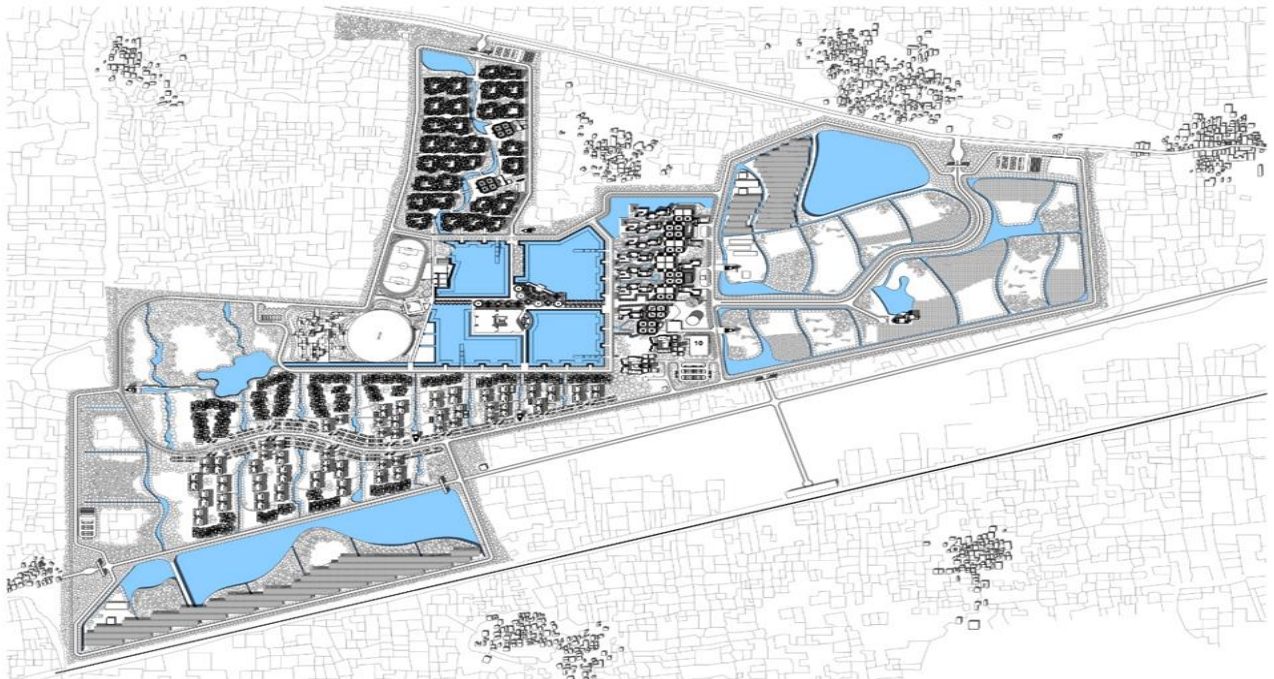


**Ref: EOI NO 01/ 2018-19/03**

**Dated 23<sup>rd</sup> February 2018**

**EXPRESSION OF INTEREST (henceforth EOI) IS BEING INVITED FOR DISCUSSION AND PROPOSSAL FROM THE INTERESTED PARTIES FOR ENERGY and GAS SUPPLY SERVICES (*Solar PV and Bio both combined for the Development of NET-ZERO ENERGY Campus*) **UNDER RESCO** MODEL AT THE PERMANENT CAMPUS OF **NALANDA UNIVERSITY, AT RAJGIR, BIHAR.****



## **EXPRESSION OF INTEREST NALANDA UNIVERSITY, RAJGIR, BIHAR.**

The EOI is being invited through central public procurement portal (e-publishing) CPPP (<https://eprocure.gov.in/epublish/app> AND Tender ID No [2018\\_NU\\_297558\\_1](#)) and the University website ([www.nalandauniv.edu.in](http://www.nalandauniv.edu.in)) for the OFFER with detail methodology for BIO- GAS and Solar Energy Services under RESCO model for development of Net-Zero Energy Campus as per the detailed requirement mentioned in this EOI. In addition to submission through e-mail, the interest/prospective bidders are also invited for the presentation before the University on the scheduled pre-bid **meeting on 6<sup>th</sup> March 2018**, at Nalanda University, Rajgir. The bidders may present their credentials, similar experience (including past and hands on) solutions for the hybrid design and approach for the development of Net-Zero Energy Campus at Nalanda University, Rajgir. The interested bidders are requested to send their proposal through e-mail [[mkumar@nalandauniv.edu.in](mailto:mkumar@nalandauniv.edu.in)]. The interested bidders are requested to submit their offer in OFF Line mode also. The documents in offline i.e. physical submission date is same as it for online/e-mail i.e. by 17.03.2018.

