

SUSTENANCE OF BUSINESS & CONSERVATION OF RESOURCES BY ADOPTING CLEAN AND GREEN METHODOLOGY. JOURNEY OF GREEN CO PLATINIUM RATTING COMPANY



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Abstract :

ITC has recognised in today's global competitive environment, sustainability as one of the key growth strategies to gain the much needed competitive edge.

ITC has recognised the fact that environment and economy can go hand-in-hand and make good business sense.

ITC has started the journey of getting certified as GreenCo and started the path of exploring the opportunities as per green co module.

The journey has resulted in identifying various opportunities,

1. *Energy efficiency – identifying conservation opportunities,*
2. *Water Management – identifying water reuse, recycle opportunities*
3. *Renewable energy – Enhance Green energy share of the company*
4. *Waste Management – solid, liquid and gaseous waste management.*
5. *Green supply chain*
6. *Life cycle assessment of product (gate to gate) – reducing carbon foot print*
7. *Other*

The GreenCo journey coupled with TPM methodology for employee involvement has resulted in getting Unitcertified as Platinum rated Plant.

The Unit has achieved significant reduction in resource consumption.

Current specific water consumption 39.1 cum/t, specific energy 1107kW/t, specific steam consumption of 5.66t/t, low carbon foot print, reduction of waste generation at source.

Key words : *Sustainability, specific water, energy, life cycle assessment, Low carbon foot print*

Summary of GreenCo Platinum Rating – Journey towards a Sustainable business

ITC has recognised in today's global competitive environment, sustainability as one of the key growth strategies to gain the much needed competitive edge.

ITC has recognised the fact that environment and economy can go hand-

in-hand and make good business sense.

ITC has started the journey of getting certified as GreenCo and started the path of exploring the opportunities as per green co module

Sustainability as a prime objective, resource conservation has emerged as key focus areas.

Journey of GreenCo Platinum certification has enabled the business in achievement

of higher growth with optimal use of resources and less emissions resulting in environmental performance and business competitiveness.

Key words : *Sustainability, specific water, energy, life cycle assessment, Low carbon foot print*

INTRODUCTION

CII has been promoting green concepts and has come up with Green Co rating system and guidelines, the rating system will assist the industry on “ Mission on Sustainable Growth” and facilitate ecologically sustainable business growth.

Most of the customers /share holders across the globe are continuously demanding the industries to evaluate the performance of companies on sustainable models, impact of industrial activity on environment. ITC has seen an opportunity and scope to improve on various aspects of Green Co module and started journey.

The Green Co journey starts with present performance assessment on various aspects (listed in subsequent passage), long term and short target setting, drafting methodology to achieve the targets, allocating resources and involving all stake holders in achieving the objective.

The journey is divided into 10 modules and each module has focused objective and way forward to achieve. The Green Co system calls to demonstrate the commitment of the unit towards energy efficiency. It starts with defining energy policy, target setting, energy monitoring and accounting system with focus on technology and lower energy intensity.

Modules

1. Energy Efficiency : The Unit bhadrachalam has evolved strategy, defined the objective to bench mark its operations against international level. Step by step approach has been laid down.

Started daily monitoring of energy aspects and evaluating high energy consuming areas.

Strategies involves bringing awareness among all stake holders and employees involvement. (during a campaign employees could generate 226 kaizens of which 152 kaizens were feasible for implementation and unit as accrued a benefit of Rs80 lacs)

Planning and allocating financial resources to invest on best technologieseg:

investment planed and implemented in retrofit of centac compressor for service air application, VFD's for varying processes, LED lighting, light pipes.

Capacity utilisation – by optimising production specific energy consumption has been brought down. Policy has been adopted to have high efficient technologies included during inspection. Eg: Centrifugal compressors for instrument air supply, CFBC boiler.

Specific energy has reduced from 1122kwh/t in year 2014-15 to 1107kwh/t in 2016-17. specific steam consumption from 5.67t/t to 5.66t/t. Journey closure to international bench marking.

