



UKAI-GLHV-23-169178



SOLUTIONS

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ENERGY AUDIT CERTIFICATE

This is to certify that, *Our Audit Team* has visited GWSociety's Arts & Commerce First Grade College, **Kalaghatgi**, Ta & Dist : Dharwad **581 204**, on 17th Aug 2023 and undertook the "**Energy Audit**" of college campus.

The college is located in Kalaghatgi Town Municipal limits. The population of Kalaghatgi is 16,917 as per 2011 census. Kalaghatgi is absolutely agriculture cum business centre, The whole taluka is known for **mango, vegetable and millet production**. This is mainly because of temperature and soil fertility. It seems to be that, the town is free from industrial harmful- gas effluents.

The Energy Audit is a retrospective survey and analysis of energy requirements. The energy conservation principles have been adopted with minimal use of energy judiciously .i.e

**"Whenever necessary
and
Where ever necessary use electric energy"**

All the energy requirements are collected from each and every class room, laboratory, office, staff common room, library, computer lab etc.,

A separate log sheet of energy consuming appliances is made ready for ease of energy management. An energy **sensitization awareness program** is developed among the staff and students.

Need of Energy Audit

- To minimize the cost of energy consumption
- To minimize the operational costs
- To minimize the cost of maintenance

ENERGY AUDIT METHODOLOGY

The Audit involves visiting physical position of load and to carry out the inventory of load. Due measurements of electrical load of requirement and adequate circuit is carried out . Energy bill received from **HESCOM** is audited and analyzed in various location of energy



utilisations. The optimum utilization / requirements are judged and finalized. Energy conservation and saving opportunities are identified, proper circuitry plans are implemented.

ANALYSIS OF ELECTRICAL ENERGY UTILISATION

HESCOM CONSUMER BILL for the last five years have been analyzed

There is a single power connection node for the whole college. Analysis follows on separate sheet. The energy sensitization programs are notified among the staff and it is found that there is decline trend in use of electrical power(very judiciously) without affecting the routine work of college activities.

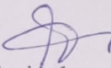
Graphical analysis of use of power meter wise, and total bill wise (consolidated) has been worked out .

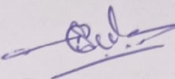
The analysis of data is as follows

S.No	Year	Average Power units consumed	Remarks
1	2018	322	A graphical analysis shows that there is initial incremental trend in the beginning. It is found that there is " <u>decline trend</u> " in the last three year. In the year 2019 because infrastructure developments electrical energy is utilized within appreciable limits only
2	2019	345	
3	2020	265	
4	2021	101	
5	2022	157	
**Appreciation			54. % of average reduction as compared to maximum consumed
*Note : Optimum utilization i.e max consumption of electric power in the year , 2019 is. Optimum utilization principle of conservation of electric energy, is always followed (Adopting modern electric appliances)			

It is observed that stand alone solar energy harvesting units are installed in campus. Because of this facility the college is getting electric bills as per HESCOM norms.

** Decline trend indicate practicing "use of electric power is done very judiciously". This is reflected from the EXCEL graphical analysis sheets.