## Index

SL	Title	Page No
01	Background and Expectation OF -EXPRESSION OF INTEREST	03 to 04
02	PROJECT BACKGROUND	05 to 06
03	OBJECTIVE OF THE EOI	07
04	SCOPE OF REQUIREMENT/EOI FUTURE	08 to 09
05	SUBMISSION & LAST DATE/TIMELINE	10
06	FORECASTED LOAD PROFILE OF THE CAMPUS	11 to 12
07	(Type of firms who can participate) The parties and types of the firms allowed for the participations	13 to 15
08	Rate format for the quotation	15
09	Typical Net-Zero Approach	16
	<b>OTHER DOCUMENTS FOR UNDERSTANDING THE REQUIREMENT UNDER THE TERMS &amp; CONDITIONS</b>	
01	MODEL RFP – MODEL OF TERMS AND CONDITION FOR FUTURE ENQUIRY	Interested bidders may send their feedback
02	Design Presentation	For Understanding the Net-Zero Campus design and requirement

### TIMELINES AND CRITICAL DATES:

SL	ACTIVITY	DATES
01	PUBLISH DATE	23.02.2018
02	PRE-BID CONFERENCE TO DISCUSS THE REQUIREMENTS AND PRESENTATION FROM THE INTERESTED PARTIES/BIDDERS	06.03.2018, 10AM onwards at Nalanda University, Rajgir-803116. If required then may be continued till 07.03.2018
03	LAST DATE OF SUBMISSION OF OFFER WITH METHODOLOGY AND APPROACH IN DETAILS AS PER THIS EOI REQUIREMENT	17.03.2018

### CONTACT DETAILS FOR ANY QUARIES RELATED TO THIS EOI:

Name: Manoj Kumar, AE(Electrical)  
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E-mail: [mkumar@nalandauniv.edu.in](mailto:mkumar@nalandauniv.edu.in)

Alternative Contact Number:  
Name: Ms. Swati Krishna, JE(Electrical)  
Mob@ +91-9102011241

**Nalanda University, Rajgir-803116**

# 1. BACKGROUND AND EXPECTATION Of EXPRESSION OF INTEREST For

**THE FINDING OF SUITABLE AGENCIES (Alone or together-  
collaboration with others agency) APPROACH AND  
METHODOLOGY**

**For**

**The Energy and BIO-GAS supply Services required  
for the development of Net-Zero Energy Campus  
through PREDESIGNED HYBRID SOURCE  
(predesigned) Under RESCO Model.**

Here PREDESIGNED HYBRID SOURCES MEANS the Electricity generation through Solar PV during day time & Gas for CHP Engines during day and Night both. The Combined Heat and Power (CHP) Engines shall be installed by the University for which BIO-GAS will required to run the Heating Ventilations and Cooling System through Descant Evaporative Cooling System (DEVAP) during day and night time and Energy through the Sterling Engine during night time. The entire system will be ON-GRID connected and hence the GRID will be as a backup source for the campus and also the excess energy will be feedback to the GRID. The project design summary is enclosed herewith as ANNEXURE- PPT (pdf). The forecasted Energy Requirement is indicated below for the volume of requirement:

