

Artha Commodities

ENERGY MANAGEMENT PLAN

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Introduction and Background

Successful energy management depends on the integration of energy efficient practices into the business conduct of the company, regular assessment of energy performance and requires the implementation of procedures and measures to reduce energy waste and increase efficiency. The common element of successful energy management is the allocation of resources to continually improve energy performance.

Commitment:

Artha commodities will use existing resources and leverage with relevant agencies where appropriate to develop and implement an energy management plan aimed at improving energy efficiency, reducing energy consumption and limit production of greenhouse gases

The plan outlines specific strategies and actions to achieve these goals.

Energy Consumption Assessment:

A comprehensive assessment of energy consumption within the factory will be conducted. This includes identifying and quantifying energy usage from various sources such as public energy supply, generator. Energy consumption patterns will be analyzed to identify areas of high energy consumption or inefficiency.

Energy Performance Tracking and Reporting:

A system for monitoring and tracking energy performance will be established. Key performance indicators (KPIs) will be developed to measure energy consumption, operating costs, and greenhouse gas emissions. Regular reporting of energy performance changes and improvements will be conducted annually to track progress towards goals.

Employee Engagement and Training:

To promote energy efficiency, staff awareness will be increased, and employees will be motivated to use energy more efficiently. Training programs will be developed to educate employees about energy conservation, best practices, and the importance of reducing energy consumption. Employee participation in energy-saving initiatives will be encouraged, and recognition programs will be established to acknowledge energy-saving achievements.

Climate Change and GHG Emissions Awareness:

Employees will be educated and trained on the environmental impact of energy consumption and the importance of mitigating greenhouse gas (GHG) emissions. Awareness of climate change and GHG emissions will be improved to foster a culture of sustainability. Communication channels will be established to engage employees in sustainable practices.

Sound Operating and Maintenance Practices:

Standard operating procedures (SOPs) will be developed and implemented to promote energy-saving practices in equipment operation, maintenance, and shutdown procedures. Regular inspections and

maintenance will be conducted to ensure optimal performance and minimize energy losses. Equipment upgrades and replacements will be considered to improve energy efficiency.

Monitoring and Tracking System:

An energy monitoring and tracking system will be implemented to collect and analyze real-time energy data. Energy meters, sensors, and data logging devices will be installed to measure and monitor energy consumption across the factory. The collected data will be used to identify energy-saving opportunities, track energy trends, and identify areas for improvement.

Building Re-commissioning:

Building re-commissioning will be conducted to identify and rectify energy inefficiencies. Building systems, controls, and equipment will be assessed to ensure they operate at peak efficiency. Necessary adjustments, upgrades, or repairs will be made to optimize energy performance and reduce energy waste.

Energy Demand Management Program:

An energy demand management program will be developed to reduce peak energy demand and associated costs. Strategies such as load shifting, load shedding, and demand response initiatives will be implemented to manage energy consumption during peak periods. Operations will be scheduled during off-peak hours, and energy-saving measures will be implemented to optimize energy usage.

Energy Intensity Reduction:

The energy intensity of the factory, measured as energy per square foot/meter, will be reviewed. Opportunities for reduction will be identified, and energy-efficient measures will be implemented. This may include insulation improvements, lighting upgrades, HVAC system optimization, and equipment efficiency enhancements. Targets will be set to reduce energy intensity over time, and progress will be tracked.

GHG Emissions Reduction:

Strategies will be developed to minimize GHG emissions generated from the factory's operations. Areas where emissions can be reduced, such as energy consumption, waste management, and transportation, will be identified. Energy-efficient technologies will be implemented, renewable energy options will be explored, and operational practices will be improved to reduce GHG emissions.

Continuous Improvement and Innovation:

The energy management plan will be subject to regular review and updates to incorporate emerging technologies, industry best practices, and regulatory requirements. The factory will stay updated on advancements in energy efficiency and sustainability. Innovation will be encouraged to explore new energy-saving initiatives and technologies.

Additionally, the energy management plan will include the following elements to further support the goals and objectives of the factory:

Energy Audits:

Regular energy audits will be conducted to identify areas of potential energy savings and efficiency improvements. These audits will involve thorough examinations of energy-consuming systems and processes, such as heating, ventilation, and air conditioning (HVAC) systems, lighting, production equipment etc. The findings of the audits will inform the development of targeted energy-saving strategies.

Renewable Energy Integration:

The company will explore opportunities to integrate renewable energy sources into its operations. This may include the installation of solar panels, wind turbines, or the utilization of biomass energy. By harnessing renewable energy, the factory can reduce its reliance on fossil fuels, decrease greenhouse gas emissions, and potentially achieve energy cost savings in the long term.

Waste Heat Recovery:

The plan will incorporate waste heat recovery initiatives to capture and utilize heat generated during production processes. By implementing heat recovery systems, the factory can convert waste heat into useful energy, such as for preheating water or generating steam. This approach not only improves energy efficiency but also reduces the overall energy consumption and associated costs.

Equipment Upgrades and Retrofits:

Obsolete or energy-inefficient equipment will be identified and targeted for upgrades or retrofits. This may involve replacing outdated machinery with newer, more energy-efficient models or retrofitting existing equipment with energy-saving technologies. By investing in energy-efficient equipment, the factory can achieve significant energy savings and improve overall operational efficiency.

Energy Performance Benchmarking:

The factory will benchmark its energy performance against industry standards and best practices. This will provide a comparative analysis of energy consumption and efficiency, allowing the factory to identify areas where it lags behind or excels. Benchmarking data will guide decision-making processes and help set realistic energy performance improvement targets.

Partnerships and Incentives:

The energy management plan will explore partnerships with energy service companies, industry associations, and governmental organizations to access available incentives, grants, or funding programs. These partnerships can provide financial support for energy efficiency projects, technical expertise, and access to resources that facilitate the implementation of energy-saving initiatives.

Regular Evaluation and Review:

The energy management plan will undergo regular evaluations and reviews to assess its effectiveness and identify areas for improvement. Key performance indicators will be tracked, and periodic assessments will be conducted to measure the progress towards energy efficiency goals. Feedback from employees, stakeholders, and external experts will be sought to ensure continuous refinement and optimization of the plan.

Conclusion:

By implementing this energy management plan, the company will improve energy efficiency, reducing operating costs, reduction of greenhouse gas emissions, enhancing equipment reliability, and ensuring the comfort and safety of staff. Continuous monitoring, employee engagement, and a commitment to continuous improvement will be vital to the success of the energy management program.