



AMITY UNIVERSITY

HARYANA

(Accredited with Grade 'A' by NAAC)

Report on Sustainable Development Goal



SDG 7: Affordable & Clean Energy

Year 2021



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Summary

At Amity University Haryana, we are encouraging adaptation of sustainable energy systems by performing novel research to expand our understanding and the utilization of renewable energy systems and resources. We work to explore the possibilities for a renewable energy future and directing society to make these a reality. The assessment of Amity University Haryana's effort to transform into a clean and green campus has been duly recognized by competent statutory bodies and has been awarded as India's first and Asia's second University to earn prestigious LEED Platinum Certificate from US Green Building Council. The University is relentlessly contributing to transforming into a clean and green campus thereby contributing to the SDG 7 through following measures:

- Research, educational programs and collaborations focused on clean energy practices
- Green campus initiatives, measuring energy wastes & mitigation plan, energy efficient technology adoption
- Supporting Government of India in Renewable Energy policy implementation
- Integrating energy efficiency measures into University's policy framework
- Promoting energy conservation and energy efficiency through various outreach programs to local and regional community.



Agri-voltaic Plant at Amity University Haryana

GREEN CAMPUS: LEED PLATINUM BUILDINGS

Amity University Haryana (AUH) is situated in the picturesque 110-acre Amity Education Valley, in the close proximity of Gurugram, one of India's biggest corporate hubs. With industry-integrated curricula, the University trains future leaders of the corporate world by blending modernity with tradition in each of its students. The campus provides a multicultural environment with the presence of students from across India and more than 15 countries who share diversity of regions, ethnicities, flavours and cuisines giving the campuses a global outlook. Amity University Haryana campus is developed in line with nature-just development by integrating plans of green building design and regional codes to minimise consumption and emission scenario. University building contains series of sunken courts which reduce heat regime in summer and winter together, which helps to minimise air conditioning energy consumption. Based upon innovation in design, location & transport, water efficiency, energy & atmosphere, sustainable site, indoor environment quality and material & resources, AUH buildings are accredited with LEED Platinum certification (highest rating for green building); first in India and second in Asia in operation and maintenance category.



EDUCATION

At AUH, teaching is highly practical and industry-focused as it is evolved through constant interaction with leading professionals who are a part of the Industry and Academic Advisory Boards. Renewable and sustainable energy practices had been given high priority at AUH to ensure and fulfil the requirement of SDG 7. AUH offers two PG courses in the field of renewable energy viz. M Tech in Solar and Alternate Energy and M Sc in Renewable Energy, with the objective of providing detailed understanding of solar, wind and biomass-based energy generation

technologies. Amity School of Architecture and Planning offers program at UG and PG level where in students are taught courses on Sustainable Urban Development, Ecology, Environment and Resource Development & Management, Eco-Tourism, Sustainable Cities and Regions, Housing & Environmental Planning and Environmental Impact Assessment to sensitize them towards sustainability.

Energy Auditing & Risk assessment of Renewable Energy projects are also dealt in this program and students perform energy auditing of buildings and industry. An elective course- Renewable Energy Track is offered to all UG students across all programs to create awareness about the technology. AUH has joined hand with GBCI to train and educate students to cater the upcoming industry needs of green building by initiating an educational module; LEED Lab. LEED Lab is a unique academic initiative which integrates a policy framework to classroom activity to get desired outcome in arena of sustainable built environment.

LOW CARBON CAMPUS

‘AYUSH-Amity Herbal Garden and Medicinal Plants Distribution Centre’ is spread over 5 acres and has more than 10,000 herbal and medicinal plants. Students enrolled in the various programmes in the university conduct different research activities in the garden and add to the overall knowledge base. Students from nearby schools come to the herbal garden for educational trip and have a close look of the different variety of plants that are grown in the garden and learn the medicinal values of these plants.



Students of Bal Bharati School visit to Herbal Garden

The AYUSH – Herbal Garden was inaugurated by Shri Shripad Yesso Naik, Hon. Minister of State, Ministry of AYUSH, Govt. of India on 5th June 2018 on World Environment Day.

