Seeking Solutions from Sustainable Energy Sources to Power Up Recreational Facilities

What are the electrical energy requirements (kWH) to supply electric power to the recreational facilities?

This is something to be proposed by the company based on its technical study for the proposed pilot project site. The size of the power generation system should be big enough to justify itself economically.

Any current sustainable energy solution already deployed, and if yes, what are they?

No sustainable /renewable energy solutions have been implemented for public realm facilities in Abu Dhabi. The Abu Dahbi Municipality conducted long time ago PV pilot projects for couple of its own buildings for exploration and evaluation purposes. We believe the technology has improved a lot since that time so we expect much better outcome especially for larger scale projects.

As for wind energy that might be proposed as an alternative or in combination with the solar energy, we have not conducted yet any test or pilot using wind energy.

Please share what the requirement to plug into the existing grid is?

Please refer to the document "Small-Scale Solar Photovoltaic Energy Netting Regulations- First Edition -2017". The document was published by RSB (Regulation and Supervsion Bureau), which is now under the Department of Energy DOE.

How long is the pilot trial required if the company is shortlisted for collaboration?

Typically, the pilot trial should be for maximum 6 months and it can be negotiated and extended for one year, which allows us to monitor performance under the various weather/climate conditions especially in the Summer season and during stormy days.

For each of the challenge statement, will DMT be selecting more than one providers to run multiple pilots?

DMT might select more than one favorable solution for piloting based on the outcome of the technical and financial feasibility studies submitted.

Do you think about the resilience urban system creation while considering potential solution for the innovation of abudhabi /UAE ?

Certainly. Urban resilience should be considered while developing any proposed system or solution for this Smart City Innovation Challenge.

Are you seeking purely technical solutions or would you consider consortiums that combine expertise in both technology and human centred design to research and explore citizen needs, particularly for the recreational areas.

Any technical solution proposed should consider the various sustainability aspects including the economic viability and social acceptance besides the environmental benefits. Such solution could be developed either by a single entity or a consortium.

I would like to understand if a Tidal energy startup also qualify?

Any proposed renewable energy (including tidal energy) qualifies as long as it demonstarets its feasibility at technical, financial, environmental and social levels.

What can we expect after a succesful POC? Will there be a tender for a bigger scale within an expected timeframe?

If the POC of the Proposed Solution is proved successful, DMT will enter in an exclusive partnership agreement with the selected company for larger scale implementation of the Solution.

Can you clarify the expectations regarding development stage of the proposed products?

During the development stage, contestants will receive the required data and information to carry out their analysis and design for the selected site(s). We expect to recive a "smart" solution(s) (one or more alternatives) that consider the local conditions and comply with the sustainability principles set by the Abu Dhabi Estidama (i.e. Sustainability) guidelines.

Seeking Smart Street Lighting Solutions for Public Engagement and Data Capturing

Any dimension requirement for the digital display?

The board dimensions, like the traffic variable message signs VMS, depend on several parameters such as location (on pole or corner of an intersection), street width, height of the board and traffic speed.

How long is the pilot trial required if the company is shortlisted for collaboration?

Typically, the pilot trial should be for maximum 6 months and it can be negotiated and extended for one year, which allows us to monitor performance under the various weather/climate conditions especially in the Summer season and during stormy days.

What are the brands and specific models of the existing street lamps? What type of connectors are use? NEMA?

Currently Abu Dhabi is adopting LED technology for its public lighting in roads, plazas, parks and recreational facilities. Also, Abu Dhabi Quality and Conformity Coucil (QCC) has qualified a wide range of road lighting products manufactured in Europe, Asia and and North America. You may get more information on the qualification of public lighting products at https://qcc.gov.ae/

The smart nodes connection to lighting luminaires is per NEMA standards.

For more information about Adbu Dhabi lighting standards including telecom requirements go to: https://jawdah.qcc.abudhabi.ae/en/Registration/QCCServices/Services/STD/ISGL/ISGL-LIST/PR-402.pdf

What is the telecom infrastructure? 3G or 4G what is the approved frequency in Abu Dhabi?

The Telecom Companies in UAE can provide services on both 3G and 4G networks. 4G is preferable.

Will DMT help to secure the telco licenses to use wireless communication frequency? For example, if LoRaWAN based sensor network are proposed will DMT help apply for the relevant licenses?

DMT will help the selected company to get the telecom license for its project. However, DMT is currently building a city wide LoRa communication network for its Abu Dhabi Road Lighting LED Project (aka Noor Abu Dhabi Project),which is implemented through a Public-Private Partnership (PPP) agreement.

For more information about licensing services go to: https://www.tdra.gov.ae/en/home.aspx

For the sensors, when the information is collected and if there is a need to take action what is the acceptable processing delay? This has an impact on the sensor communication requirements such as update rates, etc which will affect the overall design of the proposal.

Update rates of data collected by sensors depend on the application type and purpose. For example DMT is asking for road lighting data to be updated every 5 to 10 minutes maximum, while environmental data could be updated for istance every 15 minutes. Companies may suggest update rates for every proposed application based on Industry best practices.

For the double-side screens for advertisements, what is the power supply available from the lamp post? Voltage, Frequency?

It is a 3-phase, 400 volts, 50 Hz power supply.

Would DMT be open to conduct trials using completely new lamppost equipped with sensors? This because retrofitting existing lampposts have many technical complications?

DMT is open to all ideas and prototypes that prove succeful including new lamppost that comply with Abu Dhabi Lighting Standards

What is the detail of the ongoing Noor Abu Dhabi Project?

Now DMT, in Collaboration with Abu Dhabi Investment Office ADIO, is pre-qualifying companies for the second phase of Abu Dhabi Road lighting with LED Power Saving Project (aka Noor Abu Dhabi –phase 2) in partnership with the private sector. For more information please visit ADIO website at https://investinabudhabi.gov.ae/en or https://www.investina-budhabi.ae/-/media/Project/TAMM/ADIO-V2/Documents/LED-P2--Request-for-Qualification_-040521.pdf

Wireless - cellular or non-cellular type preferred.

There is no restrictions on the wireless communication type. The most economically feasible design is the preferred one.

If it is a brown field, are cameras being installed at the moment on the lamppost?

No cameras are currently installed on road lighting poles.

There was mention of a Content Management System (CMS) for the Street Lighting. Would the new solution be expected to integrate to this CMS? If yes, are there any technical specs for this?

There is no requirement to integrate the proposed solution with the Central Management System (CMS) that controls lighting operations in the city of Abu Dhabi.

May I know currently where are the marketing banner placed ?

Currently banners are installed on light poles, at-grade on road medians or sidewalks.

Will technologies that provide wireless communication infrastructure for smart lamppost systems be of interest?

Yes. Actually there is an ongoing Smart Lighting LED project in Abu Dhabi city supported by wireless communication technology.

How each of the parties open with cloud based solutions? Any cloud preferences? If not open for cloud solutions, any requirement for the on-premise servers?

For security reasons, solutions with on-premise servers is preferred.