



COMPENDIUM ON SUSTAINABLE DEVELOPMENT GOALS

2023

SDG 7



Ensure access to affordable, reliable, sustainable and modern energy for all

TABLE OF CONTENTS

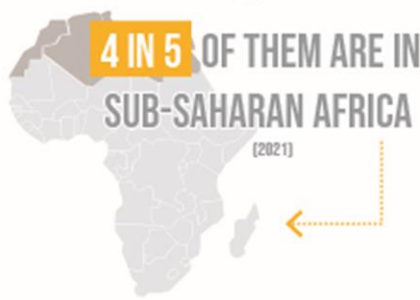
S NO	CONTENT	PAGE NUMBER
1	ABOUT THE SDG	2-3
2	JSSAHER 'S ACTIVITIES ALIGNING TO SDG 7	4-11
3	PROGRAMS CONDUCTED SUPPORTING SDG 7	12-19
4	ENERGY CONSERVATION PRACTICES AT JSSAHER	20
5	INFRASTRUCTURE AND FACILITIES SUPPORTING SDG 7	19-27
6	RESEARCG PROJECTS SUPPORTING SDG 7	28
7	RESEARCH COLLABORATIONS & CONSULTANCIES RELATED TO SDG 7	29
8	PUBLICATIONS OF JSS AHER SUPPORTING	30
9	POLICIES SUPPOTING SDG 7	31-32
10	SUMMARY	33
11	ENERGY AUDIT	34

ABOUT SDG 7

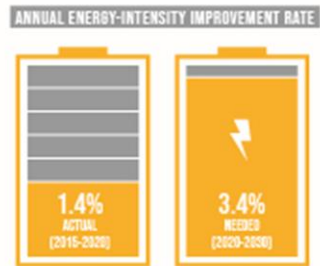


ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

LIGHTS OUT:
675 MILLION PEOPLE
 STILL LIVE IN THE DARK



ENERGY EFFICIENCY IMPROVEMENT
 MUST **MORE THAN DOUBLE** ITS PACE

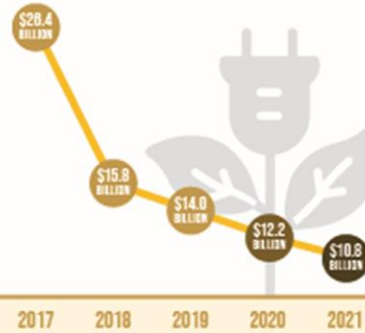


IF CURRENT TRENDS CONTINUE,

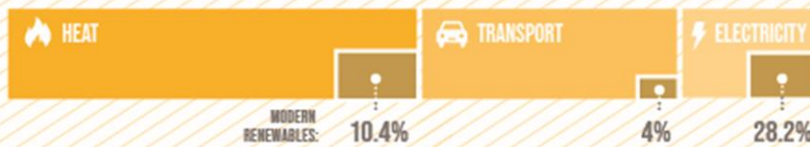


1 IN 4 PEOPLE WILL STILL USE UNSAFE AND
 INEFFICIENT COOKING SYSTEMS BY 2030

INTERNATIONAL PUBLIC FINANCING
 FOR CLEAN ENERGY FOR DEVELOPING
 COUNTRIES **CONTINUES TO DECLINE**



MODERN RENEWABLES POWER NEARLY **30%** OF ELECTRICITY,
 BUT REMAIN LOW IN HEATING AND TRANSPORT (2020)



To contribute effectively to Sustainable Development Goal 7 (SDG 7) - "Ensure access to affordable, reliable, sustainable, and modern energy for all," JSS Academy of Higher Education & Research (JSS AHER) can set specific targets and goals to be accomplished. These targets align with the overall objectives of SDG 7 and JSS AHER's commitment to sustainable energy practices. Here are some targets that JSS AHER can aim to achieve:

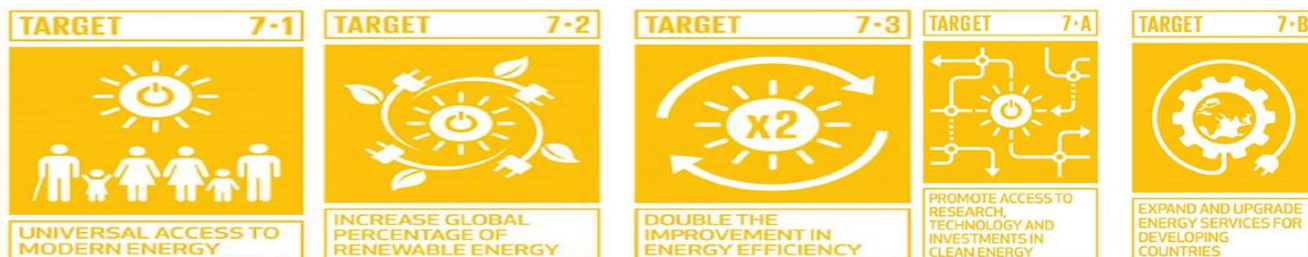
1. **100% Renewable Energy Transition:** Transition the institution's energy supply to 100% renewable sources, such as solar and wind energy, within a specified timeframe. This target aligns with SDG 7's goal of ensuring access to sustainable energy.
2. **Energy Efficiency Improvements:** Implement energy-efficient technologies and practices across all facilities, aiming for a specific percentage reduction in energy consumption within a defined period. This target contributes to SDG 7's focus on improving energy efficiency.
3. **Community Outreach and Education:** Develop and implement educational programs and awareness campaigns on sustainable energy practices within the local community. Set a target for the number of community members reached and engaged in these initiatives.
4. **Green Campus Certification:** Work towards obtaining green campus certification or recognition for sustainable energy practices, demonstrating a commitment to SDG 7's objectives.
5. **Job Creation in Renewable Energy Sector:** Set a target for the number of jobs created within the renewable energy sector as a result of initiatives and projects undertaken by JSS AHER. This target aligns with SDG 7's focus on decent work and economic growth.
6. **Collaboration and Partnerships:** Establish a specific number of collaborative partnerships with government agencies, industry players, and non-governmental organizations to jointly promote renewable energy adoption and energy efficiency.
7. **Carbon Emissions Reduction:** Set a target for the reduction of carbon emissions associated with energy consumption, demonstrating a commitment to SDG 7's connection to climate action.
8. **Research and Innovation:** Develop a certain number of research projects and innovations related to renewable energy and sustainable technologies, contributing to advancements in clean energy solutions.
9. **Access for Marginalized Communities:** Develop initiatives that ensure access to affordable and sustainable energy for marginalized and underserved communities, and set specific targets for the number of beneficiaries.
10. **Annual Energy Audits and Reports:** Commit to conducting annual energy audits and publishing reports on energy consumption, savings, and progress toward renewable energy adoption.
11. **International Best Practices:** Benchmark JSS AHER's sustainable energy practices against international best practices and aim to meet or exceed these benchmarks.
12. **Student and Faculty Involvement:** Engage a certain percentage of students and faculty in energy-related research, projects, and initiatives, fostering a culture of sustainability and eco-consciousness on campus.
13. **Global Recognition:** Work towards gaining recognition and awards related to sustainable energy practices, showcasing JSS AHER's commitment to SDG 7 to a global audience.