Technical staff


Convener
Energy Audit Team

Place :Kalhatgi
Date : 17th Aug 2023





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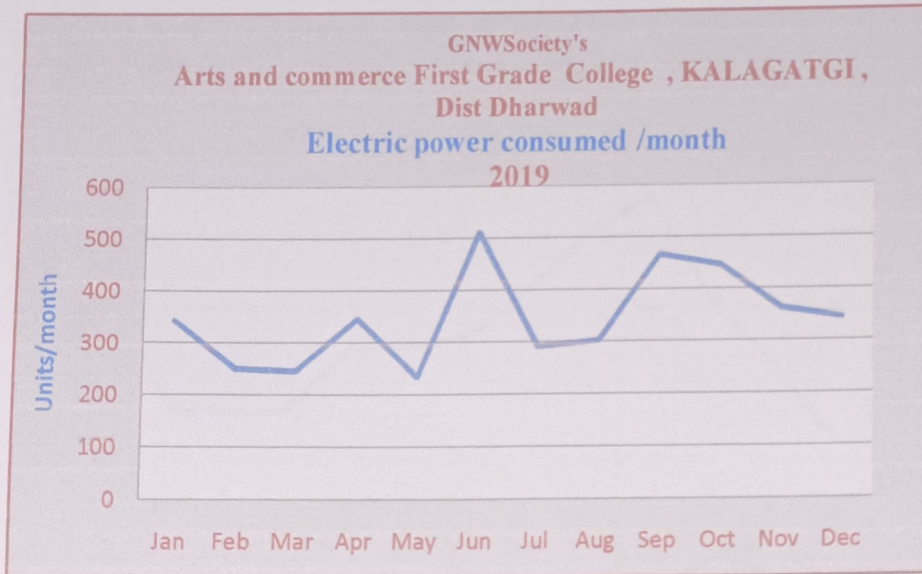
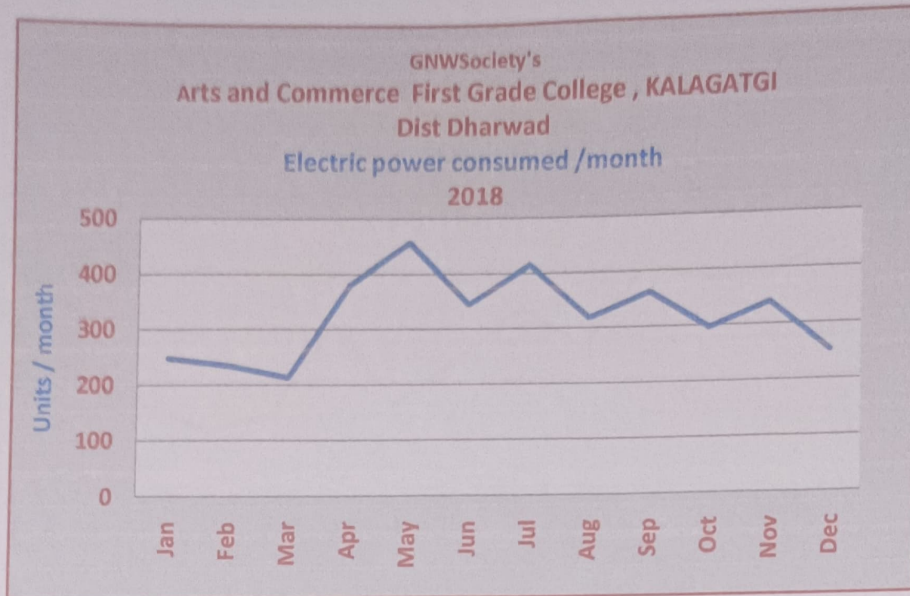
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Dist : Dharwad