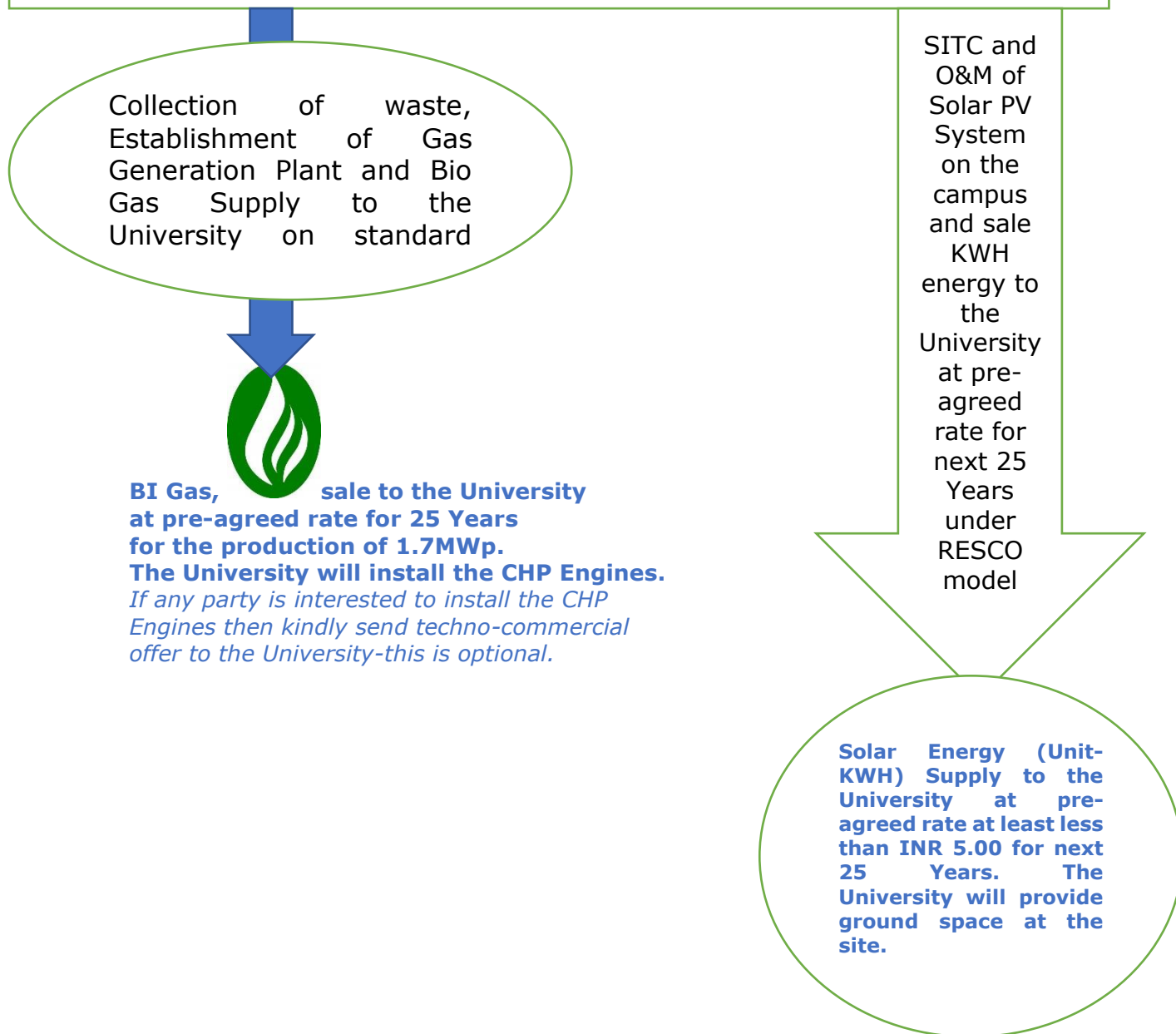
Sr No	Energy Source	Time	Capacity in Phase-I. The EOI/ tendering is for Phase-I	Capacity up to Phase-II (Means Phase-I+II) Will required by 2020	Remarks:
01	PV Solar	Day	2.2 MWp	4.2MWp	The Bio-based plant (gas +mass both) may also be used during daytime as on required basis, especially for heating & cooling purpose. One MW of combined Energy (Solar -Day & BIO-Day+Night both) demand is required BY JUNE 2018. Cumulative 3.9 MW Energy will required by 2020. Cumulative 7.4 MW Energy will required by 2019.



## **Expectation of this EOI:**

### **Under RESCO Model:**

Finding of suitable agency and methodology and technical solution/approach under RESCO Model. The preference will be given to a single party. However, any one of the agency- Either single/individual agency for entire solution to the University (Sale of Bio-Gas and KWH Solar Energy). The University will install the CHP Engines for which Bio Gas will required.



## 2. PROJECT BACKGROUND

- Project Name: Nalanda University
- Project Location: Rajgir, District- Nalanda, Bihar
- Project Target: Net Zero Campus
- Site Area: 455 Acres; Built Up Area: 3,70,000 Square Meters
- **Vision:** Nalanda University proposes to establish a Net Zero campus at its site in Rajgir, Bihar thus achieving Net Zero status for Energy, Water & Waste. The university through this approach envisages a paradigm shift in the approach towards designing a new university campus. The location has no potential to generate energy using wind as a source and thus requires an alternative approach. The alternative being adopted is the utilization of Solar P.V. and energy generation through an alternate renewable fuel (Bio Mass). Using the solar energy during day and the energy generated through renewable sources at night time makes a perfect strategy to minimize requirement for energy storage. Net metering further adds a reliable backup for the strategy. Goal of Net Zero requires first reduction of energy demand and then fulfilling the demand using renewable energy. A Series of innovations in architectural design, Air Conditioning and Plumbing systems ensure a reduction in the overall demand. Once the demand is reduced the focus is on generating required energy through renewable sources.
- **Architectural Design:** The design takes inspiration from the existing ruins of Nalanda. The buildings are like a verandah. The design attempts to blur the boundary between the inside and the outside. The periphery is solid, clad in brick while the interiors use all contemporary materials. A solid heavy mass in the periphery houses all services and circulation areas and ensures the first layer of insulation from the outside heat. The interior spaces are then micro cooled further through the DEVAP (a low energy cooling) system housed within the climate towers. Design development looked in all design aspects to keep energy demand to the lowest possible level. All buildings are simulated in energy simulation software to ensure correct orientation, well shaded facades, appropriate building envelop & optimized daylight levels. These considerations reduce heat gain in the building by 30%.
- **Air Conditioning:** Hot and Humid climate of the area offered a challenge in obtaining low energy cooling system. But the design team converted the challenge into an opportunity. A cooling system consists of three stage cooling strategy - chemical dehumidification, evaporative cooling and air conditioning. The dehumidification is driven by waste heat available from electricity generation process. This three-stage process over a conventional air cooling reduces cooling load by 40%. This strategy has been used in



parts at various locations but all three parts will be working together in this project for the first time.

