

Best Practices

A. Renewable Energy Use and Energy Conservation

1. **Title of the Practice - Renewable Energy Use and Energy Conservation**

2. **Objectives of the Practice**

To contribute to the national missions of Climate Change through exemplary practices of renewable energy and energy conservation

3. **The Context**

Reliance on conventional energy has been a challenge for all aspects of life in today's society. Renewable and energy conservation have been considered as proven means to address the challenge. It is also a global concern to increase the share of renewable energy as well as to follow practices of energy conservation. India has committed to increase the share of renewable energy and enhance energy efficiency through several missions including national mission on Climate Change. Educational Institute has a role to play demonstrating the viability of such good and essential practices. It is in this context, Tezpur University has increased the share of solar generated electricity and prevent the uses of non-standard low efficiency electrical appliances for the utilities in the Campus.

4. **The Practice**

A 1000 kWp Grid Connected Rooftop Solar PV Power (more than 1 Giga Unit annual generation of solar electricity) and uses of the most efficient BEE certified LED luminaries.

5. **Evidence of Success**

University meet 21.62 % of its electricity requirements from the solar power plant or non-fossil fuel base energy source in the last one year. University reduced an amount of Rs 48.03 lakhs in the electricity bill due to the installation of solar power plant in the University which corresponds to annual reduction of 910 Metric tonnes equivalent of CO₂ emission.

6. **Problems Encountered and Resources Required**

The solar power plant is new and long duration experience will be useful for other academic Institutes in the region.

7. **Notes**

Tezpur University is the first Academic Institution in the entire North East Region to have MW-Scale Solar Power Plant. The detail of the plant is highlighted through web notification: <http://www.tezu.ernet.in/dener/solar.htm>

B. Sustainable Practices

1. **Title of the Practice - Reduce motorized vehicle and Recycle nutrients**

2. **Objectives of the Practice**

To demonstrate the sustainable practices that can lead to sustainable environment and sustain its natural resources

3. **The Context**

Tezpur University is a residential campus hosting more than 5000 people comprising of 80% students. Use of motorized vehicles by student community

inside the campus has not only remained as major environmental concern, but also concern for road safety.

The support to the green coverage inside the campus demanded soil nutrients which was fulfilled by chemical fertilizer. Sufficient quantity of bio wastes including leaves are available for converting into organic fertilizer and thus potential source of nutrients recycling back into the soil for the benefits of the trees and plants inside the campus.

4. The Practice

Some of the notable practices are (i) use of by-cycles (large number of cycle stands are installed at convenient locations besides distributing by-cycles among some girls students); (ii) use of bio-gas in hostel kitchen through installation of food waste based bio-digester and (iii) production and use of organic manure (*vermicomposting*) produced from bio-decomposable waste and plant leaves.

5. Evidence of Success

- Leaf litters and similar bio-waste collected in the University campus is scientifically converted into organic manure through a Vermicompost unit in a bid to recycle nutrients. The organic fertilizer demand for the gardens within the campus (~2.8 tonnes) are met by the domestic vermicompost production besides generating revenue by selling surplus amount (0.5 tonne).
- About 3000 cubic meter of food waste generated bio-gas could be used in one of the Hostels annually.
- Bicycle is the only mode of internal mobility inside the University Campus

6. Problems Encountered and Resources Required

There is no major problem. However, additional financial resources (capital) would be useful to expand the practices

7. Notes

Bio-waste recycling has also been active areas of research for many scholars. Bicycle riding has been taken as pride of action by student community.