K. K. Wagh Institute of Engineering Education & Research, Nashik

Energy Policy

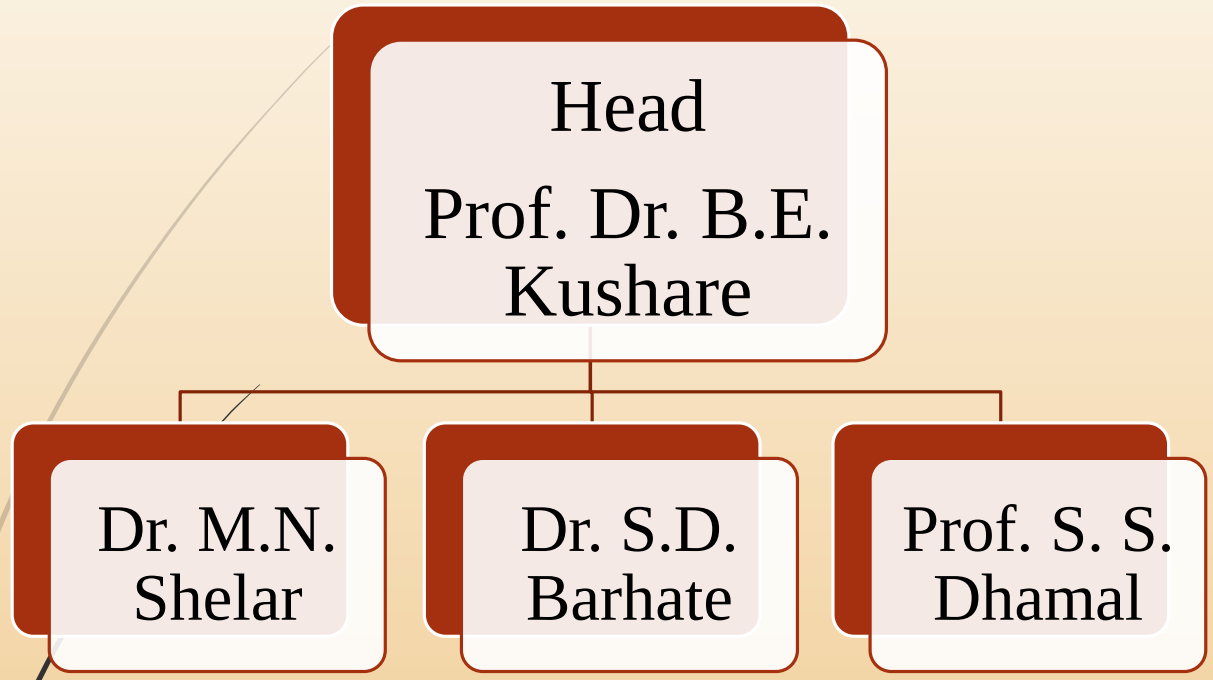
Objectives of Energy Management:

- Improvement in Energy efficiency to **reduce Energy consumption** and **cost**
- **Eliminate wastages** by use of good housekeeping practices.
- Minimize Environmental degradation

Energy Management Principles:

- Procure Energy at lowest cost.
- Use Energy at Highest possible efficiency
- Use low investment technologies.
- Reduce, reuse and recycle.
- Fuel substitution
- Use of renewable Energy

Energy Management structure



Certified Energy Auditors

- **Prof. (Dr.) B. E. Kushare**: Professor and Head of Electrical Engineering Department
- **Dr. M.N. Shelar:** Professor, Mechanical Engineering Department
- **Dr. S.D.Barhate:** Associate Professor, Mechanical Engineering Department

Certified Energy Manager

- **Prof. S. S. Dhamal**: Associate Professor, Electrical Engineering Department

Types and Use of Energy

Sr. No.	Type of Energy	Energy Usage
1	Electrical energy	Indoor and outdoor illumination Ventilation Air conditioning. Water Pumping. Computers and peripherals Laboratory Equipment's Work shop Equipment's
2	LPG	Mess and Canteen for Food preparation
3	Solar Heat Energy	Water Heating

Electrical Supply System

Electrical Supply: 11KV HT, MSEDCL Overhead line

500 KVA Packaged Substation

11 KV Step-down to 415V

Distribution: Through Underground cable network

Back up Power Supply

- 320 KVA DG set with Auto Mains Failure (AMF) facility.

Reactive Power Management

- Through detuned Real Time Power Factor Controller (RTPFC) panel at Substation Level

Mission:

- Minimise Energy consumption by use of Energy efficient Equipment's and maximum use of day light, natural ventilation and Energy substitution.
- Maximize use of renewable Energy.
- Create Awareness about Energy conservation.

plan to achieve

- Manage **efficiently utilisation** of Energy resources by use of cleaner and more efficient technologies.
- **Train faculties, students, Industry professionals** to make institute the pace setter in the area of Energy conservation.
- Promote **awareness** related with Energy conservation among various sections of society
- Enrich our experience on Energy conservation by **exchange of ideas** with other organisations
- **Encourage faculty members** to obtain certification as a certified Energy Auditors and Managers.
- Carry out regular **internal energy audit** to identify energy conservation opportunities
- **Provide Expertise** to industry and other organisations in the area of Energy management by offering Energy Audit Services.

Energy management Action Plan:

Improvement in Energy efficiency :

- Use of **Star labelled Equipment's** such as Refrigerator, Air conditioners.
- Replacement of Conventional T8 36/40-watt florescent lamps by **T8 18W LED tube.**
- Replacement of 150 HPSV street light fixtures by **72 W LED** street Light Fixtures.
- Use of **TFT** computer monitors.
- Replacement of conventional ceiling fans by **BLDC ceiling Fans.**

➢ Elimination of Energy wastages

- Maximum use of **natural day light** for indoor illumination.
- Use of **natural ventilation**.
- Use of **timer switches** to street light control
- Use of **timer switches** in class room
- **Good** House keeping practices.
- **Fine tuning of temperature** setting of Air conditioners and Water coolers

Energy Substitution:

- Use of **solar water Heaters** in place of Electric Geysers.
- **Maximum Use of Renewable Energy** : Grid interactive Solar PV systems at Roof tops

Energy Cost Optimisation:

- Maximum demand optimisation by adequate **reactive power management.**
- **PF incentive** by maintenance of Power factor above 0.995 .
- Use of **detuned RTPFC** to eliminate risk of resonance.
- **TOD tariff** benefits by operating flexible load during off Peak Period.
- Use of **dual trigger RTPFC panel** to optimize DG fuel consumption

Training and awareness programmes:

- Conducting **awareness program** for staff, students and society.
- **Active involvement of UG /PG students** in awareness program in schools.
- Conduct **faculty development program** to faculties from various Engineering colleges.
- Conduct **competence enhancement program** for industry professional in the area of Energy management.
- Conduct **work shops** on Grid interactive solar PV systems and Renewable Energy.
- Organise **seminar and poster presentation** in the area of renewable Energy and Environmental Protection.
- Encourage students to undertake **UG projects** in the area of Energy Management

Thank You.....!