PROGRAM INTRODUCTION
&
OBJECTIVES OF THE ASSIGNMENT

FEASIBILITY STUDY

FOR

NATIONAL SCIENCE & TECHNOLOGY PARK (NSTP)-NUST
1. Program Introduction

1.1 The development of Science & Technology (S&T) in Pakistan is a strategic objective of the Government of Pakistan (GoP). In line with this strategic thrust, the GoP established institutes for undertaking R&D in S&T, e.g. National Institute of Electronics (NIE); Scientific & Technological Development Centre (STEDEC); Metrology, Standard, Testing and Quality Assurance System (MSTQ); Pakistan Council for Scientific and Industrial Research (PCSIR), and others. The establishment of S&T Higher Education Institutes (HEIs) in Pakistan, and the support given by the Ministry of Science & Technology (MoST) to the development of Science Parks in Pakistan, all show the GoP’s commitment to this initiative. MoST recently approved the Science Technology & Innovation Policy 2012, which supports establishment of Tech Parks within Universities. The NSTP program is in line with the strategic objectives of the Higher Education Commission (HEC) of the GoP and MoST.

1.2 The design and development of the NSTP shall be carried out in phases. This phase wise construction is planned to be completed in the next 2-5 years, however, it is important to mention here, that NUST has already established key constituents relevant to the NSTP. Some of these components could be integrated with the NSTP in its initial phase of development. These constituents have been consciously developed over the years and are considered as the building blocks of the Program and include the following:-

1.2.1 Research, Innovation & Commercialization (RIC): As per the guidelines of the Higher Education Commission (HEC), Pakistan, all S&T Universities are to establish Offices of Research, Innovation and Commercialization (ORIC). This strategy is widely adopted by the world’s leading universities that have extended their activities beyond discovery (research) and transmission of ideas (teaching) by taking an active role in technology commercialization leading to economic development. The following Directorates and functions operate under the ORIC umbrella at NUST:-

1.2.1.1 Directorate of Research: This acts as a focal point for providing guidance and support to NUST’s constituent institutions in all activities related to research & development, and liaises with other national and international academic, research and industrial organizations to facilitate research at NUST.

1.2.1.2 Directorate of Innovation & Commercialization: Its role is to encapsulate NUST’s research and Intellectual Property opportunities at the earliest possible stage, and to transfer these benefits to the Industry by working closely with them through partnerships, collaborations and licensing. It includes the following:

1.2.1.3 Intellectual Property Office (IPO): Provides support to schools and researchers by determining the patentability of a technology and providing assistance with IP protection.
1.2.1.4 **Technology Transfer Office (TTO):** Assists in moving research results from the laboratory to the marketplace; it evaluates and manages invention portfolios, gets assistance from the IPO in patent protection/prosecution, negotiates license agreements and periodically reviews cooperative research agreements already in place.

1.2.1.5 **Industry Liaison Office (ILO):** Combines Industry Relations (IR) and Alumni Affairs; IR focuses on placement for NUST graduates with the Industry, whereas Alumni Affairs builds and maintains relationships with the Alumni through a common platform for the benefit of NUST.

1.2.1.6 **Technology Incubation Centre (TIC):** TIC provides an environment that attracts and nurtures technology-based start-up companies. TIC provides a platform for NUST faculty/students, having commercially viable R&D output, to establish their own start-up companies in order to commercialize their R&D work as entrepreneurs. At present, the TIC hosts 09 incubatees and 04 pre-incubatees.

1.2.1.7 **Professional Development Centre (PDC):** Conducts skill development training and courses for Industry and NUST members.

1.2.1.8 **Career Development Center (CDC):** Provides services to help students and alumni explore and make effective career choices, foster professional networks with employers and assist employers in meeting their recruitment needs.