2. Water conservation : Water is vital resource for paper manufacturing, there is an increase in demand for water from other sectors. Government and legislation gives priority to agriculture, domestic needs. Industry for sustenance of business has to conserve water.

We at Unit bhadrachalam have adopted a mantra of 3R's, Reduce – Reuse-Recycle.

Every consumption point has been metered and monitored on daily basis by water management team part of encon cell.

The Green Co journey has immensely assisted in achieving in specific water consumption of mill reduced year on year.

Specific Water has reduced from 42.6 cum/t in year 2014-15 to 39.1 cum/t in year 2016-17 making the journey a step closure to international bench marking.

ITC is water positive for 13 years.

3. Renewable Energy :

For a sustainable business source of energy is critical, unit has secured sustainability by investing in sustainable sources, wind power, solar power and SRB's. Green Co journey has helped us strategizing short term and long term action plans and thereby reducing dependency on fossil fuels, which are more contributors for

Green House Gases. **More than 50% of energy coming from renewable sources**, the company image has been green and low carbon emissions has increased credibility of company providing edge over competitors.

Unit made a strategic investment in wind power for energy sustenance and after overcoming hardships & constrains due state bifurcation into Telengana and Andhra, Unit started using wind power from october'16, We are the first state to wheel and consume wind power across state.

Renewable energy share of the company has increased from 50.24% in year 2014-15 to 53.85 for year 16-17.

4. Waste Management : Green Co journey has helped in listing out waste generation and formulate long term and short term objectives and targets. The strategies involve reduce environmental liability, raised moral and environmental awareness among employees. Systematic control of individual waste issues. Effective mechanism for collecting, segregation and disposal of Hazardous waste, e-waste and other bio waste. Explored and achieved and minimised sending waste to landfills/incinerator.

The hierarchy of waste management involves – prevention, minimisation, reuse, recycling, energy recovery, disposal.

Apart from reduction of waste generation, unit has also achieved significant recycling of water, in paper machines (PM2,3& 6) entire back water is being reused and made ZLD.

5. Green supply chain : The greening the supply chain has resulted in conserving resources, reducing toxicity, improving environmental performance. The journey involves form procurement, packaging, warehousing, distribution and transportation, supplier audits and recognition.

Green supply chain emphasises on sourcing

of input materials from a sustainable sources, input materials are having lower environmental impact (consumes lower energy, water , generates lower waste and emits lower GHG)

Importance is given in sourcing the material locally to avoid transportation, handling and thereby reducing GHG emissions. It encourages to lower package requirement (redesign the product for package), load ability for ease of transport.

Unit has engaged with suppliers and has guided in improving energy performance of its vendors. Eg : M/s Femcem, convertors located in and around the plant.

6. Life cycle assessment : is most comprehensive method to assess the environmental impacts of a product, process or activity throughout its life cycle. From the extraction of raw material through to processing, transport, use and disposal. (cradle to grave). Earlier this concept was used to compare products, technology, whereas in current emerging

market it is used to eco-lableing and consumer education programs throughout the world.

ITC has taken up LCA study on 66% of products and based on LCA found out the areas of improvement were identified and acted up to minimise carbon foot print.

LCA has facilitates the marketing, product redesign, benchmarking across an industry.

Key benefits &Results

Daily monitoring of energy aspects, strategies adopted for bringing awareness and employ involvement.

Specific energy has reduced from 1122kWH/t to 1107kWH/t. Journey closure to international bench marking.

Specific water consumption reduced from 42.6 cum/t to 39.1 cum/t,

Increase in renewable energy share from 50.24% in yr 2014-15 to 53.85 for yr 2016-17.

Improved waste management system

Encouraging the supply chain partners to adopt clean & green technologies.

Environment & climate Impact

Lower carbon foot printie., from 1.56 TCO₂e/t in yr 2014-15 to 1.43 TCO₂e/t in yr 2015-16, published in sustainability report of the company.

The clean and green image of the company flying high.

Conclusion

The Journey is continuous and Green Co enables the industry to have clean image.

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References

1. Green Company rating System – reference Guide CII,