- **Electricity:** Bihar being mainly an agricultural state has a huge biomass (rice husk) available. The University also has a large land where algae can be grown. Nalanda University proposes use of Solar P.V. and Electricity generation from Bio Mass i.e. rice husk & algae. This dual approach takes benefit of solar energy during DAY and biomass based electricity at NIGHT. With this dual energy source University plans to produce 100% electricity on site using renewable energy sources and hence we called this HYBRID RENEWABLE ENERGY DESIGN APPROACH. Also having a secondary renewable energy source minimizes use of battery for storage. Excess Energy can also be exported to the grid, if required.
- **Water:** The project location has good rainfall with large catchment area. Feasibility clearly showed surplus water availability. The project utilizes this potential and collects surface water in large manmade lakes. Collected water is then treated further before use. Project also uses Decentralized Waste Water Treatment for sewage treatment. Treated water is used for landscaping.
- **Test Case:** All of the above strategies are planned for the entire project; however, all strategies & technology will be tested in an "Outreach Center". The performance of outreach center will be monitored and strategies will be fine-tuned before implementing it on other buildings and campus area. Project seeks funding for testing out the model on "Outreach Center". Repetition of model for Phase 1 & Phase 2 buildings will be done by the university.

#### **A. Outreach Center: (Pilot Project):**

Being located in a Net Zero campus, the Outreach Center is a Net Zero Building. The energy required will be met from a combination of Solar P.V. and Bio Mass. An external combustion engine is used which generates electricity from bio mass. Heat produced in the process is utilized to drive the dehumidification cycle in air conditioning. Reuse of this residual heat reduces load on cooling by 30%. Air cooling has a system to deliver air at two temperatures. Air coming out after dehumidification and then evaporative cooling and air which is further cooled using active air conditioning. With this combination overall cooling consumption is lowered by 35% – 45%. An integrated building management system to monitor energy consumption including indoor temperatures monitoring modules with power generation and distribution load management modules will be used to monitor data on a daily basis. However, this will be scaled-up in the entire campus through SCADA/DMS modules.

### **3. OBJECTIVE OF THE EOI**

- Objective of this EOI:
  - I. To find interested parties/bidders who are interested in collaborating with Nalanda University on its Net Zero Energy agenda. University will provide space required to set up the infrastructure and may agree under RESCO modules.
  - II. Under RESCO Approach– The University will agree on a predefined unit rate for a mutually agreed time period generally for 25 Years.
  - III. The expected unit rate under RESCO Model is less than INR Five (INR 5.00) per unit up-to Next 25 years. The University expects agreed rate at least 25% less than present GRID rate of Energy per UNIT.
  - IV. The prospective bidders are invited to submit their approach as per the scheduled timeline of this NIT.
  - V. The prospective bidders are invited to attend the pre-bid meeting scheduled on 6<sup>th</sup> March 2018, 10AM onwards at the University Campus Rajgir and discuss the queries and design of the approach for Energy Services Required through HYBRID SOURCES. The prospective bidders are also invited to present their proposal through PPT on the same day at the same venue. The exact time slot for the presentation from the prospective bidders will be intimated during pre-bid meeting. The prospective/interested bidders may also ask any queries through e-mail ([mkumar@nalandauniv.edu.in](mailto:mkumar@nalandauniv.edu.in)) and may contact to Mr. Manoj Kumar, AE(Electrical) @ Mob+91-7033698507 or Ms. Swati Krishna, JE(Electrical) Mob @ +91-9102011241. The bidders may incorporate the followings in their presentations:
    - a. Company credentials and its type of company (either individual, group, collaborated or any other).
    - b. Methodology and approach for the required Energy Services under RESCO Model.
  - VI. The prospective bidders are invited to submit their proposal indicating approach, methodology, collaborations with other agencies if required and expectations from the University.
  - VII. The bidders are invited to submit their proposals by 17<sup>th</sup> March 2018 (through e-mail and physical both) with indicated way, methodology, company credential and its type, similar work executed or in hand, expectation from the University indicated rate (optional) while University intends agreed rate at least less than INR 5.00 per unit for next 25 Years. The Model RFP is also enclosed herewith as ANNEXURE MODEL RFP and published for feedback, if any. This model RFP will be the indicative terms and condition for Energy Services under RESCO Model.
  - VIII. A brief report on the hybrid design is enclosed and published herewith as ANNEXURE-PPT(pdf).