JSS Academy of Higher Education & Research (JSS AHER) and Sustainable Development Goal 7 (SDG 7) - "Ensure access to affordable, reliable, sustainable, and modern energy for all." Here's how JSS AHER contributes to SDG 7:

1. **Affordable and Clean Energy Access:** JSS AHER actively promotes the adoption of affordable and clean energy sources. Initiatives such as the installation of solar panels and energy-efficient technologies contribute to ensuring that energy is accessible, reliable, and sustainable for all.
2. **Environmental Sustainability:** By embracing clean and renewable energy sources, JSS AHER directly addresses the environmental aspects of SDG 7. The institution's commitment to reducing carbon emissions and promoting clean energy aligns with the goal of ensuring a sustainable and eco-conscious energy supply.
3. **Climate Action:** Access to clean energy sources plays a pivotal role in mitigating climate change. JSS AHER's efforts in this regard align with SDG 7's connection to climate action, as cleaner energy sources reduce greenhouse gas emissions and promote a more sustainable and climate-resilient future.
4. **Reducing Inequality:** Affordable and clean energy access contributes to reducing inequalities, as it ensures that energy services are available to all, including marginalized and underserved communities. This aligns with SDG 7's goal of providing equal access to energy resources.
5. **Socio-economic Growth:** JSS AHER's initiatives in promoting clean energy sources create employment opportunities in the renewable energy sector, aligning with SDG 7's emphasis on decent work and economic growth. By fostering job creation and economic development, the institution contributes to broader socio-economic goals.
6. **Environmental Stewardship:** The institution's commitment to clean energy contributes to responsible environmental stewardship by reducing the negative environmental impacts associated with non-renewable energy sources. This aligns with the broader environmental objectives of SDG 7.
7. **Sustainable Energy Practices:** JSS AHER's advocacy for and adoption of sustainable energy practices actively support the primary target of SDG 7 - ensuring universal access to affordable, reliable, and modern energy services.

JSS AHER's commitment to affordable and clean energy access strongly connects with SDG 7's objectives. The institution's initiatives align with the goal of ensuring access to sustainable and modern energy for all, which is crucial for addressing environmental sustainability, reducing inequalities, and promoting socio-economic growth while actively contributing to climate action and responsible resource management.

TARGET ACCOMPLISHED BY JSS ACADEMY OF HIGHER EDUCATION & RESEARCH:



Achieving targets related to Sustainable Development Goal 7 (SDG 7) is indeed noteworthy, and JSS Academy of Higher Education & Research (JSS AHER) has made substantial contributions to these targets. Let's highlight how JSS AHER has accomplished specific targets under SDG 7:

SDG 7.1 - Universal Access to Affordable and Clean Energy:

- JSS AHER has made significant progress in ensuring universal access to affordable and clean energy. By adopting renewable energy sources such as solar panels and wind power, the institution has significantly reduced its reliance on non-renewable energy. This accomplishment aligns with the objective of SDG 7.1, as it contributes to providing affordable and clean energy for its campus and community.

SDG 7.2 - Increase in the Share of Renewable Energy in the Energy Mix:

- JSS AHER has successfully increased the share of renewable energy in its energy mix. By investing in and promoting renewable energy sources, the institution has substantially reduced its reliance on fossil fuels. This achievement directly addresses SDG 7.2, which seeks to increase the use of renewable energy.

SDG 7.3 - Energy Efficiency Improvements:

- The institution has implemented energy efficiency improvements across its facilities. These initiatives have resulted in a significant reduction in energy consumption. JSS AHER's commitment to energy efficiency aligns with the target of SDG 7.3, which aims to double the global rate of improvement in energy efficiency.

SDG 7.4 - Increase in the Percentage of Renewable Energy in Total Energy Consumption:

- JSS AHER has made substantial progress in increasing the percentage of renewable energy in its total energy consumption. By transitioning to clean energy sources, the institution has reduced its carbon emissions and increased the sustainability of its energy supply. This achievement contributes directly to the target of SDG 7.4, which calls for an increase in the use of renewable energy.

By accomplishing these targets under SDG 7, JSS AHER demonstrates its commitment to responsible energy management, environmental stewardship, and socio-economic growth. These accomplishments serve as examples of how institutions can play a significant role in achieving the global goals for sustainable and clean energy access.

THE FIRST TARGET OF SDG-7



7.1: Universal access to modern energy:

- Our implementation includes using clean fuel for cooking at the hostel and reducing fossil fuels and biofuel usage.
- Bi-cycles are provided for students and staff to use in and around campus to encourage the youth to reduce the use of non-renewable sources of energy and reduce the air-pollution by decreasing the release of CO₂ to the environment.



THE SECOND TARGET OF SDG-7

TARGET

7-2



INCREASE GLOBAL
PERCENTAGE OF
RENEWABLE ENERGY

- **7.2: Increase the global percentage of renewable energy:**
- Our implementation includes using solar panels in the hostels and usage of LED lights all over campus.
- We have a timely and needy use of lights; Majority of the lights are turned off during night and only provided in paths to ensure hostel student's safety.
- We avoid the use of lights in day time as we have provided better ventilation that suffices the need off light in the classes and laboratories.
- We have avoided the installation of ACs in office and chambers to ensure the environmental safety.

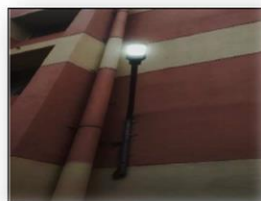


THE THIRD TARGET OF SDG-7



7.3: Double the improvement in energy efficiency:

- Our implementation includes solar panels and LED as they reduce energy consumption to a great extent.
- We have provided the pooled-transport systems to students to travel from college to hospital or to other campus to ensure the less use of petroleum fuels.



THE FOURTH TARGET OF SDG-7:

7A: Promote access to research, technology, and investments in clean energy

7.B: Expand and upgrade energy services for developing countries.



