

**LIQUEFIED NATURAL GAS
(LNG)
POLICY,
2006**

GOVERNMENT OF PAKISTAN
Ministry of Petroleum & Natural Resources

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1. Introduction

Pakistan's policy for the sustainable development of the energy sector, including the provision of reliable and competitively-priced energy is based on the following objectives:

- (a) Optimization of the primary energy mix, based on economic and strategic considerations;
- (b) Maximizing the utilization of indigenous energy resources;
- (c) Enhancing private sector participation in the energy sector by strengthening the regulatory framework and institutional capacity;
- (d) Developing energy infrastructure; and
- (e) Developing human resources with emphasis on energy sector-specific technical skills and expertise

Natural gas plays a key role in Pakistan's energy balance as it currently accounts for more than 50% of the country's primary energy supplies. With accelerating economic growth, the demand for gas is projected to increase sharply and the country's recoverable indigenous gas reserves will be insufficient to meet this demand. Gas shortage is therefore expected to emerge by 2010/11, and to increase substantially in the following years, if indigenous supply is not supplemented through imports. In order to address the projected shortage, strong emphasis is being laid on importing gas from neighbouring gas-producing countries, through cross-border gas pipelines and also in the form of liquefied natural gas ("LNG"). It is expected that LNG receiving, storage, re-gasification, and distribution infrastructure, for the distribution and sale of regasified LNG ("RLNG") in the domestic market, will be installed in the near future, and expanded periodically, as necessary.

The LNG industry is capital-intensive and requires a multi-billion dollar investment across the LNG supply chain. It is critical, therefore, that LNG import projects are planned such that they are able to attract quality project developers, with the technical expertise and the financial resources required for their successful implementation.

The Federal Government of Pakistan (the "Government") has prepared this policy (the "Policy") package for potential investors in order to facilitate the successful implementation of LNG import projects.

2. LNG Import Project Structure

An LNG import project may be structured under one of the following alternatives:

- (a) **Integrated project structure**, under which a private or public sector party, joint venture or consortium (hereinafter referred to as "LNG Developer") is responsible for purchasing LNG supplies, transporting them to its LNG import terminal (comprising receiving, storage and re-gasification facilities) and supplying RLNG to the domestic market. The LNG Developer would enter into a long-term Gas Sales and Purchase

Agreement (GSPA) directly with a Government-designated buyer, gas utility or bulk customers (hereinafter referred to as “RLNG Buyer(s)”); or

- (b) **Unbundled project structure**, under which a Government-designated buyer, gas utility or bulk consumer would import the LNG from another country/LNG supplier (hereinafter referred to as “LNG Buyer(s)”) under a LNG Sale and Purchase Agreement (“SPA”) either on (i) a delivered ex-ship (DES) basis, or (ii) a free-on-board (FOB) basis. For a DES or FOB purchase, the LNG Buyer(s) would enter into an agreement with the LNG Terminal Owner and/or Operator (hereinafter referred to as the “LNG TO/O”) for the provision of LNG receiving, storage and re-gasification services at its terminal under a tolling agreement. For FOB purchase, the LNG Buyer would in addition, enter into an agreement with a shipping company to transport LNG to the receiving terminal.

3. LNG Procurement

3.1. An LNG Developer or LNG Buyer as the case may be, will be allowed to import LNG in accordance with applicable import laws, rules and regulation. While issuing licence to an LNG Developer or RLNG Buyer, the Oil and Gas Regulatory Authority (OGRA) will take into account Government policy guidelines and will adopt following criteria to ensure sustainability of LNG chain:

- (a) For the LNG Developer, at least one member of the consortium will be required to have technical and commercial experience along the LNG supply chain.
- (b) LNG Developer or RLNG Buyer through the LNG Buyer will demonstrate access to sufficient natural gas reserves (in the form of a Heads of Agreement (HOA) with an LNG supplier) to supply LNG at the required import volumes for a minimum period of 20 years.
- (c) LNG Developer or LNG Buyer will provide evidence of sufficient purchase commitment (in the form of a HOA) from end users for a minimum volume of RLNG sufficient to support the terminal investment and the potential for further sales, if necessary, in order to cover the full contractual LNG purchase commitment. An explanation of how RLNG will be transported from the terminal to the end users will also need to be provided.
- (d) LNG Developer or LNG Buyer, if comprising a consortium (on a several or joint and several basis), should have revenues, net income and net worth above appropriate thresholds (to be set taking into consideration the financial obligations of the LNG Developer or LNG Buyer in undertaking the project).
- (e) Notwithstanding the above, LNG imports can also be made on spot purchases based on market and commercial considerations to be determined by the Government.

- (f) For avoidance of any doubt, it is stated that a licence will not be required for import of LNG by LNG Developer and LNG Buyer, as the case may be.
- 3.2. Procurement of LNG by the LNG Buyer(s) will be undertaken through one of the following approaches:
 - (a) Direct negotiations with one or more LNG suppliers for supply of LNG for a minimum period of 20 years; or
 - (b) International competitive bidding for the supply of LNG for a minimum period of 20 years; or
 - (c) Direct purchase from the LNG spot market based on market and commercial considerations to be determined by the Government.
- 3.3. If procurement of LNG is undertaken by a public sector entity, the Government may authorize the entity to adopt the direct negotiation approach with a group of LNG suppliers if the demand-supply dynamics of LNG require this approach to be adopted.

4. Ownership & Operation of the LNG Terminal

- 4.1 The LNG Developer or LNG TO/O, as the case may be, will obtain a license to design, construct, operate and own a LNG terminal from OGRA under the Oil and Gas Regulatory Authority Ordinance, 2002 subject to satisfying the following criteria:
 - (a) **Technical:** At least one member of the consortium of LNG Developer or LNG TO/O, as the case may be, should have experience in developing and operating a liquefaction plant or a regasification terminal. The LNG terminal will be constructed based on technical standards as prescribed by the OGRA from time to time, including internationally acceptable industry technical standards as stipulated in Appendix 1.
 - (b) **Financial:** The LNG Developer or LNG TO/O consortium (on a several or joint and several basis) should have revenues, net income and net worth above prescribed minimum thresholds (to be set taking into consideration the financial obligations associated with the development and operation of the LNG import terminal.
 - (c) **Health, Safety & Environmental (“HSE”) Standards:**
 - (i) The LNG Developer, LNG TO/O or LNG Buyer as the case may be, will ensure that the project complies with World Bank HSE Guidelines, Pakistan’s Environmental Protection Act 1997 rules, regulations and guidelines made thereunder, National Environmental Quality Standards, Pakistan’s health, environment and safety standards and is consistent with the best international LNG industry practices.

- (ii) The LNG Developer or LNG TO/O will undertake a comprehensive environmental impact assessment of the design, construction and operational aspects of the project including impact assessment of shipping associated with the project, in accordance with international standards and practices. The studies and approvals required at the planning, construction, commissioning and operating phases are defined in the Pakistan Environmental Protection Act, 1997.
 - (iii) All LNG terminals shall be surrounded by safety zones which shall meet the industry standards set forth in safety codes of the National Fire Protection Association of USA so as to ensure protection of neighbouring communities and shipping traffic.
 - (iv) Coast Guards or any other agency designated by the Government will exercise control of all activities within such zones including the entry and exit of shipping traffic. The Government may also specify the requirement of a security escort through Coast Guards at the expense of the LNG Developer, LNG TO/O or LNG Buyer, as the case may be.
- (d) **Site approval:** The site (either land based terminal or offshore terminal of any type) for setting up an LNG terminal shall be selected by LNG Developer or LNG TO/O, as the case may be, taking into account the following factors:
- (i) Existing and projected population and demographic characteristics of the location;
 - (ii) Existing and proposed land use near the location;
 - (iii) Physical aspects of the location;
 - (iv) Medical, law enforcement and fire protection capabilities near the location that can cope with a risk caused by the facility;
 - (v) Exclusion zone distances from the terminal to property and population as per international standards are complied with;
 - (vi) Proximity to existing gas infrastructure and market;
 - (vii) Need to encourage remote siting;
 - (viii) Any other significant community concerns; and
 - (ix) Environmental considerations.
- 4.2 In applying for the licence, the LNG Developer or LNG TO/O will have the onus of demonstrating compliance with the above criteria.