<https://www.facebook.com/AmityUniversityGurgaon/videos/inauguration-of-ayush-amity-herbal-garden-and-launch-of-amity-institute-of-india/1538073999648496/>

The clean and green campus of AUH is an adobe for 140 different species of birds and butterflies. The complete list of the birds sighted by faculty members and students along with their pictures is available on eBird website (<https://ebird.org/hotspot/L5441195>). University takes initiatives to

sensitize its students, faculty members and the local community towards creating an animal friendly environment to maintain the ecological balance of nature through workshops, seminars and through local news articles.

11/7/22, 1:15 AM

'Amity campus in Aravalli hills records 71 species of birds' - The Hindu

DELHI

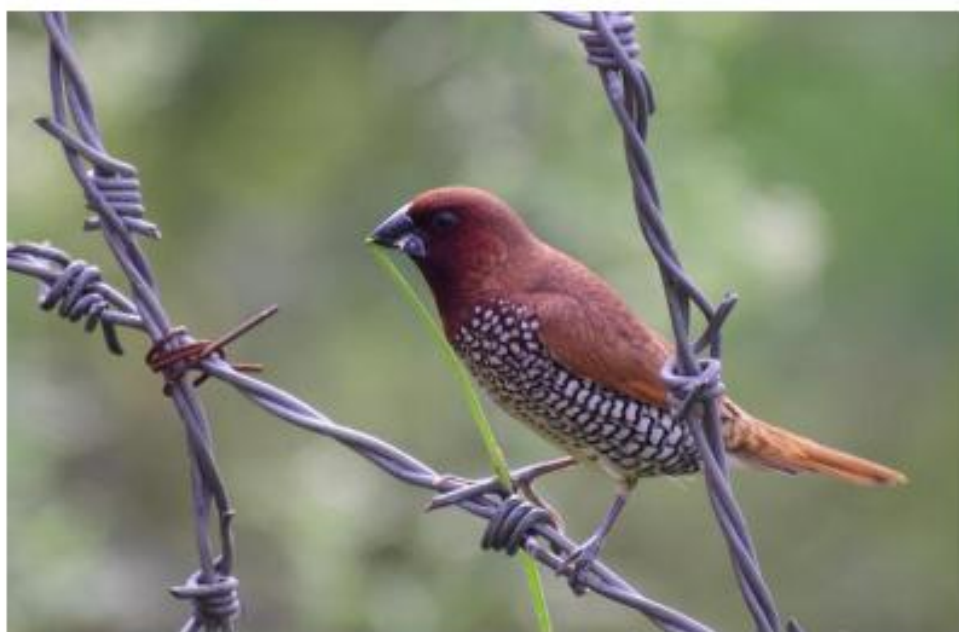
'Amity campus in Aravalli hills records 71 species of birds'

STAFF REPORTER

GURUGRAM MARCH 05, 2018 05:49 IST

UPDATED: MARCH 05, 2018 12:51 IST

Number recorded during a campus bird count conducted this past month as part of global efforts by Great Backyard Bird Count



As many as 71 species of birds have been recorded at Amity University in Aravalli hills during a Campus Bird Count (CBC) conducted this past month as part of a global effort by Great Backyard Bird Count (GBBC).

As many as 230 campuses across India, including 11 from the National Capital Region (NCR), registered for this year's CBC.

<https://www.thehindu.com/news/national/Delhi/amity-campus-in-aravalli-hills-records-71-species-of-birds/article62269895.ece>

1/8

News article published in The Hindu

The University has installed rooftop & ground mounted solar plant of 500 kWp capacity. It can mitigate 14145-ton CO₂ emissions and is equivalent to planting 22632 Teak trees over the lifetime. About 17.85 % of the total consumption is catered by solar energy. The solar plant operates with

zero breakdown and generate solar energy round the year.

All the buildings have multiple windows and glass façade increasing usage of natural light. 51.1 % of lights are LED thus reducing energy consumption in buildings. Over a period of 5 years, it is planned to replace all the lights with LED. The University has a dedicated 33 KV independent feeder which is very stable, have negligible breakdowns, reducing utilization of DG sets and ensuring control on carbon emission. Regular Emission analysis & Monitoring of DG sets is carried out to ensure low pollution. University adopted mechanism to ensure minimum use of papers for official and academic purposes. All working communication and data collection is carried out through e-communication like portal Amizone and TCSiON.