#### **4. SCOPE OF REQUIREMENT/EOI**

##### **A. Supply of electricity generated using **GROUND TOP** Solar P.V. (2200 kWp-Phase-I)**

- University will provide space required to mound the required size of solar P.V.
- Interested party to Procure, Install & Maintain the functioning of the system and keep on giving required electricity to the university.
- The Installation is required in 2 phases. First is for Test Case (Outreach Center) and Phase 1 Buildings.
- Following are requirements Phase wise:
  - Outreach: 200 kWp
  - Phase 1: 2200 kWp
  - Phase 2: 2000KWp

##### **B. Supply of Gas generated using Bio Mass (1700 kWp)**

- University will provide space to establish plant to generate the fuel for CHP engine.
- Interested party can set up the plant which will generate gas required for functioning of CHP engines.
- CHP Engines will be installed by the university, scope is only to generate, store and supply gas to the engines.
- Procurement of Machines, their installation, maintenance, sourcing of any fuel/feed stock required for working of the plant will be in the scope.
- CHP engine is flexible in its fuel source hence any of the below combination can be provided.
  - Consumption per kW for CHP is 6000 BTU/hr thermal heat  
The multi inputs may be feed in the system: Methane, Purified biogas, Bio Gas Ethanol and also LPG/PNG/DIESEL but cannot be feed in case of renewable energy ONGRID REGULATORY provision.
- Estimated Monthly Trend for units of electricity generated using gas feed is attached. This is to communicate expected monthly consumption pattern (Only for reference)
- Interested party can use any waste material (environmentally non-hazardous)/agricultural feed to generate the required gas. Initial research was done to check the possible options in the region. The list is as below. Interested party can also go beyond the given list to source the raw material.

Following material is available in the region:

- Rice husk
- Wheat Straw
- Wood Chips
- Split Red Gram
- Millet



- Sesame
- Palliates
- Poultry waste
- Organic waste from adjacent city
- Sewage plant in adjacent city (Rajgir-10MLD –approx 6 KM from the site, not in connected with house hold yet –optional for future and may be utilized in future)
- Cow manure
- Combinations of above.
- Algae grown on site for backup feed (water bodies will be provided by the University)

## **5. SUBMISSION & LAST DATE**

**A. Interested parties to submit their Expression of Interest to the university along with following details.**

- **Name of Organization**
- **Relevant project experience**
- **List of similar work executed on site**
- **List of similar work in execution stage**
- **Feedback on the model RFP**
- **A report on how they intend to complete the work**
- **Space required to set up the plant**
- **Time required to set the plant**
- **Quotation and financial commitment for the followings:**
  - I. Generation of Energy and SALE to the University under RESCO Model through PV Solar Ground Top System on the University Campus. The University will provide the space without any additional charge.**
  - II. Supply of BIO-GAS to the University at standard pressure. This includes the establishment of gas generation plant, Collection of waste (as mentioned above) by the agency, and Gas supply to the University at standard pressure. The University will provide space on the campus site.**

## **B.SUBMISSION TIMELINE:**

- **Date of publishing of EOI: 24 February 2018**
- **Date of discussion and pre-bid meeting: 06 March 2018, 10AM onwards at Nalanda University, Rajgir.**
- **Last Date of submission: 17<sup>th</sup> March 2018 through Email and Physically both.**
- **Address: AE(Electrical), Nalanda University, Rajgir, District-Nalanda, Rajgir, 803116.**

