

# The Benefit of Green Logistics to Organization

Wijitra Srisorn

**Abstract**—This research studied about green logistics and the expected benefit that organization gotten when adapted to green logistics also the organization concerned about the important activity in green logistics to apply in implementation from study was found that the benefit of green logistics that organization was gotten by logistics management which was the increased efficiency process of management the product from producer to customer all of reduce production cost, increased value added save energy and prevented environment together

From study was found that the organization had green logistics to apply in logistics activities in supply chain since downstream till upstream to prevent environment as follow 1). Purchasing process, trade facilitation enhance such as linking of information technology during business to business (B2B business). 2). Productions process improved by business logistics improvement 3). Warehouse management process such as recycled packaging, moving goods in to warehouse, transportation goods and inside receiving and delivery products plan.

**Keywords**—Green Logistics, Trade Facilitation, Business Logistics Improvement, Double handling.

## I. INTRODUCTION

### A. Rationale of the Study

GLOBAL warming problem was the important affects the most population lifestyle particular uncertain season, hot and extremely cold, those problem were happened from carbon dioxide emission to atmosphere. The key of carbon dioxide emission to atmosphere was lack of transportation plan. Utilization both of vehicle route and transportation mode in developed country and had be good competency of logistics management such as England that not only had be good logistics management plan to reduce cost and good increased core competency competitive but also able to reduce environment pollution by green logistics as a result to save government budget to prevent the affecting environment and increased life quality of population this become the root to development country [1].

Green logistics had important role to trade off process, transportation and delivery. It was the world trend to concern about carbon dioxide emission from metabolic in transportation sector included the packaging damage environment and loss. Trend of green logistics was important to logistics management but in term of environment was affect global warming included environment because of there was many activities of logistics as a result it related to move, collect and distribute. There were transportation sector which

used fossil fuels while production sector started to use electric energy or other energy another part to development to solar cell and wind energy on the other hand transportation sector still depend gasoline also emission in to gas carbon dioxide. [2].

Furthermore activities of moving and warehouse management in logistics sector also related to packaging patterns which was the paper box around 86-88% the paper from pulpwood was the important raw material from natural resource. Green logistics was enhanced the raw material which could be recycled to contain and tried to use green packaging therefore pallet wood or cradle product was important to conveying product not only in warehouse but also transportation. Most of those were produced by wood even though those wood were been from agricultural, those still damaged environment. The new concept of pallet made from plastic or paper become popular because it could be reused and recycled.

Currently, in developed country such as United State, Europe and Japan began have a trade barrier about green logistics to choose supplier who had green logistics system. This trend saw from the rule of importing product of electronic such as electricity appliance, computer would start from specify importer had to destruction process or return salvage to exporter country, this logistics process called "Reverse Logistics" this would had more wide meaning moreover, many countries stated to avoid using wood to close container or using pallet made from wood because they were not environment friendly not only they damaged natural resource and they might have contaminated insect in to wood affected that country such as Australia and some country in Europe do not use those material however, both government and private sector in Thailand still not saw the important to green logistics management system enough saw from Thai transportation almost 88% was road transport used higher oil than tram transport of 3.5 times also higher water transport of 7 times. Proportion of transportation by train was 2% only. It was low affected the logistics cost higher than other competitor country that transportation sector used high quantity fuel than production sector in addition Thailand was disadvantage of foreign currency to import fuel affected to environment pollution.

Furthermore green logistics of government sector has to rush to lunch regulation and improve infrastructure in order to increase efficiency of tramp transport and a part of private sector had to be conscious in preventing environment like good governance that used energy minimum affected environment for instance to change fuel to NGV. It had to be invested in changing some engine as a result it made budget

Dr. Wijitra Srisorn is with College of Innovation and Management, Suan Sunandha Rajabhat University (phone: +6689-1269-433, e-mail: vi3619@hotmail.com).

increased but in long time it was to reduce cost and affected environment. Trend of green logistics was entrepreneur of logistics and exporter sector been important. In nearby future many countries have restriction of NTB (Non-Tariff Barrier). If it was not adjusted, it would affect their business in the future unable to avoid.

## II. RESEARCH OBJECTIVES

### A. Research Objectives

1. To study the benefit of green logistics to organization
2. To study about applying green logistics to organization activity operation

### B. Study Method

Document Research was used from secondary data majority

### C. Expected Benefit

Expected benefit from this study was to create knowledge and understanding in principle and benefit of logistics to organization and able applied to activities in organization.