5. RLNG Marketing & Transportation

- 5.1 An LNG Developer or LNG Buyer, as the case may be, will obtain a license to market and sell RLNG in the domestic market including in the areas covered by the gas pipeline network of SSGC and SNGPL from OGRA under the provisions of OGRA Ordinance, 2002 and subject to the terms and conditions of the licenses issued by OGRA to SSGC and SNGPL.
- 5.2 Subject to para 6.4 below, an LNG Developer or LNG Buyer, as the case may be, will be required to obtain a license to construct and operate gas pipelines from OGRA under the provisions of the OGRA Ordinance 2002.
- 5.3 Parties interested in the local small scale production, transportation and distribution of LNG produced from domestic gas, for example through LNG trucks will be required to obtain a license from OGRA.

6. Regulatory Framework

- 6.1. **Construction period:** At the construction stage, OGRA will ensure that the following parameters will be included in the license to be issued to the LNG Developer or LNG TO/O, as the case may be, and the licensee comply with the same:
 - (a) **Technical parameters:** The terminal complies with internationally recognized and proven standards for LNG installations prescribed by OGRA from time to time including those specified in Appendix 1.
 - (b) **HSE standards:** The project meets the HSE standards specified in the license.
 - (c) **Other permits and approvals:** Permits and licenses from Government departments such as Ministry of Defence, Port Authorities, Environmental Protection Agency, Chief Inspector of Explosives and provincial and local government agencies have been obtained.
- 6.2. **Operating period:** During the operating period, OGRA will regulate the following:
 - (a) **Access rights:** All LNG terminals and associated facilities will be operated on a system of regulated third party access (“RTPA”) based on published tariffs or tariff methodologies determined by OGRA and applied objectively and without discrimination. Exceptions from such regulation will be given to those LNG terminals and associated facilities that are developed for own or dedicated use. Access to such terminals will be based on negotiated third party access (“NTPA”). RTPA and NTPA will be administered by OGRA through a clear regulatory mechanism. It is clarified that the LNG Developer will have priority access to its own LNG terminal capacity provided it has firm capacity utilization plan for own or dedicated use.

- (b) **Terminal tariff and returns:** OGRA will administer RTPA for the LNG terminal based on a prescribed tolling tariff with the following components:
 - (i) Capacity or fixed element covering capacity reservation and other fixed charges;
 - (ii) Variable element covering the variable operation and maintenance charge of the LNG terminal.
 - (c) In order to ensure that the capacity of an LNG terminal is optimally utilized, OGRA will adopt and implement the mechanism of “Use-it-or-lose-it”.
 - (d) **Reporting requirements:** The LNG Developer or LNG TO/O, as the case may be, will have to publish capacity utilization rates and tariffs as approved by OGRA and at such regular intervals as may be determined by OGRA.
- 6.3. **Gas Pricing:**
- (a) For RLNG supply to SSGC and SNGPL, the RLNG price will be an input for determining the weighted average cost of gas in Pakistan.
 - (b) Except as provided in para 8 below, the LNG Developer/ LNG Buyer will have the right to sell RLNG to end users directly based on a negotiated price subject to approval of OGRA.
- 6.4 **Gas Transmission:** OGRA will ensure that subject to capacity being available, the LNG Developer or LNG Buyer or RLNG Buyer, as the case may be, will have access to the SSGC and SNGPL pipeline network at a regulated cost plus tariff even after privatization of these two entities. If SSGC/SNGPL do not have available capacity, the LNG Developer or LNG Buyer or RLNG Buyer, as the case may be, can request SSGC/SNGPL to expand capacity or may construct its own pipeline based on technical and economic considerations subject to grant of licence by OGRA. In determining available capacity, OGRA would consider the capacity that could be made available by swaps between SSGC and SNGPL.
- 6.5 Notwithstanding the above, OGRA can grant an exemption from mandatory RTPA or NTPA requirement under certain conditions such as:
- (a) the investment must enhance competition in gas supply and enhance security of supply;
 - (b) the level of risk attached to the investment is such that the investment would not take place unless an exemption is granted; and
 - (c) the exemption is not to the detriment of competition or the effective functioning of the internal gas market, or the efficient functioning of the regulated system to which the infrastructure is connected or linked.

