examine the size/extent of the relevant plant – checking the size of the relevant plant suggested for the site, and as part of it:
 - A. Studying the GTL plant's primary products mix for the said technology;
 - B. Initial analysis of the prospected demand for the types of the various products in Israel or abroad;
 - C. Determining the size of the plant (production-wise) regarding which the study shall be conducted, and the considerations for it.

2. Initial identification of the principle physical requirements for a plant in the size/extent specified, including:
 - A. Analysis of the resources necessary for the plant's construction: land, gas flow rate, water flow rate, electricity consumption, etc.
 - B. Analyzing the physical requirements necessary during the construction regarding aspects of transportation of equipment parts, occasionally shutting down existing production systems during construction, etc.

3. Mapping the regulatory requirement likely to apply to constructing and operating a GTL plant in the discussed size, which includes obtaining preliminary reference from regulation factors (as much as possible) including:
 - A. Environmental protection – fundamental attention to regulation and environmental protection standards likely to apply to the plant's operation, and analyzing the environmental constraints and types of solutions with which they can be provided.
 - B. Security and safety of the facility – mapping the expected regulatory requirements in these aspects, and the feasibility to meet these requirements, on the economic, operational and physical aspects (as the case may be).



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4. Analyzing the suitability of the existing site to the construction and operating of a GTL plant in the offered extent/size, including:
 - A. Analysis of the site's current condition referring to the requirements of the plant and expected regulatory constraints as was mapped in the previous sections.
 - B. Analysis of the suitable zoning area for the plant, inspecting the adjustability of the gas connections size, water, and electricity to the site, checking the capacity surplus in these infrastructures (should they exist at the site).
 - C. Analysis of the types and degree of anticipated environmental impacts due to the construction and operation of the plant, including the effects on the air, soil, water and sewage, hazardous materials, etc.
 - D. Initial analysis of the background data of air pollutants in the said site and the meaning of the additional emissions to be expected from the facility. Reference to the degree of feasibility to receive the necessary approvals for establishing the plant in this aspect.
 - E. Physical constraints – an initial reference to the physical difficulties expected in the construction of a facility in the said location (access road for transporting equipment to the construction site and for the course of operation, the shutdown of existing systems to which the plant facilities are connected, etc.), and the possible solutions.
 - F. Planning constraints – reviewing the plans that apply to the site and its zoning, including an analysis of the required planning procedure for the construction of the plant at the suggested site;
 - G. Identifying existing infrastructures at the said site, suitable for the traits of the studies technology, which can also serve the GTL plant. Also, identifying surplus/lack of capacity in the studied infrastructure components, in reference to the possibility to perform GTL productions as well, based on these facilities.

5. Analysis of the feasibility to handle the requirements and constraints of the suggested site, and as part of this:
 - A. A summarized mapping of constraints based on type: physical, planning, infrastructure, environmental, safety, etc.
 - B. Initial identification of the possible types of solutions to answer the mapped requirements and constraints.

Part 2 – Fundamental technical specification of an optimal plant



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This part shall be used to identify preferred configuration for the planning of a GTL plant, and for a detailed review of the technical and operational implications of constructing and operating a GTL plant on the said site with the discussed technology.

The study shall include the following issues:

1. A detailed review of the main components necessary for the facility, description of the planned manufacturing process, including the use of flow charts, tables of performance data and schemes for process description.
2. A review of the possible degree of integration of the offered facility with the existing manufacturing facilities, and as part of it:
 - A. A detail reference to existing facilities for further/alternative use in favor of the GTL plant requirements, and the type and extent of the necessary adjustments.
 - B. Analysis of the degree of expected saving (if any) in costs of construction, costs of production and in the emission of pollutants due to the integration which shall result in reliance on existing production infrastructures that can be designated (in part or in full) in favor of the GTL plant.
3. Assessment of the facility's efficiency, availability, lifespan, modifications to manufacturing capacity in the course of time, etc.
4. Assessing the expected impact on existing manufacturing processes in the said site (should there be any) and additional local infrastructures in aspects of effectiveness, efficiency, production, side products, etc.
5. Presenting estimated timetables for implementing a project in the offered manner, concerning the time necessary to plan, receive permits and construct the plant.

Part 3 – Checking economic profitability in establishing and operating a GTL plant

This part shall be used to perform the necessary economic analyses to find the degree of economic profitability to establish the plant, in light of its characteristics and the risks it is exposed to and based on the findings of the previous stages of the feasibility study.

The study shall include the following issues:

1. Assessment of the expected construction costs, and the expected operating expenses, in accordance with the mentioned specification of the facilities and



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production processes. The necessary level of precision in this matter is +/- 25% at most.

2. Providing a forecast on the expected value of the different expected products of the facility.
3. Initial mapping of risks with economic implications for establishing and operating the plant, among other things in the aspects of construction, supply, regulation, production, demand, etc.
4. Assessment of the economic indexes expected for the facility's operation (IRR, NPV, repayment period), regarding the primary scenario defined above.
5. Performing sensitivity analysis on a number of additional scenarios which differ based on gas price, the expected sale price of the plant products, etc. based on the guidelines of the Ministry.
6. Initial mapping of complementary policy tools and means required by the state to bring about the economic and regulatory feasibility of the project, in accordance with the findings. Furthermore, it is required to refer to supporting policy means in light of the mapped risks, with emphasis on risks regarding regulation, planning, supply, and demand.

3. **Meeting the Schedule**

The maximum schedule for completion of the pre-feasibility study, which the winner guarantees, shall not exceed 12 months as of the day the bidder signs the agreement, based on the following milestones:

- Completing part 1 – general study – within four (4) months as of the agreement's signature date;
- Completing part 2 – within eight (8) months as of the agreement's signature date.
- Completing part 3 – within twelve (12) months as of the agreement's signature date.



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4. The Extent of the Assistance and Payment Terms

The assistance amount provided for the execution of the pre-feasibility study in the tender herein shall be the **lower** of:

- 50% of the cost of the pre-feasibility study based on the bid of the bidder as specified in Part B of the attached bid form marked as **Appendix A**;

or

- NIS 200,000 including VAT.

5. Consent to use the information about and the findings from the study

It should be clarified that the bidder shall provide the Ministry a copy of the pre-feasibility study conducted in accordance with the sections of the tender herein, including all the professional and economic information used as the basis for its preparation, including data, documents, work assumptions, forecasts, charts etc. (hereinafter in this section: "the information"). In accordance with the goal of the tender, the Ministry shall use this information to formulate a policy on the construction of a GTL plant in Israel. In this matter, a comprehensive policy, making regulations, publishing future tenders, standards, regulation, taxation, planning, etc.