University encourages use of public transport for daily commuting of day scholars, faculty and staff. A large number of buses are maintained, which ensure less carbon footprint for remotely located campus like AUH. All vehicles entering University have “Pollution Under Control” certificate. Campus strictly follows "No Smoking Zone" principle. University adopts Green Computing and uses VMware and Electronic e-Waste disposal is through approved R2 certified vendor.

University developed a facility for continuous monitoring and display of all major air pollutants under programme of SAFAR jointly with IITM, Pune. It provides awareness about air quality among stakeholders of University. Apart from SAFAR, several other air quality parameters are also monitored jointly with NASA, USA.



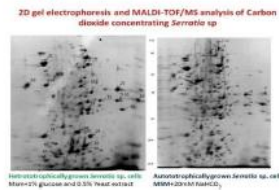
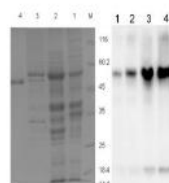
Front-view with data display of the AQMS and rack-mounted PM, Gas Analyzers and

CLEAN ENERGY RESEARCH

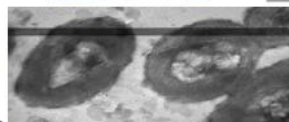
The Directorate of Research & Publication at AUH is responsible for providing research leadership, which normally includes promoting and facilitating leading- edge research, including collaborative and interdisciplinary research; building, and providing sufficient support for, a community of innovative researchers to enhance research capacity at the university. Under the aegis of DRP, AUH faculty competed and are awarded major grants funded by the Government Funding bodies such as DBT, DST, DAE, IUAC, MNRE, Ministry of Ayush etc. and as a consequence during preceding year more than 22 Cr worth projects were awarded to AUH and more than 150 patents were filed. Amity University Haryana have three research clusters working in the field of renewable energy, biofuels & biomass and Hydrogen fuel. The faculty members work in the area of synthesis of nanomaterials for agricultural and clean energy applications; analyse the connection of aerosol and climate change, biofuels synthesis, thermodynamic analysis of solar systems to name a few.

Characterization of carboxylating enzymes and genes for Sequestration of carbon dioxide by *Serratia* sp. IST04

a. Carbon dioxide sequestering bacterium, identified & molecular characterization.



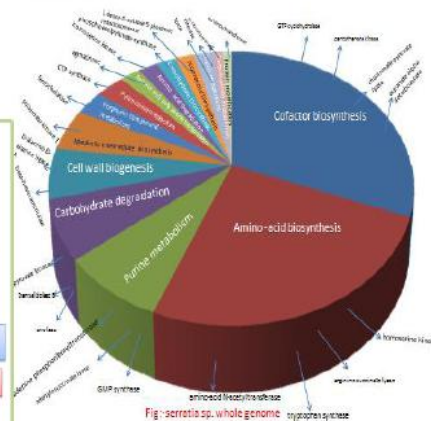
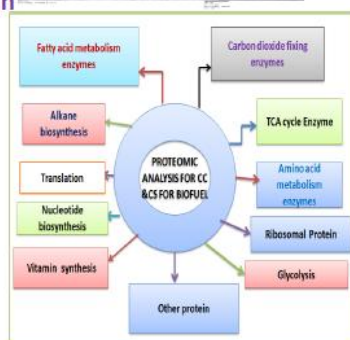
b. Sequestration of carbon dioxide for biomass lipids, hydrocarbon, ester.



c. In situ transesterification for biofuel- biodiesel production.

d. Production of exopolysaccharide and polyhydroxyalkalonnate.

e. Energy efficient, cost effective less emission biodiesel.



Agri-voltaic plant has been created under the conventional ground mounted system at AUH. Local farmers are involved in selection of plants and in farming. This helped in developing a platform for knowledge sharing between the HEIs and the community.



Agri-voltaic plant at AUH

POLICY SUPPORT AND STAKEHOLDERS' ENGAGEMENT

Amity University Haryana is selected as a Partnering Institution under Unnat Bharat Abhiyan, a flagship project funded by Ministry of Human Resource Development, Government of India to conduct development activities in the selected five villages in Haryana.



Gram Sabha conducted at Fakharpur Village

AUH conducted village and household survey to understand the socioeconomic condition of the villagers. Based on the survey, AUH conducted various training and awareness camps in the field of renewable energy, mental and physical health, nutrition, and entrepreneurship.