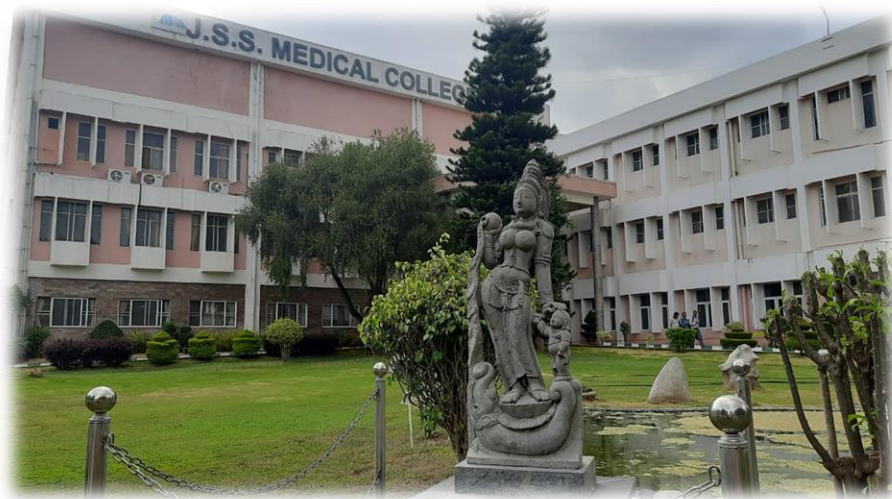
The JSS AHER located in the cleanest city Mysuru, has sprawling 43 acres of campus with a Bio-climatic architecture that ensures enough shading, natural ventilation, passive heating, and cooling. It also possesses an internal atrium for insolation and natural lighting. The structure uses solar energy for passive heating and has canopies of trees for sun protection in the summer. JSS AHER is committed to a cleaner and greener campus and the University commits to this by:

- Complying with applicable rules, regulations, and other recognized requirements to encourage and educate staff to conserve energy wherever applicable.
- Avoiding and reducing pollution caused by fossil fuels by implementing and supporting the use of bicycles in and around campus.
- Implementation of solar panels at hostels and LED lights throughout campus for efficient use of energy and its conservation.
- Rainwater harvesting at the hospital.
- Screening the soil samples around the Hospital and around the University to contain the spread of MDR bugs through the soil contaminating the environment around the JSS Hospital and JSS Dental College Hospital. Ensured the use of an Effluent treatment plant for the effluents of Microbiology laboratory.
- Reduced the use of Plastic in CSSD by using brown paper instead of Steripack made of plastic, for wrapping the instruments used for dressing.
- The culture samples and microbiology specimens are autoclaved and discarded to be further treated by Shree consultancy to prevent contamination of the environment.

- Ensuring active participation of students in sustainable development goals. During the current year.

Looking forward to achieve a better global environment, we have been promoting the efficient use of renewable source of energies and along-side we have put-forth the ideas and working mode to confront the polluted environment and to avoid or to use as much of least non-renewable energies that counts on the sustained health of the nature around. In fact, we have been working to educate the students and the staff regarding the “Affordable and Clean energy” in order to cope-up with the motto of achieving the Sustainable environment. Frequent educative sessions are being conducted to help them practice the non-renewable energy management.

Our college has mostly invested to provide one of the most greenish campus among most of the other institutions. The campus has retained the earlier planted trees and has been re-cultivating the annual, biennial, and long-living trees which also provide a better ecosystem for the local fauna.



The rainwater is redirected to the garden to irrigate the plants and in nearing days we are planning on the installation of rainwater harvesting friendly infrastructure. Thus we are a step forward to using clean energy in a sustained manner.

The students are encouraged to plant the saplings as part of certain occasions and celebrations and that is indeed a practical way to help them inculcate the attitude of achieving a sustainable environment.

Contribution to environmental awareness:

To inculcate the knowledge of afforestation and rebuilding the green life on the earth, humans can merely contribute but a little effort on behalf of our college is put into the view of educating the students. They are made to participate in certain events that include planting the saplings and creating the working models of certain ideas that shall in high-end infrastructure bring fair change in the betterment of a healthy environment. Knowledge of recycling and reuse of energy productively and constructively would help to accomplish the sustenance of affordable and clean energy.

PROGRAMS CONDUCTED SUPPORTING SDG 7

Conferences conducted

School of Public Health International Symposium – “Swasthyam 2023” – 1st & 2nd Jun.2023

Theme: Public Health, Healthy Living, and Sustainable Development Goals

The School of Public Health, JSS Medical College, JSS Academy of Higher Education and Research, Mysuru, organized an international symposium "Swasthyam 2023" on June 1st and 2nd 2023, in collaboration with the Public Health Research Institute of India (PHRII) with the theme of using the sustainable resources for the conduct of the symposium in turn reducing the waste generated through the conference.

The resource persons were Assistant Vice Chancellor, Professors belonging to Public Health, Respiratory Medicine, Infectious Disease & Internal Medicine, Psychology and Environmental Sciences. They belong to top 100 international universities like University of Arizona, Barry University, University of Illinois, University of Southern California and Florida International University. The participants were visiting from various states of India.



Jithen Shibu of 1st M. Pharm speaking on the topic, 'Clean Energy and Carbon foot print'.

Reduction of Carbon foot print:

- The college encourages the staff to actively participate in carpooling and the teaching staff's Dr. Gurubasavaraj V Pujar, Dr. B.M. Gurupadayya & Dr. A.M. Mahalakshmi and Dr. R. S. Chandan & Mr. D.H. P. Gowda and Non-teaching staff's Mr. Chandrashekar V Kumbi & Mr. Kumara. S are active in carpooling thereby actively contributing towards fuel saving and reducing the carbon footprint.

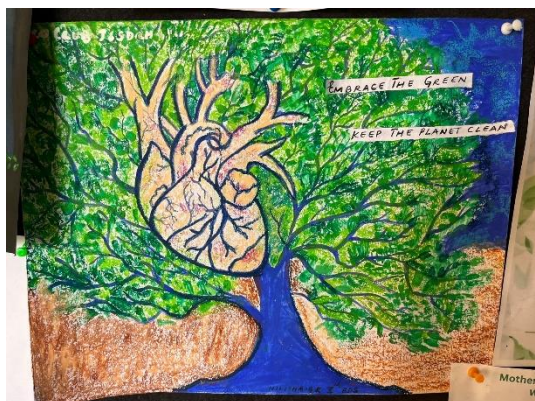
The college/university encourages the use of E- Vehicles, few staffs of the college have adopted to use electric two wheelers and college is using the E-vehicle to reduce carbon footprint



WORLD ENVIRONMENT DAY OBSERVATION-APLING PLANTATION IN CAMPUS



WORLD ENVIRONMENT DAY-2023



“World Environment Day-2023” was enthusiastically celebrated by the student members of Eco club - JSSDCH under the leadership of Dr Premalatha BR and Dr Thippeswamy HM on 19th June 2023 by displaying their creativity in the form of e-posters and drawings on the topic of “Environment Conservation”. The posters were exhibited on the college notice boards for appreciating the efforts made by students and to spread awareness about the cause.