## 6. **FORECASTED LOAD PROFILE OF THE CAMPUS:**

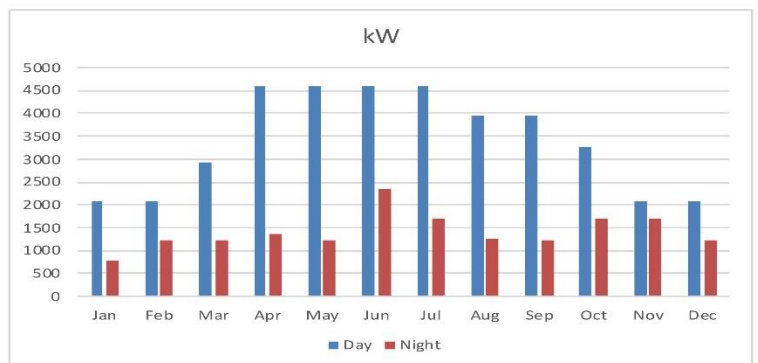
Connected Load : 6490 kW

ASSUMPTIONS					ELECTRICAL							
Zoning	Building Names	Building Areas (m <sup>2</sup> )			Electrical Load (kW)							
		Built Up	Carpeted	Roof	Lighting	Power	UPS	Lifts	Plumbing	HVAC	TOTAL	W/m <sup>2</sup> (Carpet Area)
RESIDENTIAL	Faculty & Staff	39,122	29,342	32,622	118	1014	0.6	120	0	881	2133	72.7
	Hostel	20,500	15,375	23,145	53	350	0.0	0	0	288	691	44.8
	Dining	3,761	3,307	3,087	6	74	0.6	10	11	100	201	60.8
NON RESIDENTIAL BUILDINGS	Academic	17,031	12,750	23,960	26	152	60.2	109	19	90	456	35.8
	Administration	6,810	5,536	3,010	10	23	20.8	23	12	109	198	35.7
	Communication Center	1,600	1,470	3,010	2	7	33.4	0	0	55	98	66.5
	International Center	5,061	4,171	2,500	23	60	7.8	13	8	42	154	37.0
	Campus Inn	5,677	4,250	2,150	16	67	6.3	15	8	42	154	36.2
	Library	24,000	16,320	5,550	7	68	35.7	19	10	98	237	14.5
	Out Reach	1,380	1,077	800	3	18	5.9	6	5	30	68	63.2
AMENITIES	Student Amenities	8,960	6,720	8,400	11	63	0.0	0	0	87	161	24.3
	Sports Center	3,737	2,803	2,900	3	11	1.6	0	5	45	66	23.6
	Commercial Center	1,460	1,095	2,000	2	9	3.3	10	0	22	46	42.0
	Infirmary & Faculty Club	1,790	1,343	550	3	30	8.8	10	5	27	84	62.7
	School	6,000	4,000	4,968	9	36	27.1	0	0	129	201	50.3
EXTERNAL INFRASTRUCTURE	Pathways & Landscape				75	0	0.0	0	0	0	75	NA
	Pumping				0	0	0.0	0	150	0	150	NA
	HVAC				0	0	0.0	0	0	1316	1316	NA
TOTAL:		1,46,889	1,09,558	1,18,652	369	1981	212	334	233	3361	6489.6	44.2
					3.4	18.1	1.9	3.1	2.1	30.7	44.2	
					6%	31%	3%	5%	4%	52%	100%	

Demand Load: 4600 kW (70% of Demand Load)

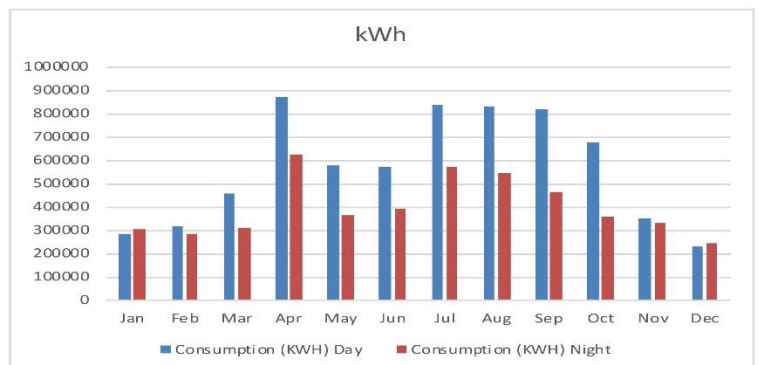
Demand Load (KW)

Month	Day	Night
Jan	2083	772
Feb	2083	1225
Mar	2923	1225
Apr	4602	1354
May	4602	1225
Jun	4602	2362
Jul	4602	1690
Aug	3931	1243
Sep	3931	1225
Oct	3259	1690
Nov	2083	1690
Dec	2083	1225



Consumption (KWH)

Month	Day	Night
Jan	286989	307221
Feb	319798	284105
Mar	458915	311743
Apr	868967	625113
May	578430	365326
Jun	571801	390861
Jul	838236	569750
Aug	830208	544291
Sep	815771	462286
Oct	679607	356262
Nov	349786	331040
Dec	230071	242578



	Demand kW		Source	Size of Grid kW	
	Day Time	Night Time		Maximum Demand	
Connected Load	6489	3375	Solar P.V.	2200	4600
Diversity	71%	70%	CHP		Less CHP Generation
Maximum Demand	4600	2362			Balance
					2900

**GRID Size 3000 kW**

Electricity Sanctioned demand is calculated based on Maximum Demand Load less assured capacity generation on site i.e. 4600-1700 = 2900.