1.2.2 **Corporate Advisory Council (CAC):** NUST has forged strong alliance with Industrial and business enterprises across 11 sectors of the economy, through the establishment of the CAC. In line with the vision of NSTP, the CAC is a unique triple-helix combination of advisory, consultation and R&D collaboration, facilitating communication and cooperation between university researchers and industry experts. The CAC brings the NUST institutes and the Industry together on a common platform, enabling them to join hands to find workable solutions, through R&D, to real-life problems encountered in product development, design and commercialization. The alignment of traditionally opposed academic and industrial worldviews is embodied in the 11 Sector Committees of the Council, including Automotive, Health & Pharmaceuticals, Infrastructure, Information & Communications Technology (ICT), Engineering, Banking & Financial Services, Energy, Chemical, Defence Technologies, Intellectual Property Rights (IPR), and the Social Sector. In a period of 2 years, the CAC membership has grown to include more than 120 members from top-line local and international business and Industrial firms, banking and investment houses, high-level public policy-makers, and intellectuals. Cooperation and collaboration between Industry and NUST academia has led to innovative projects aimed at providing solutions to industrial and corporate partners. Many of the Sectors that NSTP envisions to bring together are already represented in the CAC.
1.2.3 **Global Think Tank Network (GTTN):** By capitalizing on its local and international collaborations with Industry, Government and others, NUST has taken an initiative by establishing the Global Think Tank Network (GTTN), an Academic Think Tank. The GTTN aims to conduct high-quality, original policy research and advocacy on a range of areas of common and regional interest. It will interact with a global network of academia and industrial leadership, and utilize policy imperatives to be an agent of economic and social change. With NUST as the hub, the GTTN aims to further develop regional nodes, the first of which is the China-Pakistan Think Tank, launched in January 2012, with the collaboration of Tsinghua University, Beijing and Southwest University, Chongquin.

1.2.4 **Design and Manufacturing Resource Center (DMRC):** An essential component of existing STPs around the world is the provision of a facility that could support low volume, high value manufacturing activities. In this context, the DMRC has been established at School of Mechanical and Manufacturing Engineering (SMME) at the NUST H-12 Campus and has been functional since December 2011. The Center has acquired a full range of basic manufacturing technologies. In addition to supporting students, it also facilitates local industry by accepting some of their projects. Industry projects worth Rs. 1.5M have already been completed so far and more are in the pipeline. The DMRC has complete capability ranging from product design to component manufacturing, starting from design and ending up as a product. The DMRC is built on 15,253 square feet of space.

In addition to the presence of Incubatees, NUST has signed MoUs with large multinationals for establishment of labs and research facilities at NUST, e.g. Huawei-Pakistan is setting up a Network Academy on NUST premises. Similarly some local and international companies have set up their offices in NUST, including National Radio and Telecom Corporation (NRTC), Techaccess Pakistan. During pre-feasibility stage Lols were obtained from Huawei-Pakistan, Interactive Convergence Pvt Ltd, Oracle-Pakistan and Scotmann Pharmaceuticals indicating their keen interest in the Program

1.3 **The NSTP will be developed on H-12 Campus, NUST.** It is a national level initiative aiming to link local varsities and R&D institutes, capitalize upon their respective strengths and capabilities to form a unique “Knowledge-Based Multi-Industry Cluster”. This is expected to position NUST as the hub for high-tech research and development in the country.

1.4 **Following are the High-Level Objectives** of establishing the NSTP.

1.4.1 **To facilitate, support and enhance high-tech R&D in the country.**

1.4.2 **To facilitate, support and enhance high-tech manufacturing in the country.**

1.4.3 **To support Small & Medium Enterprise (SME) Sector through improved production techniques/process improvement.** An institutional arrangement must be put in place to provide guidance and support to the SMEs to upgrade their existing technology and management capacity.

1.4.4 **To act as a knowledge hub and develop knowledge based Multi-Industry Cluster.**
1.5 NUST is located in Islamabad, the capital of Pakistan. Islamabad is home to all the Federal Government departments, constituents and Ministries, and has a sizeable business community as well. Several multinational companies have their head offices / headquarters in Islamabad. Additionally, the tri-services headquarters are also situated in the twin cities (Rawalpindi / Islamabad). This makes Islamabad, an ideal strategic location for establishing the NSTP, and shall also allow the tenant companies to utilize the locational advantages enjoyed by NUST, including access to all relevant Ministries and Government departments, military establishments, and several business / Industry concerns, as well as access to the Industrial estate nearby.