उन्नत भारत अभियान
राष्ट्रीय समन्वय संस्थान
भारतीय प्रौद्योगिकी संस्थान दिल्ली
शीज खास, नई दिल्ली-११००१६

UNNAT BHARAT ABHIYAN
NATIONAL COORDINATING INSTITUTE
INDIAN INSTITUTE OF TECHNOLOGY DELHI
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Dear Sir/Madam,

Congratulations to all the Participating Institutions (PIs) selected under Unnat Bharat Abhiyan, a flagship program of Ministry of Human Resource Development (MHRD) Government of India through a challenge mode application. The Mission of Unnat Bharat Abhiyan is to enable participating higher educational institutions to work with the people of rural India in identifying development challenges and evolving appropriate solutions for accelerating sustainable growth. It also aims to create a virtuous cycle between society and an inclusive academic system by providing knowledge and practices for emerging professions and to upgrade the capabilities of both the public and the private sectors in responding to the development needs of rural India.


As per the programme, educational institutions is primarily to develop linkage with selective rural clusters (preferably of five villages), to get involved in the planning process and to promote the requisite S&T interventions to improvise and expedite the developmental efforts in those clusters. The approach is a departure from the grant oriented method and would see the participation and commitment of faculty and students in this endeavour.

We shall be processing release of Rs. 10000/- per village under the UBA program. The funds are mainly meant for assistance for awareness, Gram Panchayat Development Plan (GPDP) study, need assessment, and contingency expenditure. There are provision of Rs 1.0 lakh for technological intervention/ solution and Rs 0.50/- lakh for customization of a technological solution under the program. Which you can avail of afterwards by submitting proposals with ratification of the Gramsabha. A two-way channel between PIs and National Coordinating Institute (NCI) as well as Subject Expert Groups (SEGs) for project proposal submission and evaluation has been developed and functional on UBA portal. You can use your login credential for uploading proposals on UBA website 'FINANCIAL AIDS'. The login credentials are same as your registration login credentials.

You are also requested to keep IIT Delhi, the National Coordinating Institute updated about your activities so that the same can be uploaded on the website of UBA.

Regards and best wishes for your institution for contributing to India's development.

With regards

Your Sincerely, 
Prof. Virendra K. Vijay
National Coordinator,
Unnat Bharat Abhiyan

Government of India has an ambitious target of installing 175GW of RE by 2022 and creating 50,000 Suryamitras to join renewable energy sector. AUH is recognized by National Institute of Solar Energy to conduct **Suryamitra Skill Development Program**, a project funded by Ministry of New and Renewable Energy since 2016. The candidates who have completed ITI or diploma in electrical, electronic or related fields are selected from the local community through counselling for providing the Suryamitra Skill development training which is focused on solar PV installation.



राष्ट्रीय सौर ऊर्जा संस्थान
NATIONAL INSTITUTE OF SOLAR ENERGY

(एन और नईकरणीय ऊर्जा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संस्थान)
(An Autonomous Institute of Ministry of New & Renewable Energy, Government of India)
गुरुग्राम - फरीदाबाद रोड, आलपहाड़ी, गुरुग्राम - 122003 (हरियाणा)
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वेबसाइट/Website: www.nise.org.in

No.04/1/SKD-NISE/2019-20/EOI/Suryamitra

25th June, 2019

Amity University
Amity Education Valley,
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"0124-2337015 9910494524"
padmakali@egn.amity.edu

Sub: Allocation of Suryamitra Skill Development Programs for FY 2019-20.

Sir,

Ministry of New & Renewable Energy has set a target to prepare 50,000 trained manpower, skilled in installation, commissioning and O&M with entrepreneurial skills in the field of solar energy through "Suryamitra" Skill Development Program. National Institute of Solar Energy (NISE) is implementing the Suryamitra program across the country. A target for providing training to 19,000 Suryamitras has been set for FY 2019-20 by MNRE. In response to your application against the EOI of NISE vide no. 04/1/SKD-NISE/2018-19/EOI-Suryamitra dated 23.03.2018, the approval is being accorded to organize Suryamitra Programs at following Training Centers by your organization during 2019-20:-

S. No.	State	District / Location	Total Batches
1	Haryana	Manesar	2
Total			2

The TPs should start their training program on 1st date of each quarter of FY 2019. The schedule of the training should be firm and no alteration in dates be allowed. The AEBAS is now implemented at all the training centers. So, no relaxation shall be given in this regard. The guidelines and annexures shall remain same as mentioned vide letter dated 19.03.2019. This letter should be treated only for allocation of the programme, however funds shall be released subject to fulfilling the above mentioned norms.