### Assumptions Used to Calculate Demand Load from connected load

Daily Diversity Assumed								
Building name	6 am - 9 am	9 am - 1 pm	1pm - 2 pm	2pm - 6 pm	6pm - 11 pm	11pm - 6 am	Avg. diversity factor for day time	Avg. diversity factor for night time
<b>ACADEMIC SPINE</b>								
Academic Blo	0.1	0.8	0.6	0.8	0.1	0	0.7	0.1
Administrativ	0.1	0.8	0.6	0.8	0.1	0	0.7	0.1
Communicati	0.1	0.8	0.6	0.8	0.1	0	0.7	0.1
International	0.5	0.4	0.6	0.6	0.8	0.4	0.5	0.6
Campus Inn	0.5	0.4	0.6	0.6	0.8	0.4	0.5	0.6
Outreach	0.1	0.8	0.6	0.8	0.1	0	0.7	0.1
<b>FACULTY HOUSING</b>								
VC Bungalow	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Faculty Row H	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Faculty Apart	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Faculty Apart	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Faculty Apart	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
<b>STUDENT HOUSING</b>								
Cluster-1	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Cluster-2	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Cluster-3	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Cluster-4	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Cluster-5	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Cluster-6	0.6	0.1	0.5	0.2	0.6	0.4	0.3	0.5
Dinning Hall	0.5	0.6	0.8	0.2	0.8	0.1	0.5	0.5

Annual Diversity Assumed			
Month	Academic	Faculty H	Student H
Jan	25	30	30
Feb	22	28	28
Mar	25	30	30
Apr	25	30	30
May	15	20	20
Jun	15	20	20
Jul	20	30	30
Aug	25	30	30
Sep	25	30	30
Oct	25	30	30
Nov	25	30	30
Dec	19	9	9

Enclosed for feedback and understanding for the bidders:

- MODEL RFP and Campus Design as PPT (pdf)

Submission invited from the prospective bidders-

- Name of Organization, type of company, credentials, Approach, way, offer.
- Relevant project experience and List of similar work executed on site
- List of similar work in execution stage
- A report on how they intend to complete the work
- Space required to set up the plant & Time required to set the plant
- Quotation for the followings:

III. Generation of Energy and SALE to the University under RESCO Model through PV Solar Ground Top System on the University Campus. The University will provide the space without any additional charge.

IV. Supply of BIO-GAS to the University at standard pressure. This includes the establishment of gas generation plant, Collection of waste (as mentioned above) by the agency, and Gas supply to the University at standard pressure. The University will provide space on the campus site.

**7. The following parties and types of the firms allowed for the participations:  
(Type of firms who can participate)**

The participation in the TENDER and selection process is open to the following, subject to their fulfilling the minimum criteria set forth below.

- I. The consortium, colorations and Joint Ventures are allowed for combined services of Solar Energy and Bio-Gas. The JV/collaborations shall not be considered only for the establishment of solar plant and sale of Solar Energy. Means, if Nalanda University feels to split the works in that case solar energy services shall be considered from a single firm under RESCO Model.
- II. The a single firm is not in business of generation of Bio-Gas in that case the agency involved in the business of solar PV Energy Generation may collaborate or make handshake with the agency expert and involved in the business of Bio Gas generation and may participate in the bidding process under RESCO model. The agreement will be for two different rate i.e unit rate of Bio-Gas services and solar energy per KWH services to the University with a predefined service level matrix and down time.

**1. Indian Firms:**

Firms/ Entities/ Organizations practicing the consultancy business of Project Management and who have been established and registered in India can participate. The firms/ entities/ organizations can be either a proprietorship or partnership or Limited Liability Partnerships or incorporated companies either private or public. Public Sector Companies sponsored by the Government of India will also be eligible to participate subject to their fulfilling the minimum criteria.

**2. Foreign Firms:**

Firms/ Entities/ Organizations practicing the consultancy business of Project Management and who have been established and registered in any country other than India but have the requisite permissions and licenses from relevant GOI authorities to carry out business in India can also participate. The firms/ entities/ organizations can be either a proprietorship or partnership or Limited Liability Partnerships or incorporated companies either private or public in their country of registration.

**3. Joint Ventures (JV) involving Two or More Indian Firms:**



For the purpose of this TENDER, two or more Indian firms / entities / organizations may join hands to collaborate in the bid. Such collaborations may happen in order to take advantage of the experience and credentials of one another. Joint ventures so established before the filing of the TENDER will be recognised as a JV provided the establishment of the JV is effected in advance of the TENDER submission or the JV has been established through a fool proof legal instrument.

A Joint Venture so established should have no partner in the JV possessing a stake less than 25% and no partner should have a controlling stake of more than 51%.

#### **4. Joint Ventures (JV) involving Two or More Foreign Firms:**

For the purpose of this TENDER, two or more foreign firms / entities/ organizations may join hands to collaborate in the bid. Such collaborations may happen in order to take advantage of the experience and credentials of one another. Joint ventures so established before the filing of the TENDER will be recognized as a JV provided the establishment of the JV is effected in advance of the TENDER submission or the JV has been established through a foolproof legal instrument.

A Joint Venture so stake and their percentage share are mentioned in model RFP for the references.