1.6 The NSTP will bring together in one place the resources, connections, services and opportunities to launch high-tech innovative ideas and products to the local and regional markets. Collaboration and exchange opportunities will be exploited amongst and between the following:-

1.6.1 Commercial anchor tenants.
1.6.2 Established hi-tech manufacturing concerns.
1.6.3 Start-up companies.
1.6.4 Providers of specialized business advisory services.
1.6.5 Providers of legal services.
1.6.6 Venture Capital (VC) firms and other investors (e.g. angel investors).
1.6.7 Government-backed R&D organizations, e.g. organizations that are part of the Ministry of Science & Technology (MoST), Pakistan, can be housed within the NSTP.
1.6.8 Small and Medium Enterprises (SMEs)

1.7 The NSTP must be designed and developed with the objective of providing aspiring entrepreneurs as well as established concerns an ideal environment in which to grow their businesses, working together with providers of professional, financial and legal services.. The NSTP is expected to attract smart high-tech talent from within and outside Pakistan. In addition to collaborations that will be formed between various NSTP tenants, new partnerships will be forged between tenants and academia, international and local customers which may be looking for new companies to work with. Additionally, Venture Capitalists looking for sound investments in the country, will find in the NSTP Ecosystem, start-ups they can support with their funding. In fact, the support system within the NSTP will house VC Firms, other investors and government representatives.

1.8 NUST has allocated a 50 acre land parcel for establishment of the NSTP.

1.9 NUST has received Letters of Interest (LOIs) from Industry partners in different Sectors, mainly ICT and Bio-technology, as potential tenants at the NSTP. In addition to these written
commitments, several companies from numerous sectors have expressed strong interest in becoming part of this landmark national Program.

2. **Objectives of the Assignment**

Some of the key objectives of this Assignment are:

2.1 Conduct and prepare a comprehensive Feasibility Study to assess Program viability.

2.2 Identification of all critical prerequisites required to ensure Program viability. The prerequisites must include but are not limited to legal and policy framework required for making the Program viable. The Feasibility Study must inter alia assess, evaluate and determine the viability of the Program from financial, economic, technical, technological, social and environmental aspects.

2.3 Conduct an extensive evaluation and analysis of potential sectors/industry & businesses (startups and running concerns) that can benefit from the establishment of the NSTP. This should encompass the current industrial profile (list and size of industrial subsectors, the number of public/private/mixed companies per subsector) Also assess the market of possible products and services that will be created in the NSTP.

2.4 Development of an optimal strategy to attract renowned international market players in line with the stated objectives of establishing the NSTP (Ref to Para 1.4). It is important that the NSTP is able to attract and partner with the world's leading business enterprises, Industrial and R&D firms, renowned Academies of Sciences, and other science & technology-based organizations.

2.5. Conducting an extensive economic and financial evaluation of the Program and resultantly development of different financing/investment options for the Program. The various funding options should include but are not limited to: investment under PPP modality, project financing from the Government, or funding from multilateral development agencies such as Asian Development Bank (ADB) and The World Bank Group (WB) and other agencies of The United Nations (UN) or donor agencies such as USAID, DFID etc., or a combination of the above-mentioned options.

2.6 Development of robust business and corresponding financial models based on the above-mentioned options and recommendation of the most optimal option. Once the Client has identified and approved the most suitable option, the Consultant is required to develop a detailed **Program Implementation and Execution Plan** including appropriate legal, capital and organizational structures.

2.7 Analysis and evaluation of financial, economic, technological, social and environmental benefits/implications of the Program.

2.8 Develop an aggressive and effective marketing strategy for the Program to help bring in potential investors.
TERMS OF REFERENCE (TOR)

FEASIBILITY STUDY

FOR

NATIONAL SCIENCE & TECHNOLOGY PARK (NSTP)-NUST
1. **Terms of Reference (ToR)**

The Feasibility Study must cover the following aspects:

1.1 **Background Research**

The Consultant should determine the number of established Science and Technology Parks (STPs) in the region and their impact on socio-economic development. In this regard, the Consultant must identify the impact of absence of STPs on Pakistan’s economy. The Consultant is also required to conduct a need-benefit analysis of establishing the STP in Islamabad and at NUST and identify potential impact on economic growth. This task also involves identifying potential tenants from various sectors that can benefit from locating their businesses in the proposed NSTP. The Consultant is also required to conduct a detailed benchmarking exercise, study local/regional/international STPs and identify critical success/failure factors. The Consultant must be aware of the Government’s relevant legislation(s), science, technology and industry policy initiatives, instruments and incentives, as well as Governmental public budget finance and project analysis. This task shall entail conducting relevant surveys.

1.2 **Need Analysis**

The Consultant is required to carry out a need analysis study that includes and is not limited to the following; any additional areas which are considered essential may also be included:

1.2.1 Evaluate the resources at hand for development/implementation of the NSTP, and determine the NUST’s present and future needs.