- 6.6 **RLNG Quality:** The quality of RLNG which is to be injected into the domestic gas transmission and distribution network shall be compatible with the quality of gas in such system and which shall be reviewed by OGRA from time to time.

7. Government Incentives

- 7.1 The following fiscal incentives will be granted to the LNG Developer, LNG TO/O or LNG Buyer as applicable:
- (a) Zero percent customs duty will be charged on imported LNG. LNG Buyer or LNG Developer importing LNG will also be exempted from withholding tax at import stage in respect of such import. CBR will issue necessary notification in this regard.
 - (b) Exemption from custom duty in excess of 5% with total exemption from sales tax in respect of plant, equipment and machinery, not locally manufactured, imported by that LNG Developer or LNG TO/O, as the case may be, by expanding the scope of SRO 678(1)/2004, dated 7/08/2004. Import of such plant, machinery and equipment and parts will also be exempted from withholding tax at import stage as allowed under clause 56(vii) of the part (vi) of the second schedule to the Income Tax Ordinance, 2001;
 - (c) Initial Allowance will be admissible at the rate of 50% of the cost of depreciable assets under section 23 of the Income Tax Ordinance, 2001. In addition, normal depreciation at the rate of 10% will be also allowed on plant and machinery.
 - (d) Exemption from withholding tax on interest payments to foreign lenders will be allowed as permissible under various provisions of the Income Tax Ordinance, 2001.
 - (e) Sales tax @ 15% and Federal excise duty @ Rs. 17.18 per hundred cubic meters will be charged on import and supply of LNG.
- 7.2 When an LNG Developer or LNG TO/O, as the case may be, has identified a suitable site (whether land based or offshore), the Government will actively assist the LNG Developer or LNG TO/O, as the case may be, in obtaining land and port facilities for an LNG terminal at a reasonable cost and within a reasonable time frame.
- 7.3 The Government will encourage the participation of multi-lateral development banks (MDBs) in LNG import projects to facilitate the financing of such projects inter alia through equity participation by MDBs and MDB instruments such as political risk guarantees and partial credit guarantees.
- 7.4 A Task Force headed by the Secretary, Petroleum and Natural Resources and comprising Additional Secretary of Finance, Defence, Industries, Production & S.I, Ports and Shipping Divisions, a representative of OGRA, Member (Customs)-CBR, Chairman of the concerned seaport authority, Director Generals of the concerned EPA, Coast Guards and

Maritime Security Agency and Commander Karachi or COMCOAST Gawadar, will be set up to facilitate the implementation of LNG import projects. This Task Force will act as a “one-stop-shop” to address all issues concerning LNG import projects, including the interpretation of policies and regulations.

