Terms of Reference

United Nations Development Programme UNDP - Bahrain

Terms of Reference (TOR)

A. Project Name

Danat Shamsya – Solar Pearls renewable energy attribute certification system

B. Project Short Description

Danat Shamsya are envisioned to serve as digital certificates of origin that support investment in renewable energy plants by offering owners a mechanism to validate and in the future trade clean energy attributes. In its initial phase, Danat Shamsya will reward those who have already installed grid-tied solar P.V. plants; where supporting a more sustainable sourcing of energy has clear visibility as an investment in personal reduction of carbon footprint and brings additional benefits to investors by awarding them with Danat Shamsya certificates for each 1MWh that has been produced. This will make Danat Shamsya an economic incentive model that encourages individuals, corporations and the public sector's low-carbon behavior for nation's public benefit. UNDP believes that with a clear focus on the local diaspora and the private sector practicing a greener lifestyle through investing in sustainable energy, the program will provide investors instant feedback on the impacts of their sustainable energy investments - thus making the prospect more attractive. Furthermore once the Danat market place is established – allowing for the trade of these certificates – demand from the market place will also increase the value of the certificate. The Danat marketplace is a project which may benefit from the use of blockchain technology – and future phases may aim for the Danat Certificates to be a cryptocurrency, issued in near real-time, when sustainable energy is generated. As more Solar Plants are added to the system, more certificates will become available which will make the Danat Certificates almost a living currency with positive externalities.

In future phases, Danat Certificates would also be awarded to other registered renewable energy generators such as Wind and Waste-to-Energy plants as well as energy efficiency projects which can demonstrate proven energy savings. By expanding the Danat ecosystem to the wider arena of sustainable energy projects, this will promote further sustainable action. Potentially there will be an opportunity to provide additional benefits to those in possession of Danat Certificates – as they are earned by offsetting carbon emissions, partner organisations may wish to support the program in the form of in-kind rewards such as cinema tickets, discounted flights or simmilar these partnerships will add to the value of the Danat Certificates which can be exchanged for these in-kind rewards and will also raise awareness of the program.

C. Background and the objectives of the project

The key issues facing Bahrain today as it aims to reach its national targets of 5% & 10% renewable energy in the energy mix by 2025 & 2035 respectively and a 6% improvement in energy efficiency by 2025 are as follows:

- Relatively low levels of awareness (public, private and professionals in relevant areas ie architects)
- Sustainable Energy technologies are relatively new (few implemented examples, limited local capacity)
- Subsidies for conventional energy results in Sustainable Energy projects having borderline financial viability
- Relatively new enabling legislation

To address these issues, the UNDP- SEU has recently developed enabling legislation (Net Metering resolution Jan 2018) to allow the use of Grid Tied Renewable Energy, trained installers, consultants and energy services providers to develop local capacity and conducted awareness raising events to increase demand for these services.

These actions to date have begun to have a positive impact on the uptake of Sustainable Energy projects, a handful of early adopters have taken advantage of the new legislation and local capacity to install rooftop solar, conduct energy audits and implement energy conservation measures. This has resulted in the market becoming slightly more efficient meaning prices are becoming more attractive, however due to the relatively low cost of conventional energy (still partially subsidised) many technically viable projects are considered borderline in terms of financial viability – thus the Danat Certificate program aims to improve this situation by giving residents, facility owners and investors alike an opportunity to demonstrate a commitment to sustainability through the Danat program.

Main components of this project are:

1) Awarding Certificates– Each eligible sustainable energy project (Solar PV, Wind, Biogas generator or Energy Savings Project) may register their project potential. Actual energy generated / saved will be verified and a Danat Certificate will be awarded to the project owner (1 Dana / 100kWh produced or saved).

2) Retiring Certificates- The Danat Certificates will be retired when the owner of the plant makes a public claim related to the use of renewable energy produced or the energy saved by their project. The certificate's serial numbers must be mentioned in the claim. Once retired certificates can no longer be viewed as active or mentioned in future claims of renewable energy use or energy savings achieved.

3) Trading Certificates- Should the project owner choose not to make a public claim they will be able to trade their certificates through a dedicated platform – this will allow energy users who wish to use sustainable energy but lack the space, technical capacity or upfront capital to invest in on site generation to show their commitment to sustainable energy. The purchaser of the certificate will then be able to follow step two above and retire their certificates with a public announcement that references the certificates serial numbers.

4) Adding Value to Certificates- To further encourage the general public to adopt the use of sustainable energy and to offer opportunities to industries to support this sustainable practice, the program will initiate partnerships with service and product providers who choose to sponsor either by way of funds or in-kind support to the program. These services or in-kind support can be claimed with the use of Certificates – for example a clothing store may offer a 5% discount to shoppers who can demonstrate that they own more than 10 Danat Certificates, an airline may offer free flights to the first generator to generate 1000 certificates in the year etc.