1.2.2 Demonstrate that the Program aligns with NUST’s strategic objectives, policies and priorities.

1.2.3 Identify whether NUST has the ability and the capacity to undertake and manage this Program.

1.2.4 Conduct a detailed assessment of the Client’s institutional capacity to provide the services that the NSTP will need to offer to its potential clients and to propose the optimal arrangement and structure to ensure the seamless provision of such services.

1.2.4.1 In this context, the Consultant shall be required to assess the on-ground situation and hold in-depth interviews/discussions with key stakeholders at NUST including relevant departments, NSTP Committees and NUST’s constituent schools.

1.2.4.2 In this context, the Consultant would be required to critically assess the past performance of the RIC and its individual components including the existing Technology Incubator Center (TIC) set up at NUST and give a detailed mechanism and methodology for its integration with the NSTP.

1.2.5 The Need Analysis should also include identification of:

1.2.5.1 Significant Government assets which will be used for the Program (such as land and equipment).

1.2.5.2 Extent of adequacy/suitability of the existing facilities at NUST.
1.2.5.3 How the Program will complement other developments taking place in the area through review of sector master plans/studies.

1.2.5.4 Review existing land use plans

1.3 Identification of Critical Prerequisites

The Consultant is required to carry out a detailed assessment of all the critical prerequisites that need to be in place to ensure Program viability. This includes, but is not limited to, identifying essential technological, legal and policy framework. Legal aspects include applicable/relevant legislations, tax laws, etc. The Consultant must ensure that legal aspects pertaining to development and implementation of the Program are identified, studied and addressed. The Consultant has to analyze site ownership and availability issues in order to determine whether the land designated for the construction of the NSTP is clear of all legal, institutional, technical and other issues pertaining to its availability.

The Consultant should also assess energy and water supply requirements, as well as other physical infrastructure requirements pertaining to the NSTP.

1.4 Phase-Wise Development Plan

The overall development of NSTP is envisioned to be carried out in phases spanning over a period of 2-5 years. This phase-wise construction is envisaged to involve consolidation of existing facilities (such as CIE Building) as well as construction of new infrastructure at NUST to accommodate start-ups as well as mature companies from different sectors. This arrangement will provide requisite momentum to the project, while capitalizing on the existing areas of expertise available within NUST constituent schools.

The Consultant shall be required to prepare a complete Phase-Wise Development Plan as per the stipulated timeframe along with a detailed Program Implementation and Execution Plan for the NSTP. The Consultant shall also be required to give an analysis of the Phase-Wise Development Plan given in the Pre-feasibility.

1.5 Market Analysis and Identification of Potential Tenants

Based on earlier consultations with prospective tenants, business entities (tenants) from following Sectors can have a presence in the initial phase of the establishment of the NSTP;

1.5.1 Materials and Nano-Technology
1.5.2 Hi-Tech Manufacturing* / Automotive
1.5.3 Robotics and Industrial Engineering / Electronics
1.5.4 Bio-technology
1.5.5 Information and Communications Technology
1.5.6 Energy
1.5.7 Chemicals

* Manufacturing Sector is vital for the economic growth of Pakistan. Development of hi-tech industry is imperative for Pakistan’s economic progress. One of main objectives for developing the NSTP is to
stimulate innovation and generate economic benefits by assisting knowledge-based firms and knowledge intensive activities in this sector.

Established Concerns as well as Incubatee / Start-up companies in the above-mentioned sectors will be housed in the NSTP during the initial phase.

The Consultant shall be required to reconfirm our earlier findings/consultations and will need to carry out a detailed market analysis including survey of local Industry in the above-mentioned Sectors (including list and size of industrial sector/sub-sectors, the number of private/public/mixed companies per Sector). This survey should include current trends and technologies, R&D (applied and basic research), education programs, innovations, and future trends and developments in the area. Based on this survey, the Consultant shall be required to give a detailed analysis of the above-mentioned proposed sectors and any other sectors the Consultant deems suitable (based upon his findings and keeping in view market demand and NUST's strengths) to be included in the initial as well as subsequent phases of the Program. The survey should also assess the possibility of establishing linkages between enterprises located in the NSTP with other businesses and institutes of learning in the area.

The market analysis should help determine the kind of potential clients/tenants that could be housed in NSTP, what kind of goods and services shall be provided by these firms and the potential markets for such goods and services; This analysis should also estimate likely scenarios of occupancy/tenancy by clients, thereby estimating the likely operating income stream to be used in preparing financial model as mentioned in Para 1.15, Section II.