8. Pricing of RLNG

- 8.1 With an integrated project structure, RLNG will be procured by RLNG Buyer(s) in the public sector for a minimum period of 20 years from a LNG Developer who offers the lowest price at a designated point of delivery. This price will be the input price to the weighted average cost of gas in Pakistan as per para 6.3(a) above.
- 8.2 In the case of an unbundled project structure where LNG is procured by LNG Buyer(s) in the public sector for a minimum period of 20 years, the price of RLNG will be determined by the OGRA based on (i) the LNG purchase price; (ii) the direct and indirect costs of transportation, storage, and re-gasification incurred by the LNG TO/O, and (iii) a reasonable return on the investment made by the LNG TO/O.

9. Government Guarantee

The Government’s preference is not to provide any guarantee for LNG import projects. However, Government support may be considered, if needed, to secure long term, secure LNG supplies to Pakistan.

10. Freedom to Participate in the LNG Business

All interested parties who meet the criteria provided herein will be free to participate in any segment of the LNG value chain.

11. Technical Codes and Standards

- 11.1 The design, construction and operation of the LNG import project facilities will comply with internationally recognized and proven codes and standards for LNG installations including those specified in Appendix 1.
- 11.2 No second-hand or refurbished LNG plant, equipment, machinery or part thereof will be installed at the LNG terminal or at associated facilities. In case of offshore LNG terminals, used LNG ships utilized for either conversion into a floating LNG terminal or for storage of LNG in association with an offshore LNG terminal will be allowed by OGRA as long as the vessels maintain their classification status certified by one of the IACS member classification societies as approved by Director General Port and Shipping and hold all valid class and flag state statutory certificates.
- 11.3 OGRA will issue a license for an LNG terminal based on a suitable, tested and proven internationally acceptable technology for the design, construction, and operation of the LNG terminal and associated facilities.

- 11.4 Following receipt of a complete application, covering all relevant aspects of the proposed LNG project including a comprehensive feasibility study undertaken by a project proponent through a consultant of international repute, OGRA will undertake a full review and audit of the proposed project at the cost of the project proponent (including the cost related to outsourcing of the expertise, if necessary) and take a decision regarding issuance a license or rejection the application within 90 days..
- 11.5 All LNG ships entering Pakistan's maritime zones shall comply with International Maritime Organization's regulations.

12. Shipping of LNG

All LNG ships transporting LNG to Pakistan will have to be registered with an acceptable international classification society.

13. Other Permits and Licenses

The LNG Developer, LNG TO/O, LNG Buyer or RLNG Buyer will have to obtain permits and licenses from Government departments such as Ministry of Defence, Naval Headquarters, Port Authorities, Environmental Protection Agency, Chief Inspector of Explosives, and provincial and local government agencies, as per applicable laws, rules and regulations.

14. Other Measures

- 14.1 In order to facilitate early start of an LNG import project, OGRA will take a decision regarding issuance a license or rejection the application under OGRA Ordinance, 2002 for setting-up and operating an LNG terminal and related facilities to a qualified selected applicant, having the requisite technical and financial credentials, for a specified location within 90 days provided however, that the applicant has submitted a complete application alongwith detailed feasibility study. If the applicant does not achieve financial close within 12 months of issuance of the license, OGRA may terminate the license on one month's notice..
- 14.2 The Government may issue instructions to OGRA from time to time for implementation of this Policy and/or in respect of matters related thereto, as may be considered necessary.
- 14.3 If any difficulty arises in giving effect to any provision of this Policy, the Government may issue such order as may appear to it to be necessary for the purpose of removing the difficulty.

15. Applicability and Effect of the Policy

This Policy will come in force with immediate effect and will apply to all LNG import projects in Pakistan.