A JV established between agencies wherein one or more of them individually do not qualify to practice/ conduct business in India (i.e. do not have the requisite permissions and licenses from relevant authorities of the GOI) then only the Firm/ entity/ organization in the JV qualifying to practice or conduct business in India will be recognized as the participant. The JV in such a situation will only be a back-end collaborative arrangement for the recognized participant. Further, in such a situation only the experience and credentials of the recognized participant will be valid for evaluation.

#### **5. Joint Venture (JV) between Indian Firms and Foreign Firms:**

For the purpose of this TENDER, one or more Indian firm(s)/ entity (ies)/ organization(s) may join hands with one or more foreign firm(s)/ entity (ies)/ organization(s) to collaborate in the bid. Such collaborations may happen in order to take advantage of the experience and credentials of one another. Joint ventures so established before the filing of the TENDER will be recognized as

a JV provided the establishment of the JV is effected in advance of the TENDER submission or the JV has been established through a foolproof legal instrument.

A Joint Venture so stake and their percentage share are mentioned in model RFP for the references.

A JV established between agencies wherein one or more of them individually do not qualify to practice/ conduct business in India (i.e. do not have the requisite permissions and licenses from relevant authorities of the GOI) then only the Firm(s)/ entity (ies)/ organization(s) in the JV qualifying to practice or conduct business in India will be recognized as the participant(s). The JV in such a situation will only be a back-end collaborative arrangement for the recognized participant(s). Further, in such a situation only the experience and credentials of the recognized participant(s) will be valid for evaluation.

**The minimum criteria for being considered in the short listing process are mentioned in the model RFP in details.**

**8. Financial Bid Project Group – [XX]**  
(To be submitted only with due encryption)

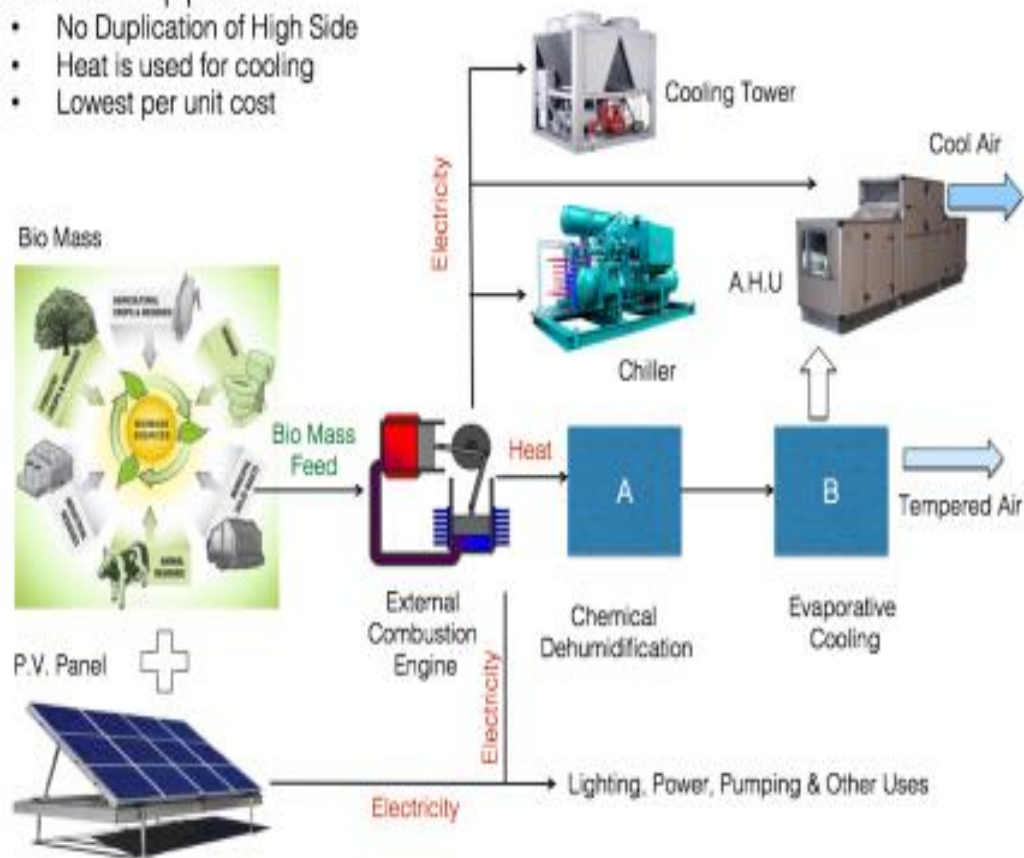
**Operational Year Financial Bid for Project (INR/kWh) for next 25 Years:**

1. T(Solar) = \_\_\_\_\_ [Quoted Tariff]
2. T(Bio Gas) = ----- (INR/KG)

## 9. Typical Net-Zero Approach :

### DEVAP Approach

- No Duplication of High Side
- Heat is used for cooling
- Lowest per unit cost



**Yours Sincerely**

**Engineering Section  
Nalanda University, Rajgir**