### D. Literature Review

#### Green logistics

Green logistics that it was from 2 words one is "logistics" it was the key of new transportation system had to use modern technology to manage another "Greenness" is the word to say about environment and positive thinking word when were integrated two words become eco-friendly environment and efficiency of transportation and distribution system

Logistics industry concerned about environment to find new opportunities. The previous logistics was forward distribution that was transportation, warehouse management, packaging and inventory management from producer to customer. Consideration of environment was to open new market for recycling and disposal through new part such as reserve logistics, it was related to waste transport and movement used material. Reference [3] found that there was contrast of environment said transportation system total 5 titles were 1) cost; logistics objectives were reduced cost, less time and increased reliability in management included flexibility, environment cost which was the external cost which was organization no need to pay as a result it become to pull pressure to government and organization interested in environment activities more 2) Time and speed had to use transport affected more pollution and efficiency of used less energy, increased air and road transport to be result from logistics condition 3) Reliability was the key of logistics in term of management competency to delivery on time and less waste, logistics provider had to choose to transport pattern to achieve objective above 4) warehouse was modern logistics system

Warehousing; modern logistics system must increase inventory turnover by delivery product to customer fast that meant inventory was kept in to transportation system instead for on the road because it caused the congestion and air pollution 5. E-commerce; distribution was used by express

company which was air and road transportation majority

Green Logistics was related on below activities as follow;

1. Eco-Drive created awareness to truck driver to reduce fuel and maintenance engine completely and no exhaust emission to environment.
2. Backhaul & Full Track Load was related to fuel management and got highest utility by reduced backhaul cost and full space trip but not overload of weight limited specified by law because the truck was been overload than the road compatible it meant it made environment damage too
3. Eco-Packaging was selecting packaging and equipment related transporting goods to reuse and recycle in new process
4. Modal shift was adaptation transportation system to energy save mode related to government that must concern for transportation system development of tramp, river, and coastal.

Ruthir Banomyong [4] said indicator of environment was the one of indicator to measure the successful in sustainable supply chain management and to study which factors was made organization changed to green logistics classified by two parts as follow;

1. Internal driven classified by two types

1.1 Internal driven such as factor related to organization, in the part of policy particular to reduce cost and environment supplier control [5] force driven from exclusive level that asked organization had to participate for sustainable management in order to support friendly environment operation those supports were supported by top and middle management level to start new system that officers must have participation and create culture

External factor highest affected adaptation of toward green logistics such as customer factor and market then law factor, directive in both production and buyer country, competitive factor, and social factor respectively in term of supplying raw material management factor and total cost factor not affected adaptation. Internal of organization factor affected the successful of adaptation both of policy and organization resource that impacted to more successful organization [6].

Learning of organization through Resource-base theory was integration between resource and competency included experience under standards made organization to operate and adapt easily.

- 1.2 External driven were

- Directive and law specified by government were important role
- Customer both organization and end user were interested in friendly environment goods
- Competitor to create competitive advantage was clear force driven for organization to operate related to environment particular private sector [5]
- Social was composed government awareness and customer included non-government organization influence even thought it was important not much but the

requirement from government too much, it might affect negative thinking of organization which not aware for environment truly

- Raw material supplier this part was during participation but it was barrier when had conflict of confidential trade
- Cost was the force driven and barrier. If the operation of environment affected reduction cost such as fuel cost, it was the force driven but production sector had high raw material cost too.

2. Barrier on above law included directive from government, cost and participated with supplier not good enough that was barrier of adaptation too. Some industry might not aware for environment not much because of unique product like drug industry

### III. STUDY RESULT

#### A. Benefit of Green Logistics for Organization

Logistics management was process of increased transporting goods management efficiency from producer to customer and increased competency to both business and industry not only to reduce production cost, created value added, energy save but also kept environment too. The world state in currently concerned about environment problem such as air pollution from transportation used energy in production process and used material packaging. For industries most of them were emphasized only reduction of logistics cost for increasing competitive competency had not aware for environment however, in fact to reduce logistics cost went to be reduced environment affective so there said "Green Logistics" to create organization image more. Environment problem particular in Climate Change issue from affected global warming and greenhouse effect [7].

Beside, the cause of air pollution from carbon dioxide (CO<sub>2</sub>) was happened from fuel of truck transportation and other transportations such as distribution center could be reduced transportation amount of turn as a result cost of organization was reduced and more important was pollution reduce. Repackaging and re-used packaging in distribution center was another activity to increase efficiency to deliver product on vehicle. Effecting from transportation had no good system enough become high cost, time loss and pollution from carbon dioxide shown in Fig. 1.