ENERGY SWARAJ YATRA

A special lecture by Prof. Chetan Solanki (Prof. IIT Mumbai, Solar man of India and Founder: Energy Swaraj Foundation) on “5 point Understanding of Climate Change and Corrective Actions” followed by a demonstration of the solar bus was organized by the NSS Unit of School of Life Sciences, Mysuru, under the Dept. of Science & Technology- Promotion of University Research and Scientific Excellence (PURSE) program. The event was inaugurated by Prof. Chethan S. Solanki, Founder of the Energy Swaraj Foundation alongside Dr. Prashant. M. Vishwanath, Dean (Research), Dr. Raghavendra Amachawadi, Associate Professor, Kansas State University, Dr. KA. Raveesha, Head, School of Life Sciences, Mysuru, and Life Sciences Departments, Dr. Chandan S, Deputy Dean (Research) and Dr. Raghu Ram Achar, NSS Program Officer.

Prof. Chethan Solanki delivering his special lecture.



Felicitations of Prof. Chethan S. Solanki



Visit and Demonstration of Solar Bus by students

International Conference on Advanced Materials in Environment, Energy and Health Applications



International Conference on Advanced Materials in Environment, Energy and Health Applications

International Conference on Advanced Materials in Environment, Energy and Health Applications (AMEEHA-2022)" was jointly organized by Department of Chemical Engineering, Khon Kaen University, Thailand, and Department of Environmental Sciences, JSS Academy of Higher Education and Research, India on 3-5 August 2022 at Pathumwan Princess Hotel, Bangkok, Thailand. Dr Shivaraju HP, Associate Professor and Coordinator, Department of Environmental Science and Dr Kitirote Wantale, Associate Professor, Department of Chemical Engineering, Khon Kane University, Thailand were the Lead Chairmans of the international conference.

Young Scientist Award Received by Dr Vadiraj N. at National Conference on Scientific Advancement for Sustainable Environment (SASE 2023)



National Conference on Scientific Advancement for Sustainable Environment 2023 was organized at Banaras Hindu University on 22nd and 23rd of April 2023. This was organized by the Department of Dravyaguna, Faculty of Ayurveda, Institute of Medical Science, Banaras

Dr. Vadiraj, receiving an Young Scientist award at the National Conference on Scientific Advancement for Sustainable Environment (SASE 2023)

Hindu University in collaboration with National Environmental Science Academy. Presented work titled "Production of Biodiesels from Potential Biofuel Crop Manihot esculenta (Cassava): A Non-Edible Oil Seed and its Characterization Methods". Followed by the presentation there was a brief discussion on the scale of the model for commercial purposes and the effectiveness of biofuel on current sustainable environment and pollution assessments.

OUT REACH ACTIVITIES SUPPORTING SDG 7

NSS Activity on “MY LIFE AND MY CLEAN CITY”

Mysuru City Corporation (MMC) took the initiative to clean Mysuru city and create awareness about the concept of a “Clean and Green City.” JSS Medical College, Mysuru, has been invited to take part in this cleanliness program. The event was organized under the aegis of Mysuru City Corporation (MMC) with the supervision of corporation medical officer Dr. D.G. Nagaraj. The sole agenda of the event was “MY LIFE AND MY CLEAN CITY.” The cleanliness drive was carried out on 1st June 2023 with the sole intention of plogging the nondegradable waste materials like plastic, fibre, metal, wax-coated disposables, etc. Thirty-one (31) NSS student volunteers from 1st year MBBS graduate students actively and enthusiastically participated in the event. The plogging activity was performed in the streets around the JSS medical college campus and Cauvery Nagar. The collected waste material was loaded into the waste carriage accompanying the participants. The program was coordinated by Ms. Tejaswini S.P. health inspector city corporation, Mysuru. The activity was supported and encouraged by the Principal and Vice Principal of JSS Medical College, Mysuru. The program was supervised and coordinated by NSS program officers NSS unit, JSS Medical College, Mysuru.



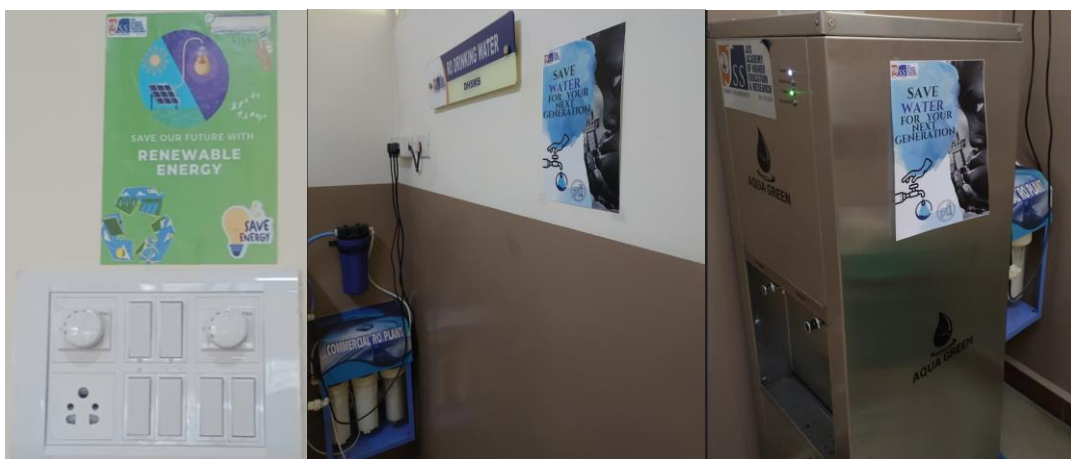
At Urban Health Training Centre on 05-06-2023:

With the blessings of His Holiness, Department of Community Medicine, JSS Medical College, JSS AHER organized Programme at Govt High School, Bamboo Bazaar by JSS UHC, In connection with Observation of World Environment Day on 05.06.2023. Dr. H.V Rama LMO, JSS UHC & Head Mistress Govt High School Smt Pushpavathi inaugurated by planting a sapling at High School Premises. The students and staff took oath for protecting the environment. Dr. H.V Rama LMO, JSS UHC, gave a PPT Presentation on this year's Theme "Beat Plastic Pollution," hazards of plastic usage, ways of prevention, segregation, reuse & recycle of waste Products etc. The program was organized by Sri Mallikarjuna, MSW Sri Sunil Health Assistant & staff of Govt High School. 65 Children actively participated in the program with plantation of saplings to ensure that they own the responsibility with a small act.