1.6 NSTP-Space Allocation, Design and Architecture
The current land allocation for NSTP, as per the updated NUST Master Plan (to be provided to the final shortlisted Consultant), is approx. 50 acres.

1.6.1 The Consultant is required to incorporate in the Feasibility Report, a detailed analysis of the adequacy of the allocated land, keeping in view its phase-wise expansion.

1.6.2 The Consultant should develop specifications regarding the architecture and design of the NSTP and resultantly furnish a conceptual design of the infrastructure in the Feasibility Report.

1.6.3. The Consultant should identify critical ICT infrastructure and equipment requirements, resulting capital expenditure and operating costs.

1.6.4. Indoor furnishings and basic amenities: as mentioned in para 1.7.5, some facilities in the NSTP infrastructure will be shared. The Consultant should identify requirements of furniture and other basic amenities for these facilities, and should also provide cost details of the same.

1.7 Proposed Features/Services Offered in the NSTP
The NSTP is envisioned to offer a range of services for business tenants (legal, Venture Capital firms, accounting and consulting and marketing) to support all stages of growth. This includes;
1.7.1 Business Advisory Support, mentoring, networking, management, incubation and business acceleration services, IP Protection, legal services, etc.

1.7.2 Facilitated access to capital either through investors or VC firms housed or are members of the NSTP.

1.7.3 Training and facilitated access to skills through a combination of education and training providers onsite and links to local education institutions, Industry training organizations, etc.

1.7.4 Facilitated access to markets through active Industrial linkages.

1.7.5 Provision of amenities such as conference/seminar halls, cafeterias, tele-presence & video conferencing facilities, access to state-of-the-art research laboratories, etc.

1.7.6 Residential/housing and recreational facilities.

The Consultant shall be required to give a detailed analysis of proposed features/services and also suggest other facilities that may be required by the tenants and university researchers to accelerate the commercialization of University Innovation.

1.8 Desired Outputs, Outcomes, Success Indicators & Risk Factors

The Consultant is required to identify desired Outputs; Outcomes, Success Indicators & Risk Factors and suggest/identify suitable strategy to make NSTP self-sustaining.

1.9 Management Structure

The NSTP Steering Committee, chaired by Rector NUST, and consisting of NUST senior management, was constituted to oversee the initial due diligence, a process that has taken 3 years of high-level national and international multi-stakeholder consultations. The Steering Committee takes strategic decisions recommended by the Executive Committee and the Core Team. The NSTP Executive Committee is the senior management team from NUST, chaired by Advisor NUST. The Executive Committee guides and approves operational activities related to the program. It also consolidates recommendations for the Steering Committee, implements decisions taken by the Steering Committee, and ensures compliance to program plans and deadlines. The NSTP Core Team (comprising members from Advisor’s Office) was also formed last year to execute operational activities related to the program. The Core Team works closely with external and internal stakeholders, and reports to the Executive Committee. The NSTP Prefeasibility Report prepared by the Core Team gives a detailed NSTP management structure.

The Consultant shall be required to analyze the proposed management structure, the possible future role the aforementioned committees or members of the committee (given this is a national level Program) and resultantly prepare a detailed Organizational/Management Structure. This structure must clearly delineate reporting lines and interrelationships between key stakeholders.

1.10 Human Resource Requirement and Induction Plan
The Consultant is required to prepare a Human Resource Requirement and Induction Plan in line with the operational model approved by the Client for the NSTP. This **Human Resource Requirement and Induction Plan** should include but is not limited to;

1.11.1 Phased HR Induction Plan based on NSTP occupancy rate/growth.
1.11.2 Define respective roles & relationships of the personnel to the university, Government, or tenants.
1.11.3 Review current human capital deployment along with required capacity-building measures.
1.11.4 Qualification of required HR.
1.11.5 Remuneration packages.

### 1.11 NSTP-A Green Initiative

The NSTP is envisaged as a green initiative.

The Consultant should suggest in the Feasibility Report energy efficiency measures in the NSTP architecture, alternate/ renewable means of energy provision.

### 1.12 Environmental Impact Assessment

The Consultant will be required to conduct an Environmental Impact Assessment of the Program and compatibility with both local regulations and the requirements of potential donor agencies and potential tenants. The Consultant needs to evaluate as to how any potential significant negative impacts can be minimized, identify stakeholders’ expectations, priorities, opportunities, and trends.

### 1.13 Financing/Investment Options for NSTP

The Consultant shall be required to prepare and present different financing/investment options for the NSTP. These options can include, but are not limited to investment based on a PPP-BOT modality, JV/land leasing options with developers/qualifying companies; combination of loan/grant from national/international financial institutions, grant from GoP etc.

