

A STUDY OF GREEN FACTORY MANAGEMENT STRATEGY

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Abstract: This India is witnessing tremendous accelerated growth in infrastructure and construction development. Government of India launches various enticing schemes to push industrial growth. Create in India campaign supports to accelerate industrial construction in India and the contribution of the manufacturing sector to the national GDP being quite significant, more and more factories would be set up in the country.

As Industrial sector is growing quickly, protective the surroundings challenges. whereas the expansion is forthcoming it's imperative that the event ought to happen in associate degree surrounding sally property manner therefore time has return to form industrial construction sensitive to the environment to take care of healthy and safe atmosphere. It'd have way reaching impacts on saving natural resources, betterment of operating conditions and increased productivity, thereby resulting in substantial national advantages.

This review article studies the impact of industrialization on environment and associated challenges through the process of gathering relevant current data or information to improve method of working to reduce environmental impact. Through various initiatives that helps market transformation towards Green Building construction ideas, materials and technologies. Focus approach & continuous works to be conducted strictly to supply tools, techniques & facilitate to adopt Green building practices in India. The event of Green Factory Building pointers is another vital step during this direction, to push several businessmen have showed keen interest to implement a whole Green Design and construction framework for future factory buildings. Businesses across the world have begun to understand the approaching impact of their actions on the surroundings and its contribution to the development of global climate change. The achievement of higher growth with optimal use of resources and better emission and discharge standards is need of the hour.

Indian industries need to transform cultural and start thinking strategy from Green Building construction, Environmental Energy Efficiency, Water Efficiency, Reduce Fuel usage, Reduced Dependency on Non-renewable Materials, Green Supply Chain ...etc.

Keywords: GISCM -Green Integrated Supply chain management; GSCM- Green Supply Chain Management, GHG – Greenhouse gases, SCM - Supply Chain Management

I. INTRODUCTION

(Development of Green factory initiative)

Companies across the world have taken several initiatives to cut back their ecological footprint, in many areas like energy potency, water, Greenhouse gases GHG, waste reduction, etc. With variety of companies going Green on the increase and several other initiatives on totally different areas evokes a spark in associate degree individual's mind on "How Green is that the Company". a transparent holistic mechanism is presently not offered for evaluating the performance of corporations on the ecological front. System for evaluating the 'greenness of companies' Green ideas and techniques within the trade will facilitate to handle national problems like energy potency, conservation of natural resources, handling of shopper waste, water potency and reduction in fuel use in traveling. the foremost vital, these ideas will enhance dweller health, happiness and prosperity. this idea would encourage designers to Design environmental friendly factory or facility. [11] [46] [48]

Expected Benefits:

- Reduction in power demand by factory buildings
- Reduction in GHG emissions
- Reduction in water consumption
- Increase of green cover in factory premises helps to reduce heat island effect
- Recharge of land with rainwater harvesting
- Improved indoor air quality may lead to improve productivity by 1%.

Green factory building will have tremendous advantages, each tangible and intangible. the foremost tangible advantages are the reduction in water and energy consumption right from day of occupancy. The energy savings could range from 30 – 40 % and water savings around 20 – 30%. Intangible benefits of green factory include enhanced indoor air quality, good daylighting, health, wellbeing and safety of the workmen.

1.1 WATER EFFICIENCY:

India is that the second largest populous nation inside the planet with a billion people. Seventieth of India's irrigation wishes and eighty eighth of its domestic desires are met by groundwater, in step with UN agency estimates, by the year 2020 Republic of India is foretold to experience severe water stress with the per capita accessibility of water projected to fall below one thousand boxlike meters each year as compared to 2000 three-dimensional meters.