ENERGY CONSERVATION PRACTICES

JSSAHER adopts energy conservation practices by promoting awareness through poster displays in classrooms, corridors, boys' common room and girls' common room areas, and staff room. The posters reiterate and remind the students, teaching, and non-teaching staff of the department on the importance of adopting energy conservation practices 'Save Water' and 'Save Electricity'.



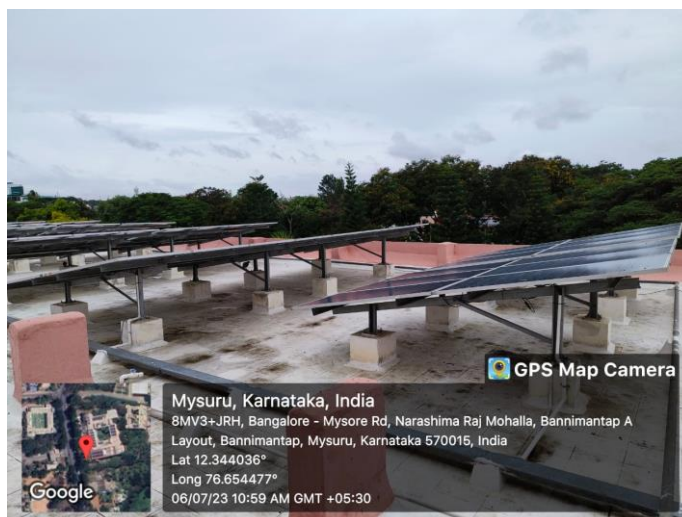
Awareness program to the students and faculties to conserve the electricity and other forms of energy.

Awareness is given on a regular basis to students and staff to conserve the electricity and sign board are placed to execute the same conserve the electricity.

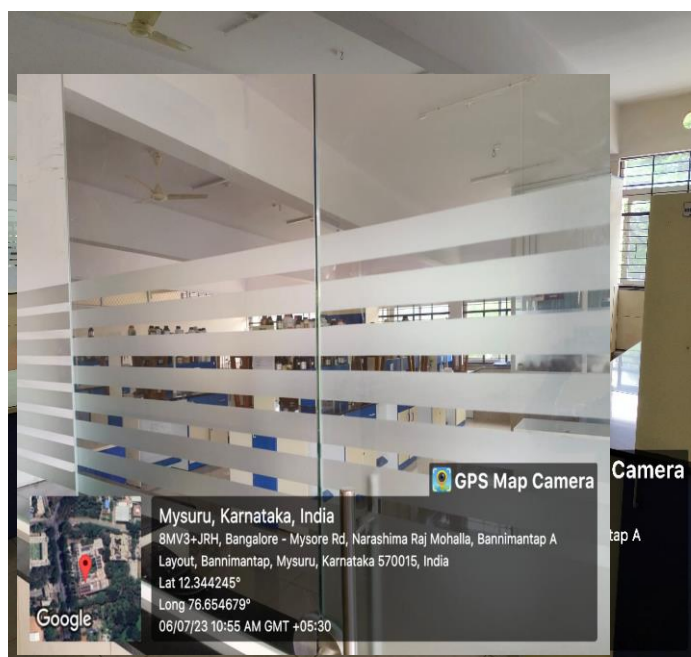


CLEAN AND RENEWABLE ENERGY UTILIZATION

In an effort to create a smarter campus, the college has implemented solar panels to decrease its reliance on traditional electricity sources and promote the use of clean, renewable energy. Previously, the college relied on the governmental agency (CESCOM) for 100% of its electricity needs. However, following the installation of solar panels, this dependency has been reduced by 50% or more. The college keeps a regular record of the electricity savings, which are detailed in the table provided below.

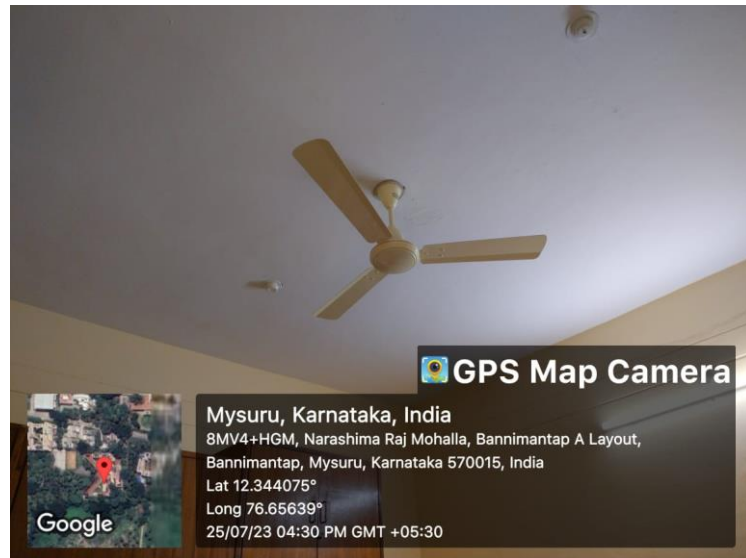


Labs with Natural lights and Ventilation:The laboratory facilities are being renovated to incorporate natural lighting and ventilation. As part of this initiative, the pharmaceutical chemistry lab has been renovated to transform it into a modern laboratory space where the well-designed labs utilizes natural light.



Reduction of electricity consumption:

- By transitioning from incandescent bulbs to LED bulbs, the campus successfully reduced its overall **electricity consumption from 45000 watts to 31000 watts.**
- Installation BLDC (Brushless Direct Current) ceiling fans in hostels which is an energy-efficient technology used in ceiling fans for best performance and cost-cutting over electricity bills. The BLDC fan technology uses a Brushless Direct Current motor that cuts electricity consumption by 65%.



- **Streetlight timers:** Streetlight timers are installed to save energy in the campus, the timer is timed to switch on the light from 6:30 PM to 12:00 AM and 05:00 AM to 06:30 AM.



- **Motion sensor lights** have been installed in unoccupied areas of the college (>45 Nos. installed),

specifically at the elevator and along the corridors of, as an energy-saving measure.