D. Scope of Work for this TOR

1. Design Danat Certificates, a digital asset backed by verified positive impact such as but not limited to production of Sustainable Energy
2. Danat Certificate token design and issuance - definition of coin, Issuance criteria, tokenomics and network Value, chosen blockchain technology, compatible wallets,
3. Definition Paper ("yellow paper") of up to 10 pages
4. Interaction and necessary legislative amendments to National Legislation
5. Participate in trial run as a proof of concept for Danat Certificates and implement feedback
6. Collaboration agreement between UNDP SEU, relevant local stakeholders
7. Participate in weekly skype meetings with UNDP SEU and other stakeholders included in this process.
8. To advise on testing the potential volume and scalability of Danat Certificates with UNDP SEU and relevant local stakeholders.
9. To set a baseline for assessing the potential regional applicability and scalability in the local context.
10. To help out with assessing the risk of the hindering effects (existing regulatory frameworks as well as behavioral patterns) to the acceptance and application of Danat Certificates in interaction with Local Government (Guidelines for avoiding regulatory conflict)
11. To assist with development of a plan for impact reporting and behavioral change - strengthening of local economy through Danat Certificates, with positive changes in green behaviors

E. Deliverables expected through the project

1. Concept note developed in a form of 2 page document
2. Roll out and action plan and a time table that will serve for tracking of activities and clear visibility of actions that need to be performed, dates and partners to be involved
3. User story map in form of steps as perceived by investors / donators / key partners
4. Definition Paper ("yellow paper" 6-10 pages) that describes the Danat Certificate's purpose, partners, impact, ecosystem and value to be created and supported with issuing the certificates
5. Document listing any changes to national regulations which need to be affected in order for the Danat Certificates are functional outside of the pilot phase.
6. Proof of Concept Minimum Viable Product (portal wireframes etc)
7. Defining User Journey, interaction design, pilot program; Steps to award, retire and trade tokens as well as methods to claim partnership supports.
8. Minimum viable product designed and implemented (Danat Shamsya issued to renewable energy generators, and a methodology to track and retire them and transactions between 10 producers and one core consumer having been tested and implemented. With a potential to migrate the whole system to a Blockchain ledger within the private network;)
9. Defining possible partners and ecosystem players who may add value to the Danat Certificates (special benefits to sustainable energy users) – in exchange for verified sustainable energy generation or energy savings, but also other mechanisms in which Danat Certificates can be exchanged for external value.
10. Roadmap to scale up for scaling up the Danate Certificates in three possible scenarios; defining possible partners and ecosystem for scaling up in these scenarios (future oriented proposed scenarios)
11. Support in the design and implementation of the first pilot project.

F. Institutional Arrangement

Evaluation of the Company and Required Qualifications:

The company is requested to provide proof of the following:

- Registered company working for at least one year
- Company already has experience in blockchain projects and, or platform-oriented approach

Evaluation of the Company`s Key Consultant and Required Qualifications:

The team leader should have a minimum of a Master's Degree or Bachelor Degree with a minimum of 5 years of work experiences in lieu of the Master Degree in economics, engineering, design, innovation, science or related fields.

The Technical Proposals will be evaluated on the basis of their responsiveness to the Request for Proposal, Terms of Reference and other documentation provided, applying the following technical evaluation criteria:

1. Understanding of the requirement including addressal of the important aspects of the task in sufficient detail.
2. Description of the approach and methodology for meeting or exceeding the requirements of the Terms of Reference
3. Details on how the different service elements shall be organized, controlled and delivered
4. Description of available performance monitoring and evaluation mechanisms and tools; how they shall be adopted and used for a specific requirement
5. Assessment of the implementation plan proposed including whether the activities are properly sequenced and if these are logical and realistic
6. Description of actions how and what will be achieved within the project (including Gantt chart and 1-2 pages)
7. Vision how once created Danat Shamsya could be (upon successful implementation of this project) connected to existing or future ecosystems/platforms/digital wallets and upscaled.
8. Practical experience in the field of blockchain, creating digital tokens and coins (additional asset is if these efforts have been tied to development) shall be considered.

The evaluation of the key personnel will be based on the following:

1. Team composition and structure: Suitability of roles of the management and the team of key personnel suitable for the provision of the necessary services.
2. General and Specific Experience relevant to the assignment
3. Regional and International Experiences working in the similar assignments
4. University degree
5. Excellent analytical and synthetic skills
6. Excellent communication and report/writing skills in English
7. Teamwork, proven management and results-orientation
8. Expertise in working with and evaluating similar projects