Water used for agricultural and domestic. Groundwater irrigation is answerable for around hour of total irrigation that is around common fraction of total agricultural production. the planet Bank calculable that eighty-five capitalize on India's water provide relies on groundwater. [3] [47]

Water demand is foretold to rise with the increasing urbanisation and manufacture. Effective water management ways that should address the crisis. The Green works building design encourages use of water terribly very self - property manner through scale back, recycle and employ methods

1.2 WASTE MANAGEMENT:

Due to increasing industrialization and urbanisation, the number of waste generated is increasing. Waste manly classified as hazardous waste (Solid & Gases), Non- hazardous waste and Liquid waste. many studies indicated concerning fifty-five million a lot of municipal waste and twenty million tons of hazardous waste is generated annually. within the gift waste management situation virtually ninetieth of the waste generated needs around 1500 hectares of land per annum for disposal. [1][2]

The waste is either drop or burnt, manufacturing hazardous gases and leeching of poisons into the soil. it's expected from Green factory to develop ways and encourage segregate waste at supply, diverting the material to the local recycling facilities and reuse the material. Thereby reducing waste drop within the landfills are some.

To optimise west generation and to reduce environmental impact, we can adopt following principals of working: [36] [38]

- Reduce: Design our factory and procure equipment at initial stage which can produce lower amount of waste or wastage.
- Reuse: Use maximum reused material during construction of factory as well as set manufacturing process in such a way that you can use the same material again and again.
- Recycle: Use maximum recycled material during construction of factory and emphasis to use recycled material during manufacturing process.
- Recovery: Effective use of waste material to recover energy from the same.
- Landfill: Ensure safe disposal of waste generated during construction of factory.

1.3 ENERGY EFFICIENCY:

India's energy policy is focused on securing adequate energy resources to meet the growing demands of its economy. Primary energy consumption more than doubled. India's dependence on imported energy resources and its inconsistent energy sector reform may make it difficult to satisfy rising demand. Despite its growing energy use, India's per capita energy consumption remains much lower than that of developed countries, such as the United States.

Considering this factory buildings consume important quantity of energy of that there's a possible to save lots of thirty to fortieth. Considering the tremendous information and awareness amongst factory will design the power with latest technologies and optimise energy demand at design stage further as effective use of natural lightweight throughout the day time facilitate to improve potency.

The Green factory building design encourages use of water in a very self - property manner through reduce, recycle and reuse strategies [3]

1.4 REDUCE FUEL USAGE:

Due to rise in commonplace of living & economic process world changing into energy & technology intensive. Fuel consumption is increasing worldwide to stay because of dynamical needs. The dependence on fuels the chance of global climate change. Major contribution to part pollution and global climate change because of carbon emissions created from fuel combustion. The rising fuel demand has induced a worry of running out of fuel reserves within the future, to cut back the dependency on fuels and also the resultant pollution. India has immense potential to get solar energy.

Green factory can encourage the employment of alternate fuels for transportation, public transportation, bio fuels for captive power generation, Green power and onsite renewable energy generation. [3]

1.5 REDUCED DEPENDENCY ON NON-RENEWABLE MATERIALS:

Rising industrial desires demand bigger use of materials for various activities. Use of non-renewable would cause a risk of depleting the offered natural resources. Green factory can encourage comes to use recycled & reused material and discourages the employment of virgin wood thereby addressing environmental impacts related to extraction and process of virgin materials. [26][28][46][48]

Green works Building methodology has been developed supported materials and technologies that are presently accessible. This method would facilitate the event of energy economical, water economical, healthy, a lot of productive, environmentally friendly factories [11] [6] [39]

1.6 GREEN SUPPLY CHAIN MANAGEMENT:

The rise in greenhouse emissions and pollution of the environments by companies has precipitated the requirement for organizations to line up their integrated Supply chain operations with a read of protective the scarce resources, works consists producing setups, process, energy, water and SCM as their key resource inputs in making certain that they provide higher product, process & services; to customers. [9] [12] [10]

It looks at how industries are implementing green procurement, green design, green operations, green manufacturing and waste management as green integrated supply chain best practices. The raised attention given to the subject of Green Integrated Supply chain management (GISCM) or Green Supply Chain Management (GSCM)) warrants the writing.

