MANIPAL UNIVERSITY JAIPUR

Manipal University Jaipur's Energy Efficiency Plan

Manipal University Jaipur has taken a proactive stance by implementing a comprehensive energy efficiency plan aimed at significantly reducing its overall energy consumption. Energy efficiency is a critical component of any sustainable campus strategy. Manipal University Jaipur, a beacon of educational excellence, has embraced the challenge of reducing its environmental impact. The university's energy efficiency plan is a testament to its commitment to environmental stewardship and responsible resource management.

Energy Efficiency Plan

Energy Audits and Assessment

The first step in Manipal University Jaipur's energy efficiency journey is conducting comprehensive energy audits across campus. These audits analyze energy consumption patterns in buildings, equipment, and transportation, providing valuable insights into where improvements could be made.

Building Retrofits and Upgrades

Armed with data from the energy audits, Manipal University Jaipur initiates a series of building retrofits and upgrades. This includes improving insulation, installing energy-efficient lighting systems, and upgrading HVAC systems to modern, energy-efficient models

Renewable Energy Integration

To further reduce its reliance on fossil fuels, Manipal University Jaipur integrates renewable energy sources into its campus infrastructure. Solar panels have been installed to generate clean energy, reducing both energy costs and carbon emissions.

Smart Building Technologies

Manipal University Jaipur is at the forefront of adopting smart building technologies that optimize energy usage in real-time. Advanced building management systems monitor energy consumption and make immediate adjustments to minimize waste, further increasing overall efficiency.

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Sustainable Transportation

Recognizing the impact of transportation on its carbon footprint, Manipal University Jaipur prioritizes sustainable transportation options. It expanded public transportation access, added bike lanes, and promoted carpooling among students, faculty, and staff.

Manipal University Jaipur's initiatives inspire students to become future environmental leaders, and its research contributes valuable insights to the field of energy efficiency and sustainability.

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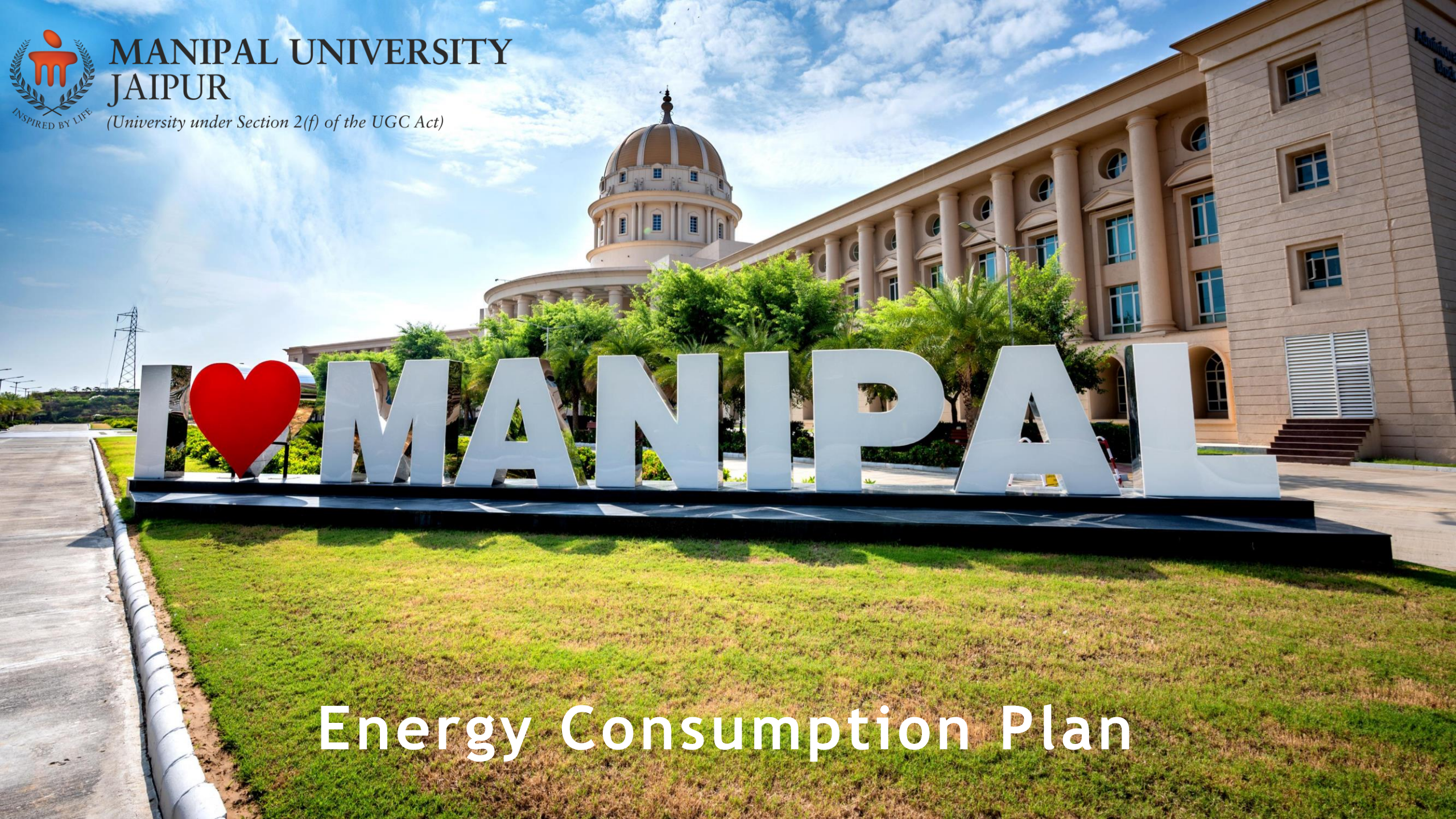
(University under Section 2(f) of the UGC Act)