Wi-Fi ENABLED CAMPUS



POWER GENERATOR IN CAMPUS





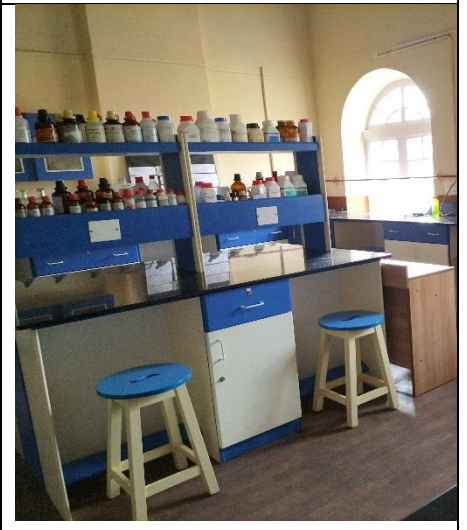
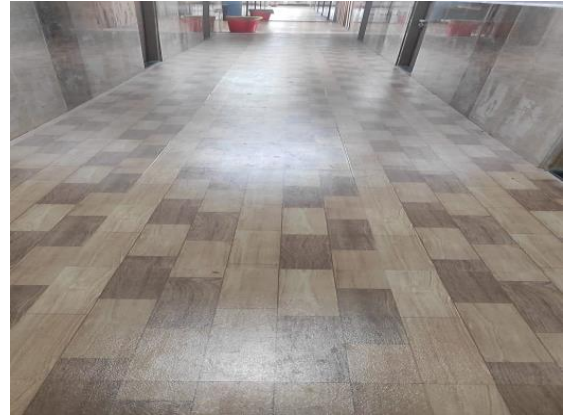
SENSOR LIGHTS IN CAMPUS

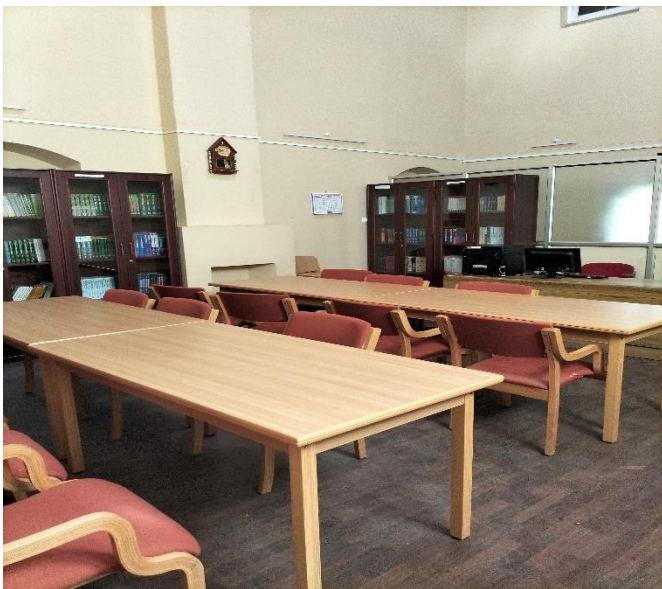


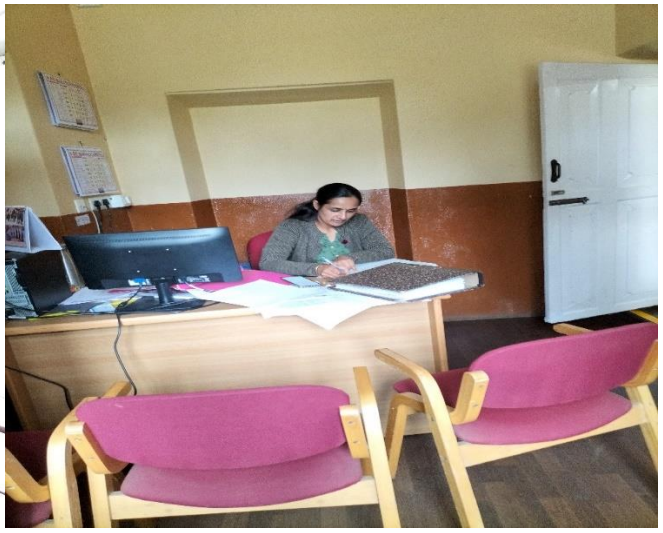
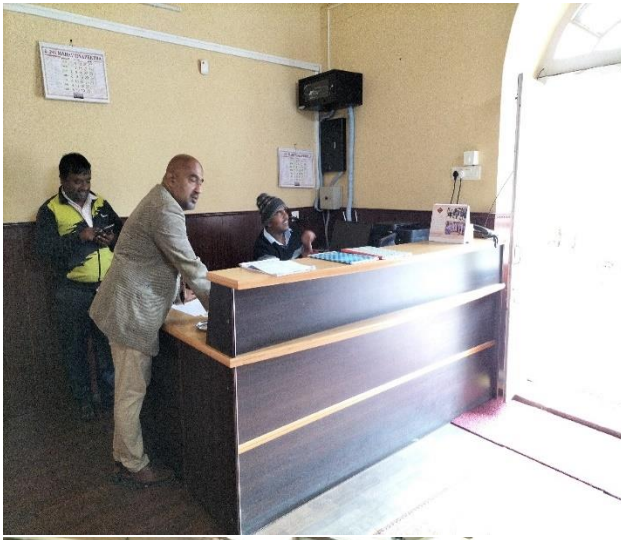
ENERGY SAVING (LED) LIGHTS IN CAMPUS



Infrastructure Development







GREEN AND CLEAN CAMPUS INITIATIVE

The campus boasts an impressive green space, with over 60% of the area dedicated to lush greenery, including an herbal garden and a diverse collection of 20 fruit-bearing tree varieties. Recognizing the college's exceptional efforts in garden maintenance, the Department of Horticulture awarded a prize during the Dasara Festival.