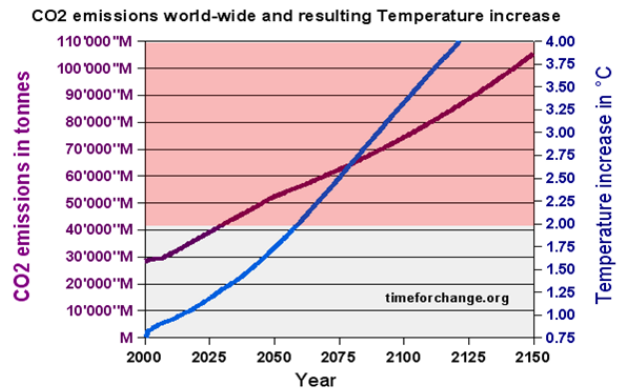


Fig. 1 Effecting carbon dioxide (CO<sub>2</sub>) emission [8]

From Fig. 1 shown that affecting environment from carbon dioxide (CO<sub>2</sub>) trend had increased effected an environment. First was greenhouse effect this result had become global warming so logistics must be green logistics both the part of air pollution from transport, energy save and packaging raw material which were able recycled. Logistics management must concern related law of environment both nation and nations level in addition weight restriction could contain in container difference in each country further logistics management must concern for social accident and safety first of related person in logistics chain and the most important was morality and good corporate. International trade particular waste countries had concern reverse logistics or logistics return to shipper had be responsible for sending waste turned back to exporter country [8].

#### B. Green Logistics Applied to Organization Activity

Green logistics had been role in industries more applied to all logistics chain activities since downstream till upstream for keeping environment [7].

1. Purchasing process; improving trade facilitation such as linking information technology during business to business (B2B business), selling system through e-commerce reduced documentation and going to receive documents too also reduce document quantity, they could keep environment more since cutting tress or producing paper process or recycle still used more energy. Logistics service international such as referring to global sourcing more was concerned producer to produce customer demand and must take technology helped such as RFID technology in order to accuracy data to deliver product to customer on time, fast and safe [8].

2. Production process; business logistics improvement efficiency such as reduce energy. The sample in ceramic industry were reduced temperature furnace still be quality. The benefit of taking the temperature furnace was not environment emission, reduced waste from production, reused ground water as most as possible and waste treatment able to recycle etc. [7].

3. Warehouse management process such as recycled packaging, moving goods in to warehouse, tramp transporting goods, and should be had inside transmission plan not only to reduce folk lift but also to reduce double handling as a result to reduce energy and fuel energy. Distribution center development such as to change from previous time had five warehouses to one warehouse for distribution center to distribute for five warehouses it was not only reduced warehouse cost but also reduced transportation cost further reduced affected environment beside it might be used warehouse management to help for operation.

#### IV. CONCLUSION

Additional consideration of transportation mode also consideration of transportation that calculate the efficiency of carbon dioxide emission would be considered efficiency of Load Capacity Utilization of all trucks, train or boat to quantity of using fuel and to weigh amount be able transporting goods.

Utilization of transportation route meant transportation plan and goods distribution such as set up HUB plan or DC was the plan of multimodal transport. If it was considered as logistics green transportation, it was considered transportation method that it was been minimum carbon dioxide emission on above such as to select tramp transportation for remote distant and to select truck for near distance. Door to door transportation must be integrated transport plan since port at imported point till customized destination 5n [1].

#### REFERENCES

- [1] McKinnon, A., 2007, CO2 Emission from Freight Transport: An Analysis of UK Data, LRN Conference 2007.
- [2] Asian Productivity Organization. (2011). Retrieved from [www.apo-tokyo.org](http://www.apo-tokyo.org).
- [3] Byrne and Deeb 1993 referred to Suwannee Adsavakulchai (2008) from web site <http://www.freightmaxad.com/magazine> found on 9th October 2012.
- [4] Ruthir Banomyong, supply chain cluster development, 6th meeting of logistics management and supply chain.
- [5] Helen Walker, Neil Jones, (2012), "Sustainable supply chain management across the UK private sector", Supply Chain ... environmental logistics and green supply chain management. A framework ... (Zhu et al., 2008; Zsidisin and Sifert, 2001).
- [6] Sirintip Prapakornvemol (2009) Adaptation of Thai Industry Towards Green Logistics, science thesis, master, Chulalongkorn University
- [7] F. Poist Paul R. Murphy, Richard, (2003) "Green perspectives and practices: a "comparative logistics" study", Supply Chain Management: An International Journal, Vol. 8 Iss: 2, pp.122 – 131.
- [8] Suwannee Adsavakulchai (2008) Green logistics, Department of Primary Industries and Mines.