Energy Consumption Plan

MUJ Infra Ariel view

Solar Panels on MUJ roof

Board Rooms

Board Rooms

RENEWABLE ENERGY SOURCES

ENERGY AUDIT

INVENTUM POWER

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ENERGY SAVING SUMMARY

S.No	Energy Conservation Projects	Annual Water Saving (KL)	Annual Energy Saving (KVAh)	Annual Monetary Saving in Lakhs	Investment (in lakhs) Rs.	Payback Period in Months	Co2 Emission Reduction in Ton	Page No
1	Avoiding use of transformer-1 during non-peak months		21,818	2.05	1.5	9	17.9	54
2	Maintaining 410-415 V instead of 430 V at Transformer-1		1,40,695	13.23	Nil	Immediate	115.4	55
3	Energy saving achieved by Chiller set point optimisation		13,745	1.29	Nil	Immediate	11.3	57
4	Energy saving by chiller plant optimisation		43,636	4.10	Nil	Immediate	35.8	59
5	Installation of Automation in Unitary AC		7,987.2	0.75	1.2	19	6.5	63
6	Replacement of Old AC by Inverter AC		3,840	0.36	1.2	40	3.1	63
7	Increase Re-use of Grey-Waste Water from laundry	4000		9.76	15.0	18	-	68
8	Energy saving by using fine bubble diffuser		44,460.6	4.26	5.0	14.2	36.5	71
9	Aggregation and optimisation of compressed air usage in STP		3,625.3	0.34	0.5	17.8	3.0	74
10	Installation of Energy efficient fans		2,40,000	22.56	90.0	48	196.8	79
11	Replacement of Inefficient Heat Pumps (Either by new heat pump or through staform hot water system)		49,332.8	5.1	7.8	18.5	40.5	81
12	Cleaning and Maintenance of Heat pumps to improve COP		39,926.3	3.8	6.0	19.2	32.7	83
13	Installation of Solar street light at peripheral roads		24,741.8	2.3	9.5	48.8	20.3	85
Total		**4000**	**6,33,809**	**70**	**138**	**24**	**520**	

Energy Audit Report

RENEWABLE ENERGY UTLIZATION AT MANIPAL UNIVERSITY JAIPUR

Renewable energy Utilization is a key part of the design and development at Manipal University Jaipur. Hence, on site energy generation was given precedence to offset at least 50% of the total energy demand to achieve this solar p.v arrays are installed on the rooftops across all the major buildings in the University.

Key Performance Indicators:

The approach of MUJ to race towards self sufficiency in Energy is by reducing overall energy demand of MUJ (Admin & Academic-1) wherever possible. Design optimization was the key aspect which is driving MUJ to achieve energy use reduction. The reduced energy will be met by on site generated solar energy

- Climate responsive design of the building is the key element in the reduced energy demands.
- Appropriately sized systems with energy efficient technology & controls further reduced the energy demands
- Design has considered the orientation of building to construct the service structures on roof to reduce the amount of self shading & shadow patches on roof to maximum energy harvest with the solar pv's.
- Constant increase in capacity of solar PV system to steady offset of conventional energy demands

➢ Usage Details Report (click here)

RESOURCE CONSUMPTION MONITORING