The Consultant shall recommend to the Client, the most optimal method of financing the Program based on a sustainable business model and supported by a detailed financial model.

### 1.14 Financial Study

The Consultant is required to propose and recommend a Business Model for the Program. The model must be designed with the objective of ensuring financial soundness and sustainability of the Program. In developing the business model the consultant is expected to review the successful business models of the existing STP’s in the world especially in countries similar to Pakistan as well as similar or related initiatives within Pakistan.
Based on the business model, the consultant is required to prepare a detailed financial model of the program. The consultant is also required to identify the viability gap funding, if required, to make this program commercially viable and also show the relevant financial indicators for the investors under PPP.

The financial model shall include but is not limited to the following:

1.14.1 Revenues of the Program including all direct and other revenues.
1.14.2 All costs of the Program differentiating between fixed and variable costs and direct and indirect costs.
1.14.3 Assumptions of the model.
1.14.4 Option function in the model (scenario analysis).
1.14.5 Sensitivity analysis including consideration of risks identified in Para 1.15.6 mentioned below.
1.14.6 The Consultant is required to construct a risk matrix so it can be integrated with the construction of the financial model. It involves the following inter-related stages;
   1.14.6.1 Identifying risks* involved in the Program.
   1.14.6.2 Assessing the impact of these risks.
   1.14.6.3 Assessing the likelihood of these risks.
   1.14.6.4 Calculating the impact of risk (and ranges of possible outcomes).
   1.14.6.5 Allocating risks to party best able to manage risk.
   1.14.6.6 Identifying strategies for mitigating/managing risk.

*Some risks to be considered are “Program Related Risks” (including but not limited to; completion risk, operational performance risk, market risk, financial risk, environmental risk) and “Non-Program Related Risks”, (including but not limited to political risk, contractual [regulatory] risks, macroeconomic environment, legal environment etc.)

1.14.7 The cost estimates & comprehensive financial plan shall be prepared keeping in view the phase-wise development of the NSTP. The financial model shall include but is not limited to the following financial indicators:
   1.14.7.1 Return on Investment (financial, economic & social returns),
   1.14.7.2 Net Present Value,
   1.14.7.3 Internal Rate of Return,
   1.14.7.4 Break-Even Analysis,
   1.14.7.5 Payback Period.
   1.14.7.6 Economic rate of return

1.15 Economic Assessment

The Consultant is required to assess the possible benefits and costs of the NSTP to the society as a whole based on “with” and “without” Program. The Consultant is required to:

1.16.1 Determine the economic costs of the project (investment cost and operating cost) derived from the financial costs.
1.16.2 Undertake calculation of Economic Internal Rate of Return (EIRR) and Economic Net Present Value (ENPV).

1.16.3 Determine major assumptions to be applied to the economic analysis and estimate expected economic benefits to be generated from the Program such as increase in employment generation, etc.

1.16 **Governance Structure**
Options for governance depend on the current ownership of the proposed NSTP site and how the Program is finally funded. Once the Client has approved appropriate mode of funding, the Consultant shall accordingly prepare an optimized and performance based governance structure for the NSTP.

1.17 **Demonstrate Program Viability**
Based on the above, the Consultant is required to assess Program viability taking into account if the Program is;

1.17.1 Technically deliverable.
1.17.2 Affordable to users.
1.17.3 Economically viable.
1.17.4 Financially viable to the Client and potential investors.
1.17.5 Socially and environmentally sustainable.

1.18 **Verify Information and Sign-Off**
The Consultant must ensure that all information used in the Feasibility study is as accurate and verified as possible. This will include;

1.18.1 A statement from all stakeholders on the reasonableness of the information collected and the process by which the information was collected.

1.18.2 A description of how the assumptions used in constructing the financial model are realistic and appropriate, taking into account past practice, performance, current practice and anticipated future developments. In this context, the financial model prepared by the Consultant shall be required to be audited independently.

1.18.3 A record of the methodologies used for valuing various costs, including the costs of key risks.

1.18.4 Ensuring that all the inputs into the feasibility study are signed off as accurate and verified by the Consultant.

1.18.5 Once this information verification and sign off has been completed the approval process must be completed in accordance with applicable law.

1.19 **Revisiting the Feasibility Study**
The Feasibility study will be updated or modified when external market or macro-economic changes occur.