PROJECTS RELATED TO SDG 7

Ongoing External funded projects

Funding agency	PI Department	Collaborative Departments	Area of Research	Funds in Rupees
DST	Respiratory Medicine Dr.P.A. Mahesh	Biochemistry	Air pollution	9,98,44,800.00
	Biochemistry Dr.Rajesh Kumar T.	College of Pharmacy	Air pollution and lung growth	3,50,00,000.00
ICMR	Community Medicine Dr Nayanabai Shabadi	Biochemistry	Chemical hazards among agriculture workers	36,96,817.00

INTERNATIONAL FUNDED PROJECTS

Funding agency	PI Department	Area of Research	Funds in Rupees
Latrobe University, Melbourne	Respiratory Medicine Dr.B.S.Jayaraj	Asthma & Air pollution	26,18,682.00
Swedish Heart Lung foundation, Karolinska Institute, Sweden	Dr.Mahesh P A	"Adverse effect of outdoor and indoor air pollution on respiratory and vascular function among adolescents".	15,00,000.00
Swedish Heart Lung Foundation	Respiratory Medicine Dr.P.A.Mahesh	COPD	65,83,300.00

Completed Projects

Sl No	Title of the project	Principal Investigator	Collaborating Depts	Funding agency	Amount sanctioned	Duration
1	Spatial mapping of microbial population in the soil surrounding the hospital/ university	Dr.Steve Petrovski,	Microbiology and LaTrobe University	LaTrobe University	1,10,40,000.00	3 years
2	"To investigate Long-Term impact of Air 'pollution on Airway Remodeling and aging of Lungs in healthy Urban Population of South India"	Dr. Chandrakanth H V~Professor, Dept. of Forensic Medicine and Dr. Rajesh	Kumar T, Associate Professor, Dept. of Biochemistry, ISS Medical College, Mysuru.	JSS AHER	50,000.00	01 Year

1	Relevance of water quality index for groundwater quality evaluation in areas surrounding stone crusher: Siruguppa, Karnataka, India
2	""Pyrolysis of the plastic waste for liquid fuel production as a prospective energy source
3	"Pyrolysis of the plastic waste for liquid fuel production as a prospective energy source
4.	"Extraction of bioethanol from non-edible plant using fermentation process.
5.	Allen John Alex Thalody (2023) Site Suitability Of Hybrid Renewable Energy Systems Using Integrated Gis And Fuzzy-Ahp: A Case Study In Karnataka
6.	Allen John Alex Thalody (2023) Estimation Of Wind Energy Potential And Site Selection For Wind Turbines In Northkarnataka Districts Using GIS

RESEARCH COLLABORATIONS & CONSULTANCIES

Sl No	Collaboration with Institution name	Area	Objectives	Outcomes
1	University of Boston	Impacts of Heat Stress on Maternal and New-born Health Outcomes in India, and Adaptations to Improve: An Interventional Study	To map heat wave vulnerable areas in three districts of Karnataka state with different climatic zones and evaluate the pre-selected low-cost sustainable exterior architectural interventions in existing residential buildings to reduce indoor heat. To assess the effectiveness of exterior architectural interventions to reduce indoor heat and improve the health outcomes of mother and child residing in heat wave vulnerable areas in Gulbarga, Mangalore and Mysore.	Heat Exposure Interventions for Gestational and Neonatal Health Improvements in India project proposal submitted to Wellcome Trust
2	IIT Madras	Air pollution	Community based projects on biomass fuel and particulate matter	Ongoing research project

PUBLICATIONS SUPPORTING SDG 17

1. B C Sunil, Dr Praveen Kulkarni, N Renuka, Dr Narayana Murthy M.R. Relationship between Aedes aegypti indices with perception and practices of dengue in an urban community of Mysore. Indian Journal Of Medical Specialities. 2022 July;13(3):176-181.
2. Shashank M Patil, Jayanthi M K, Ramith Ramu. Effect of COVID-19 on Air Pollution: The Indian Scenario. London Journal of Research in Science: Natural and Formal. 2022 Sep;22(9):49-51.
3. Ginenus Fekadu, Ziyue Wang, Yangmu Huang, Zhiyong Zou, Simon I Hay, Mahesh P A, Osaretin Christabel Okonji, Mikhail Sergeevich Zastrozhin. Time Trends of Greenspaces, Air Pollution, and Asthma Prevalence among Children and Adolescents in India. International Journal of Environmental Research and Public Health. 2022 Nov;19(22):1-17.
4. Samyak T Shah, Dr Nayanabai Shabadi, Rohan Karkra, Vadaga V Rao. Geospatial Mapping of Indoor Air Quality and Respiratory Illnesses in an Urban Slum. Cureus. 2023 Feb 12;15(2):e34890.
5. Steve Petrovski, Jayson Rose, Colleen J Thomas, Ashley E Franks, Anya E Shindler, Shalini Kunhikannan, Cassandra R Stanton, Dr Sumana M N, Dr Sumana K. Exploring the Diversity and AntibioGram of the Soil around a Tertiary Care Hospital and a University Precinct in Southern India: A Pilot Study. Soil Systems. 2023;7(2):1-21.
6. Piyanut Phuthongkhao, Kitanchalee Phasin, Purita Boonma, Rattabal Khunphonoi, Preparation and characterization of hydrothermally processed carbonaceous hydrochar from pulp and paper sludge waste (2023) Biomass Conversion and Biorefinery <https://doi.org/10.1007/s13399-023-03761>
7. Prabagar Jijoe Samuel, Sneha Yadav, Tenzin Thinley, Anusha Hosakote Shankara, Hemanth Vikram P R, B M Gurupadayya, K M Anil Kumar, Shivaraju HP, Visible light irradiation driven CO₂ reduction into hydrocarbons on trimetallic based layered double hydroxide, Materials Today: Proceedings (2022), <https://doi.org/10.1016/j.matpr.2022.10.304>

POLICIES OF JSSAHER SUPPORTING SDG 7

JSS Academy of Higher Education & Research (JSSAHER) has implemented several policies and initiatives that actively support Sustainable Development Goal 7 (SDG 7), which aims to ensure access to affordable, reliable, sustainable, and modern energy for all. Here are the policies and measures that JSSAHER has in place to advance SDG 7:

Renewable Energy Adoption Policy:

JSSAHER has adopted a policy that encourages the use of renewable energy sources, such as solar and wind power, on its campus. This policy promotes the transition to sustainable and clean energy, aligning with the objectives of SDG 7.

Energy Efficiency Standards Policy:

The institution has implemented energy efficiency standards for all new construction and renovation projects. These standards include guidelines for optimizing energy usage and reducing waste, ensuring compliance with SDG 7's emphasis on energy efficiency.

Energy Audit and Reporting Policy:

JSSAHER conducts regular energy audits to identify areas of energy wastage and inefficiency. The institution has a policy in place to ensure these audits are performed annually and that the results are reported transparently, promoting accountability in line with SDG 7's targets.

Community Outreach and Education Policy:

JSSAHER has a policy that promotes community outreach and education on sustainable energy practices. The institution organizes workshops, seminars, and awareness campaigns to educate the local community about the benefits of renewable energy, aligning with SDG 7's goal of promoting awareness.

Research and Innovation Policy:

The institution actively encourages research and innovation in the field of clean energy and sustainable technologies. JSSAHER's policy supports the development of new solutions and technologies that contribute to SDG 7's objectives.