YEAR WISE CONSUMPTION OF ELECTRIC ENERGY

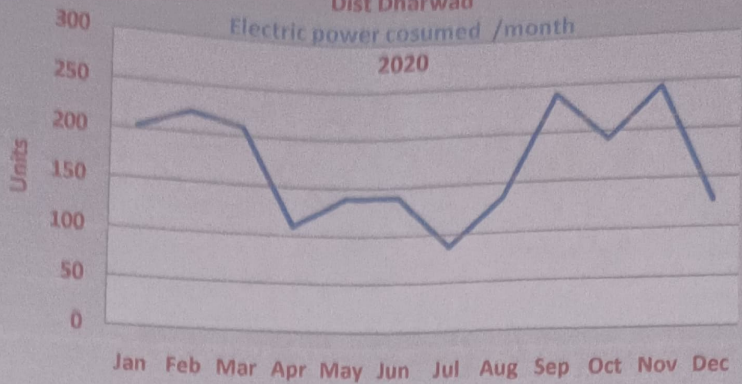
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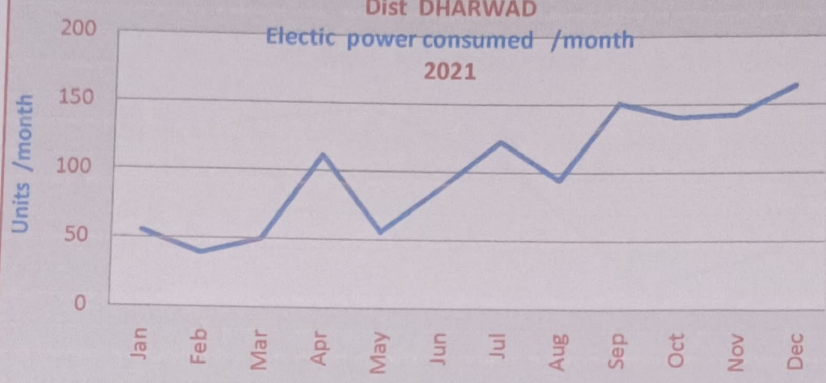
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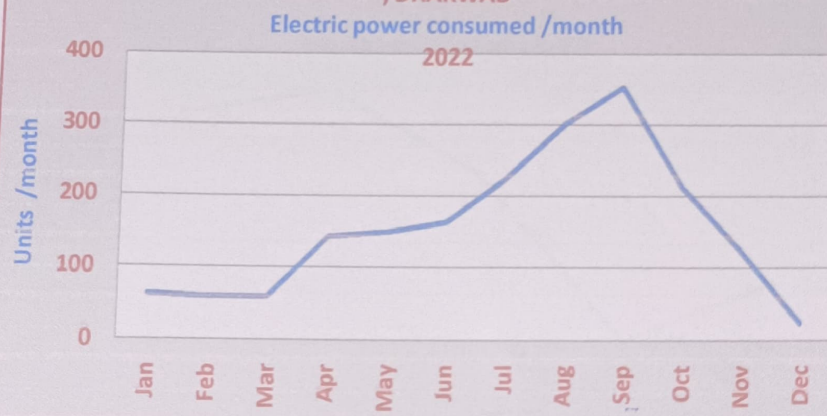
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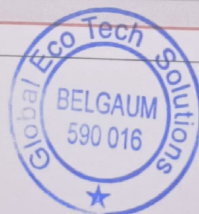
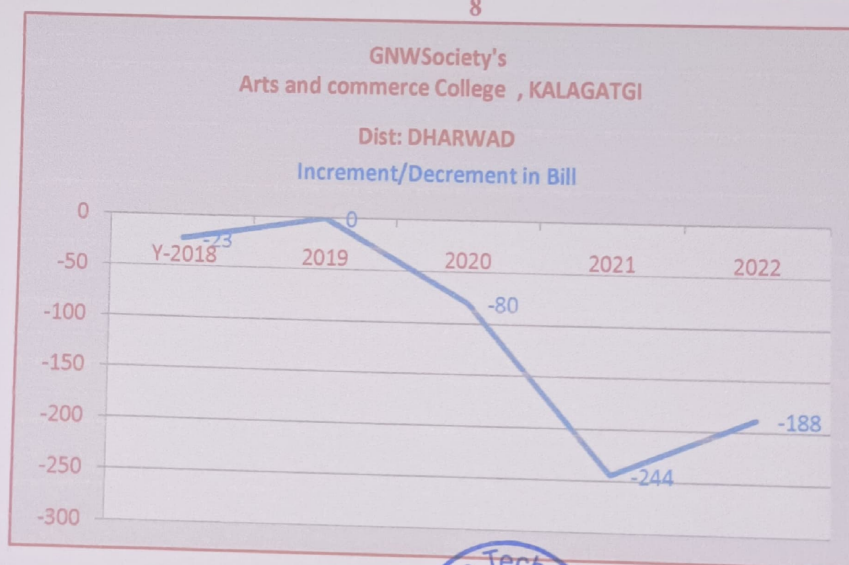
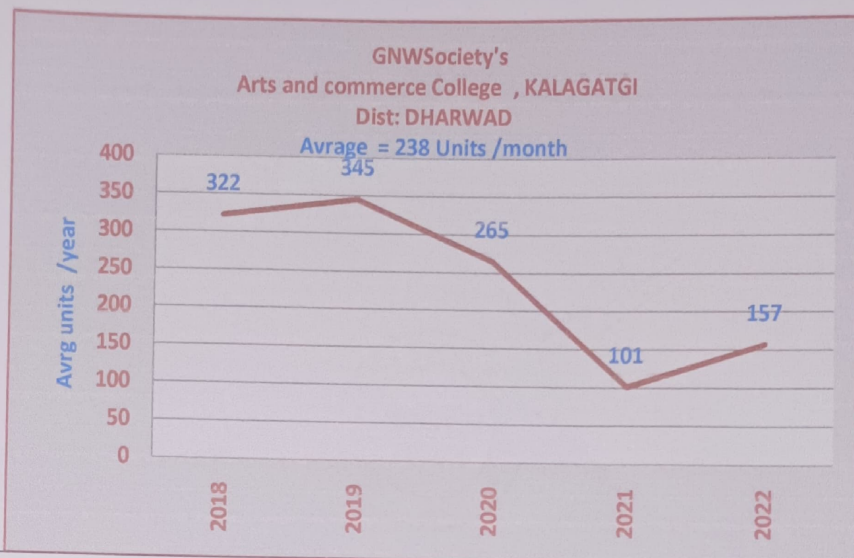
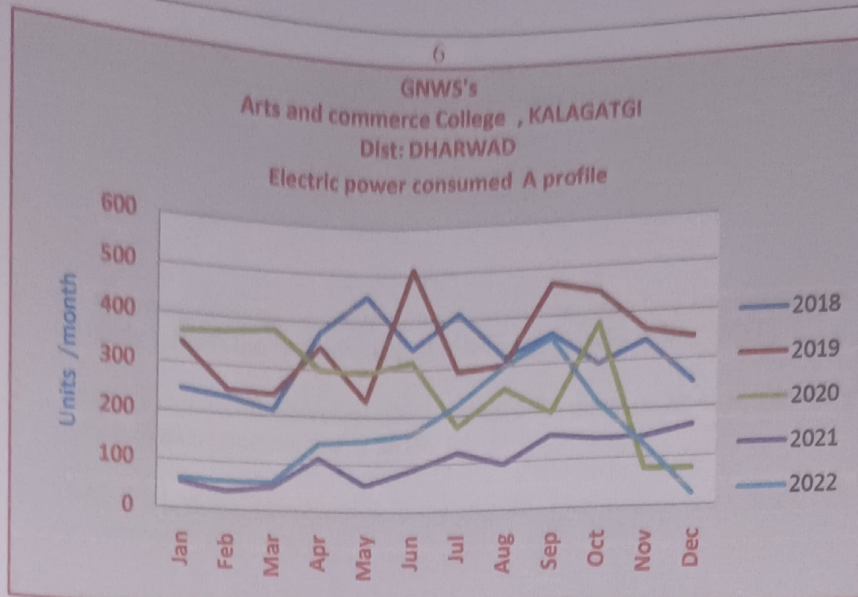
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Observations

*Note

1. All the energy curves show a minimum use in the month of December every year This certainly reflects the judicious use of electricity (except in year 2019)
2. Analysis show a bit decrease trend around 54% units on an average year averages with respect to the maximum use in 2019.
3. There is additional consumption in the year 2019 because of Infra structure developments.
4. The Power Factor has improved by Adopting new technology
5. Use of new electrical appliance has better future .



A handwritten signature in blue ink, consisting of stylized cursive letters, located above the circular stamp.