

Chapter 8

Waste Management in Thermal Power Plants

Suchismita Satapathy
KIIT University, India

ABSTRACT

Environmental pollution and clean energy is the main challenge faced by all over world. The thermal power sector is famous as the highest creator of energy, but still it is blamed for creating Environmental pollution. So, they are trying their best to help themselves on sustainability issues. Basically, Indian powerplants are not only focusing on Sustainable Issues but also trying to develop a sustainable supply chain strategy to carry out their operations while respecting social as well as environmental issues. Sustainable supply chain management(SSCM) practices of thermal power plants mostly dependent on the practice of utilizing waste, water, energy, ash, and taking care of environment in such a manner that social, environmental, and economic factors should not be affected. So, in this chapter sustainable supply chain management practices of Indian thermal power sectors are focused, analyzed, and ranked by Maut method. Simultaneously, their interrelation and correlation are found.

INTRODUCTION

Power Sector is acting as a ladder in the economic growth and Human progress of any country. It not only improves the value of the human being but also improves the life style of human beings and the biotic of this sphere. The consumption of Electricity acts as measure indices of the progress level of a nation. India's power sector is one of the most distinguished and diversified sector in the world. India is constructing new coal power plants and expanding existing ones, creating excess

DOI: 10.4018/978-1-5225-5137-9.ch008

capacity in this sector, according to a recent study by Greenpeace India. The activist group said: “Over Rs 3,00,000 crore (close to \$50 billion) is being wasted on building an additional 62 gigawatt of coal power plants, which will remain idle due to huge overcapacity in the power sector”

Not only in Indian all over the world, electricity is the prime source of all types of industries. Indian power sector is totally depends upon coal (thermal power plants) based Industries for generating 70% of the total electricity. As per the prediction, this trend will also continue or may increases in percentage for at least the next 30-40 years. As developing countries are more and more depending on thermal power plants for electricity generation, the environmental and social hazards effects are knocking the door of earth very loudly. So whole world is paying attention to help Thermal power industries in this difficulty. Sustainable Development (SD) practices are build up as the essential practice for thermal power industries to help them relieve from environmental effect and to increase the economy of the country and help improving societal condition. Sustainable development aims at carrying out industrial operations in such a productive manner that help to improve their economic, social and environmental performance. By realization the importance of need of Sustainability in supply chain lead to development of a new concept i.e. sustainable supply chain management (SSCM). It is defined as “the strategic, transparent integration and achievement of an organization’s social, environmental and economic goals in the systematic coordination of key inter-organizational business process for improving the long-term economic performance of the individual and it’s supply chain (Carter and Rogers, 2008). Like automobile and manufacturing sectors, many of the thermal power industries operating in India are already practicing SSCM and some of them are also in an urge to implement it. So, this research provides an insight to the measures and benefits of implementing SSCM in Indian thermal power industries and also tries to find the factors or constructs and their items which are not able to fulfill the motivation of SSCM. Then designs a framework and suggests some important design requirements for SSCM of Thermal power sectors of India. By practicing these design requirements the complete SSCM can be properly implemented and no gaps found.

LITERATURE REVIEW

The power sector is the biggest customer of coal, it depends on coal for power generation. As Coal is the maximum polluting material, so its transportation and storing is an important point. All over the world pollution is a headache and environmental condition is the focused issue for discussion. So a lot of efforts are taken by Govt and research units. Media always debates and asks for suggestions

11 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/waste-management-in-thermal-power-plants/218745

Related Content

iTrade: A Mobile Data-Driven Stock Trading System with Concept Drift Adaptation

Yong Hu, Xiangzhou Zhang, Bin Feng, Kang Xie and Mei Liu (2015). *International Journal of Data Warehousing and Mining* (pp. 66-83).

www.irma-international.org/article/itrade/122516

Selecting Salient Features and Samples Simultaneously to Enhance Cross-Selling Model Performance

Dehong Qiu, Ye Wang and Qifeng Zhang (2010). *Strategic Advancements in Utilizing Data Mining and Warehousing Technologies: New Concepts and Developments* (pp. 329-337).

www.irma-international.org/chapter/selecting-salient-features-samples-simultaneously/40415

Investigating the Properties of a Social Bookmarking and Tagging Network

Ralitsa Angelova, Marek Lipczak, Evangelos Milios and Pawel Pralat (2010). *International Journal of Data Warehousing and Mining* (pp. 1-19).

www.irma-international.org/article/investigating-properties-social-bookmarking-tagging/38951

Enhancing Data Quality at ETL Stage of Data Warehousing

Neha Gupta and Sakshi Jolly (2021). *International Journal of Data Warehousing and Mining* (pp. 74-91).

www.irma-international.org/article/enhancing-data-quality-at-etl-stage-of-data-warehousing/272019

Towards a Sentiment Analysis Model Based on Semantic Relation Analysis

Thien Khai Tran and Tuoi Thi Phan (2022). *Research Anthology on Implementing Sentiment Analysis Across Multiple Disciplines* (pp. 290-313).

www.irma-international.org/chapter/towards-a-sentiment-analysis-model-based-on-semantic-relation-analysis/308493