TECHNICAL CODES AND STANDARDS

The design, construction and operation of the LNG terminal and allied facilities will satisfy *inter-alia* the following internationally recognized and proven codes, standards and guidelines for land based and offshore LNG installations (or equivalent):

Shipping and Marine Facilities

Standards

- Standard for the Production, Storage and Handling of Liquefied Natural Gas (LNG) – 2006, NFPA 59A, NFPA.
- Installations and Equipment for Liquefied Natural Gas – Design of Onshore Installations – 1997, (BS EN 1473) CEN.
- Installations and Equipment for Liquefied Natural Gas – Design and Testing of Loading/Unloading Arms – 1996, (BS EN 1474) CEN.
- Installations and Equipment for Liquefied Natural Gas – Ship to Shore Interface for Liquefied Natural Gas – 1996, (BS EN 1532) CEN.
- Installations and Equipment for Liquefied Natural Gas – General Characteristics of Liquefied Natural Gas – 1997, (BS EN 1160) CEN.
- Maritime Structures – Part 1, General Criteria – 1984. (BS 6349), BSI.
- Maritime Structures – Part 4. Code of Practice for Design of Fendering and Mooring Systems – 1994, (BS 6349), BSI.
- IGC Code – IMO-104E – International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk – IGC Code, 1993 including amendments.
- Guidance Notes, Classification and Certification of Floating Offshore Liquefied Gas Installations – Lloyd’s Register, April 2004, Revision 2.
- Guidance Notes, Classification and Certification of Offshore Gravity Based Liquefied Gas Terminals – Lloyd’s Register, April 2004, Revision 1.

Guidelines

- Site Selection and Design for LNG Ports and Jetties – 1997. SIGTTO, ISBN 1 85609 129 5.
- Recommendations on the Safe Transport of Dangerous Cargoes and Related Activities in Port Areas – 1995, (IMO 290E) IMO, ISBN 92-801-1329-1.
- Dangerous Goods in Ports: Recommendations for Port Designers and Port Operators – 1985, PIANC.
- Mooring Equipment Guidelines – 1996, (OCIMF) Oil Companies International Marine Forum, ISBN 1 85609 088 4.

- Prediction of Wind Loads on Large Liquefied Gas Carriers – 1985, SIGTTO, ISBN 0 90088697 8.
- Big Tankers and their Reception – 1974, PIANC.
- Guidelines on Port Safety and Environmental Protection – 1989, IAPH.

Operating Practices

- Accident Prevention – the Use of Hoses and Hard-Arms at Marine Terminals Handling Liquefied Gas – 1996 SIGTTO, ISBN 1 85609 1147.
- Manual on Chemical Pollution; Section 1: Problem Assessment and Response Arrangements – 1987, (IMO 630E) IMO, ISBN 92-801-1223-6.
- A Guide to Contingency Planning for Marine Terminals Handling Liquefied Gases in Bulk – 1989, SIGTTO, ISBN 0 948691 81 6.
- APELL: Awareness and Preparedness for Emergencies at Local Level – 1988, (UNEP) United Nations Environment Programme, ISBN 92807 1183 0 – 00900P.
- Offshore Loading Safety Guidelines with Special Relevance to Harsh Weather Zones – 1999, OCIMF, ISBN 1 85609 1481.
- Tug Use in Port – H Hensen, Nautical Institute, 1997, ISBN 1 870077 39 3.
- Guidelines for Hazard Analysis as an Aid to Management of Safe Operations – 1992, SIGTTO, ISBN 1 85609 054 X.

Onshore LNG Terminal

Standards

- Standard for the Production, Storage and Handling of Liquefied Natural Gas (LNG) – 2006, NFPA 59A, NFPA.
- Design and Construction of Large, Welded, Low – Pressure Storage Tanks, Appendix R - Low pressure Storage tanks for Refrigerated Products, (API 620 R).
- Installations and Equipment for Liquefied Natural Gas – Design of Onshore Installations – 1997, (BS EN 1473) CEN.
- Flat-Bottomed, Vertical, Cylindrical Storage Tanks for Low Temperature Service, (BS 7777).
- Installations and Equipment for Liquefied Natural Gas – General Characteristics of Liquefied Natural Gas – 1997, (BS EN 1160) CEN.
- Criteria for design and construction of refrigerated liquefied gas storage tanks – ‘EEMUA 147’.