Partnerships and Collaborations Policy:

JSSAHER fosters partnerships with industry players, government agencies, and non-governmental organizations to jointly promote renewable energy adoption and energy efficiency. This policy supports SDG 7's emphasis on collaboration and partnerships for sustainable energy access.

Carbon Reduction and Emission Control Policy:

The institution has a policy in place for measuring and reducing carbon emissions on its campus. This policy actively contributes to SDG 7's target of mitigating climate change and reducing greenhouse gas emissions.

Financial Support for Sustainable Energy Policy:

JSSAHER offers financial support to projects and initiatives that promote sustainable energy practices. This policy encourages and facilitates the implementation of clean energy solutions, supporting SDG 7's objective of providing affordable and clean energy.

Student and Faculty Engagement Policy:

The institution's policy encourages active involvement of students and faculty in energy-related research, projects, and initiatives. This fosters a culture of sustainability and eco-consciousness on campus, aligning with SDG 7's emphasis on awareness and education.

Global Recognition and Awards Policy:

JSSAHER aims to gain recognition and awards related to its sustainable energy practices. This policy showcases the institution's commitment to SDG 7 to a global audience and encourages the adoption of similar practices worldwide.

These policies and initiatives collectively demonstrate JSSAHER's commitment to advancing SDG 7 by ensuring access to affordable, reliable, sustainable, and modern energy while actively promoting energy efficiency, renewable energy adoption, and responsible environmental stewardship.

<u>Waste management policy</u>	<u>Campus Maintenance Committee Guidelines</u>
<u>Transport Policy</u>	<u>Guidelines for Geotagging of Photographs</u>
<u>Social Responsibility Statement</u>	<u>Energy Efficiency, Renovation and New Building Policy</u>
<u>Smart Campus Policy</u>	<u>Environmental and Sustainability Policy Statement</u>

<https://jssuni.edu.in/JSSWEB/UDHP.aspx?PID=619>

<https://jssuni.edu.in/JSSWEB/UDHP.aspx?PID=786>

SUMMARY

JSS Academy of Higher Education & Research (JSS AHER) actively contributes to Sustainable Development Goal 7 (SDG 7), which aims to ensure access to affordable, reliable, sustainable, and modern energy for all. JSS AHER's commitment to sustainability and energy efficiency is evident in various initiatives that align with SDG 7. Here are some of the ways JSS AHER is making a significant impact in achieving this goal:

Renewable Energy Adoption: JSS AHER has made substantial strides in transitioning to renewable energy sources, particularly solar power. The installation of solar panels on campus has significantly reduced the institution's reliance on non-renewable energy sources, leading to a decrease in carbon emissions.

Energy Efficiency Initiatives: The institution has implemented a range of energy efficiency measures, encompassing the use of energy-efficient lighting, HVAC systems, and building designs that maximize natural lighting and ventilation. These efforts reduce overall energy consumption and promote sustainable practices.

Regular Energy Audits: JSS AHER conducts annual energy audits to identify areas with the highest energy wastage. These audits help develop strategies for energy and cost savings, thereby enhancing energy efficiency and reducing resource consumption.

Public Awareness and Education: The institution actively engages in educational campaigns to raise awareness about the importance of sustainable energy use. This includes organizing workshops, seminars, and events that educate students and the broader community about renewable energy and energy conservation.

Support for Startups: JSS AHER provides assistance and support to startups working on low-carbon technologies and sustainable solutions. This support includes funding, technical expertise, mentoring, and access to resources to help these startups develop and scale their clean energy technologies.

Community Outreach: JSS AHER extends its commitment to renewable energy and sustainability to the wider community. The institution hosts discussions, meetings, and events that promote renewable energy adoption and environmental consciousness beyond the campus borders.

Collaboration and Partnerships: JSS AHER collaborates with various local, regional, and national organizations, government agencies, and industry partners to drive renewable energy initiatives. These partnerships create opportunities for shared resources, knowledge exchange, and collective efforts to promote clean energy.

Regulatory Advocacy: The institution actively engages in advocating for policies and regulations that support the adoption of renewable energy at the local and regional levels. These efforts facilitate the implementation of sustainable energy practices.

By actively participating in these initiatives, JSS AHER contributes to SDG 7 by promoting the use of clean and sustainable energy sources, improving energy efficiency, and raising awareness about the importance of responsible energy management. These efforts not only benefit the institution and its community but also support broader global sustainability goals, making a significant impact in the transition to a more environmentally responsible and sustainable future.

ENERGY AUDIT REPORT

JSSAHER places a strong emphasis on energy efficiency and sustainability through an annual energy audit. The primary objective of this audit is to comprehensively examine the energy consumption patterns within the facility and identify areas where the potential for energy and cost savings exists. The energy audit process involves several key steps and serves as an essential tool in the institution's ongoing commitment to responsible energy management.

Key Aspects of JSSAHER's Annual Energy Audit:

1. Energy Consumption Analysis:

- The audit involves a detailed analysis of energy consumption within the facility, considering various sources such as electricity, heating, cooling, and water usage. This comprehensive assessment provides a clear understanding of how energy is utilized across the campus.

2. Identification of High Energy Wastage Areas:

- One of the primary goals of the audit is to pinpoint areas where energy wastage is most pronounced. This involves identifying systems, equipment, or practices that are inefficient and consume excessive energy.

3. Cost Savings Proposals:

- Following the analysis, the audit team develops proposals for energy and cost savings. These proposals may include recommendations for upgrades, retrofits, or changes in operational practices that can lead to reduced energy consumption and, consequently, lower operational costs.

4. Investment and Payback Period Assessment:

- The audit team calculates the potential investment required to implement the proposed energy-saving measures. Furthermore, they assess the payback period, which indicates how long it would take for the initial investment to be recouped through energy cost savings.

5. Recommendations for Efficiency Improvement:

- The audit report provides a set of recommendations for efficiency improvement. These may include upgrading lighting systems, HVAC systems, insulation, or implementing energy management systems to optimize energy usage.

6. Monitoring and Continuous Improvement:

- JSSAHER utilizes the findings and recommendations from the annual energy audit to drive continuous improvement in energy efficiency. Regular monitoring and performance evaluation are critical to track the impact of implemented measures.

7. Sustainability and Environmental Impact:

- In addition to cost savings, the audit also considers the environmental impact of energy usage. By reducing energy wastage, the institution contributes to sustainability and minimizes its carbon footprint.

By conducting an annual energy audit, JSSAHER demonstrates its commitment to responsible energy management, cost savings, and environmental sustainability. This proactive approach not only benefits the institution by reducing operational expenses but also sets an example for the campus community, highlighting the importance of energy efficiency and responsible resource management.