The construct of GSCM is to integrate environmental thinking into Supply chain management (SCM). As such, GSCM is vital in influencing the full atmosphere impact of any organizations concerned in Supply chain activities. additionally significantly, GSCM will contribute to property performance improvement.

the objectives of the SCM perform embody price reduction, improvement and innovation of end-to-end processes between companies and their customers and suppliers, improved communication and interaction among Supply chain partners, and improved performance and productivity in an exceedingly manner that advantages all contributors within the Supply chain. With relevancy the rising international awareness of environmental protection, businesses have utilized their GSCM to enhance their core competitive advantage. GSCM could be an increasingly widely-diffused observe among firms that are seeking to enhance their environmental performance. GSCM practices, that are viewed as cross-organizational and closed-loop system reduces the ecological impact of business activity while not sacrificing Productivity, Efficiency, Quality, Cost, dependability, Performance or energy utilization potency. [11]

Supply Chain Management (SCM) is associate degree integral a part of our standard of living. these days it influences over ever an outsized variety of human and economic activities. SCM has been thought of as a competitive strategy for integration suppliers, producing and customers with the target of rising responsiveness and adaptability of manufacturing /service organizations. The best style of associate degree integrated Supply chain is thus a pressing and important issue for SCM researchers and practitioners. because it is important to treat the provision chain as associate degree integrated system with physical flow of materials, producing designing and management, producing of products also as physical distribution, the event of models and approaches towards the optimisation of Supply chain priorities has become a difficult task for SCM. now a day, companies have consistently tried to enhance their business efficiency and effectiveness by reassessing their internal business operations such as purchasing, manufacturing, logistic, warehousing, materials management and distribution. [40] [19]

II. RESEARCH METHODOLOGY:

The present study is to work out the new model and see the profitability in green factory and relevant supply chain management system. Considering the character and objective of gift study still as resources of investigator normative survey methodology of research has been used, among the gift investigation all the steps and characteristic are followed that are essential for normative survey methodology of investigation.

The investigators studied the previous models in green factory and relevant supply chain management system and might develop the new model in terms of satisfactoriness, price reduction, quality improvement and gain. The investigator to boot aimed toward sorting out but these variables relate to accomplishment the objectives of the organization. The investigator can develop a type and might go survey methodology for locating the objectives. The sample will collect regarding from variety of company industries. The sample house goes to be region. The collected information goes to be analysed by utterly completely different math tools of Six Sigma like chi-square methodology ...etc.

Expected Outcomes of the Study of Operations & process; method members ought to collaborate, sharing information for rising internal and external customer's satisfaction, price reduction, product quality and profitability of producing industries. the aim of this analysis is to gift what's the impact of the new green producing Setups, green methodology, green acquisition, green design, green operations and waste management. among that a framework is combined with a prognostication module will gift, so, this could be addressing sorting out the link between price reduction and Quality of improvement. The projected framework is going to be determinate the potency of the tactic and therefore the impact of forecast accuracy on overall management performance of the green management.

III. CONCLUSION:

Indian industries should tight the Green building initiative with the development of Environmental performance throughout construction of latest works or building, reducing greenhouse gases to eliminate the carbon footprints. By the Implementation and rising Energy efficiency, conservation, Renewable Energy, greenhouse gas, Waste Management, Material Conservation, and Recyclability, this might be cultural transformation in Indian trade to start thinking strategy towards Green manufacturing works.

- Awareness towards environmental sustainability to all or any stake holders.
- Improve temperament of the corporate for viperous initiatives like resource conservation and efficiency improvement.
- Organizations to check themselves against their peers or competitors

- Industries will use the simplest practises and suggestions of the Green manufacturing performance system to develop a long arrange statutory and improve aggressiveness in addition as ecologically sustainability module throughout construction of latest works.
- Government will visit strict environmental compliance tips for firms. firms that settle for the Green manufacturing method and systems, accommodates these necessities.
- Consumer awareness related to the environment growing at a fast pace, green rated companies will get considerable consumer support.
- Various business proprietor's / managers willing to adopt environmentally practices but are not aware of what needs to be done. The green manufacturing system can guide them.

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