This bears the approval of Director General, NISE.

Yours faithfully,


(Dr. Chandan Banerjee)
Dy. Director General

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A batch of 30 students who have completed ITI in Electrical/ Wireman trades or are Diploma holders in Electrical / Electronic / Mechanical or equivalent are given training for Solar PV installation. It is a three-month residential program, thus all participants stay at Amity University Haryana during the Suryamitra Training. At the end of the training, third party assessment is done through National Council of Vocational Training (NCVT). A continual internal assessment is conducted as per the guidelines of NISE by Amity University Haryana. Successful candidates receive certificate issued by Skills Council for Green Jobs, National Institute of Solar Energy and Amity University Haryana.



Till date five batches of Suryamitra training has been successfully delivered which created 150 skilled manpower for RE sector and solar entrepreneurs.



Suryamitra Trainees at Amity University Haryana

LOCAL OUTREACH PROGRAM

AUH is aware of its responsibilities to encourage people to adapt clean energy sources for sustainable development to minimize adverse environmental impact. AUH conducts local outreach program by its UG and PG students through Social Awareness Program to create awareness about the clean energy technologies and burning social & health issues which is a part of their course curriculum. Post graduate students of M Tech Solar and Alternate Energy and M Sc Renewable Energy conduct energy auditing of buildings and industry under the supervision of faculty members and give recommendation for energy savings to the stakeholders. Engineering students conducted awareness and solar training program for the village women and men. They were excited to know about the benefits and the cost saving opportunity associated with the solar PV and thermal systems.



Solar Training at Fazalwas Anganwadi

As a part of the training program, Suryamitras are sent to the nearby village to conduct survey among the villagers regarding their awareness about solar technologies and also create awareness regarding the same. This helps in enhancing their marketing and communication skills.



Suryamitras at Presenting their project at Innovation Day

अमर उजाला

नई दिल्ली
पुष्प, 24 अप्रैल 2019

एमटी में एक से शुरू होगा सूर्य मित्रा कौशल विकास प्रोग्राम

गुरुग्राम। एमटी विश्वविद्यालय में एक मई से राष्ट्रीय सौर ऊर्जा मंत्रालय, नवीन और नवीकरणीय ऊर्जा मंत्रालय (एएनआरई) के साथ मिलकर सूर्य मित्रा कौशल विकास कार्यक्रम शुरू करने का रहा है। कार्यक्रम का उद्देश्य

युवाओं को मिले

रोजगार के नए

अवसर

कृशल और रोजगारपरक कार्यालय (सूर्यमित्र) विकसित करना है। इसमें 30 वर्ष से कम आयु वाले आईटीआई (इलेक्ट्रीशियन, वायरमैन, इलेक्ट्रिशियन) या डिप्लोमा (इलेक्ट्रिकल, मैकेनिकल, इलेक्ट्रिशियन) प्राप्त उत्तीर्ण छात्र आवेदन करने के पात्र हैं। कोर्स के दौरान विद्यार्थियों को 4 से 6 प्रशिक्षित अध्यापक प्रशिक्षण देने। इसके साथ ही विद्यार्थियों के लिए समग्र-समय पर वकैलरी का भी आयोजन किया जाएगा। इस कोर्स में विद्यार्थियों के कम्प्यूटेशन पर भी खास ध्यान दिया जाएगा। कुल 30 विद्यार्थी इस कोर्स में दाखिला ले सकते हैं। एमटी विश्वविद्यालय की उपाध्यक्ष डॉ. पद्मकला बनर्जी ने कहा कि सूर्यमित्र प्रोग्राम देश में रोजगार के विकल्प बढ़ाएगा, जिससे देश में युवाओं की आर्थिक स्थिति में सुधार होगा। विभागाध्यक्ष डॉ. सुधा दत्त ने बताया कि इससे विद्यार्थियों को रोजगार के नए अवसर मिलेंगे। छत्ती

Amar Ujala, Date – 24/4/2019

Suryamitra in News