Polyflor China LVT Manufacturing Facility Five-Year Plan Energy Saving Objectives

May 2019

Energy saving plan group

Five-Year Plan Energy Saving Plan Group:

No.	Department	Title	Duties
1	Administration	Vice President	Supervise project.
2	Management Department	Manager of Management Department	Factory technical equipment, resource management and conducting energy saving project.
3	Production Line	Manage of Production Department	Basic data collection and organisation.
4	General Affairs Department	Section Manager	Basic data collection and organisation.
5	Management Department	Commissioner	Resource statistics reporting and organisation.
6	Financial Department	Commissioner	Financial data collection and organisation.

Abstract

In order to fulfil the energy saving requirements based on national and local regulations, this LVT manufacturer has to understand all of the current energy management level and usage. Once identified it can find out the problems and weaknesses of its current energy consumption and try to identify the potential improvements to reduce its energy usage and production costs to increase economic efficiency. An independent environmental consultant team collected energy usage data for this "China's 13th Five-Year Plan Energy Saving Plan" from January to March, 2016. Data was collection from site investigation, major energy-consuming equipment tests, and other similar surveys. Based on the result of the data collection the following objectives were identified.

Energy Saving Plan for China's 13th Five-Year Plan

Table 1, Timetable of Energy Saving Plan for China's 13th Five-Year Plan

Year	Improvement Detail	Energy Saving (tce)	Energy Consumption per unit product (tce/ton)	Emission reduction (Carbon Dioxide) CO2 (kg)	Emission Reduction (Carbon) C unit (kg)	Reduction (Compare to 2015) (%)
2015	--	--	0.2468	615.271	167.824	--
2016	Energy Saving Potential in Electricity Distribution System	71.09	0.2429	605.549	165.172	1.58%
	Energy Saving Potential in Air Conditioning System	13.88				
	Further boosting Energy Saving Management 1	28.66				
2017	Energy Saving Potential in Compressed Air System	14.85	0.2401	598.569	163.268	2.71%
	Energy Saving Potential in Hot Press Cooling Pump	35.84				
	Further Boosting Energy Saving Management 2	28.66				
2018	Energy Saving Potential in Vapour System	113.69	0.2352	586.353	159.936	4.70%
	Further Boosting Energy Saving Management 3	28.66				
2019	Energy Saving Potential in Manufacturing Equipment	284.21	0.2244	559.429	152.592	9.08%
	Further Boosting Energy Saving Management 4	28.66				
2020	Improve Calender Machine and Banbury Mixer	74.33	0.2208	550.454	150.144	10.54
	Further Boosting Energy Saving Management 5	28.66				

Note:

1) Energy consumption data of 2015 is production consumption only.

2) Base on output and energy consumption in 2015.

3) Energy consumption indicator use calorific value.

According to table 1, at the end of China's 13th Five-Year Plan, 2020, the aim is to reduce energy consumption per unit product of PVC floor to 550.454 CO_2 (kg) (615.271 CO_2 (kg) in 2015).

1. Plan Conclusion and Recommendation

Through this energy saving planning project, the manufacturer understands the current energy consumption and management situation of the manufacturing facility. The problems are weaknesses of its current energy usage are revealed by testing and analysis of the major energy consuming equipment. Therefore, it can have reasonable energy use suggestions, and set energy saving goals with appropriate technical improvements for China's 13th Five-Year Plan.

The Energy Saving Plan for China's 13th Five-Year Plan refers to values of the original data from site test and technical analysis of energy consumption of major energy consuming equipment in 2015. The discussions with factory management and employees make the plan more feasible and able to comply with the requirements of the factory. This plan can provide a reference for government as enterprise energy saving goal in China's 13th Five-Year Plan period.

2. Eliminated Equipment

Based on account and site examination, there is no eliminated equipment of national regulations within the manufacturing facility.

3. Monitoring of Energy Usage

Table 2, Energy Usage 2011-2018

Type		Unit	2011	2012	2013	2014	2015	2016	2017	2018
Purchased Electricity	Quantity	Million kWh	13.15	11.13	12.6	14.84	11.57	11.31	11.9	10.84
Diesel Fuel	Quantity	Ton	101.78	30.12	28.44	41.33	40.07	38.99	38	39
Vapors	Quantity	Ton	84,542.00	61,894.00	75,594.00	82,914.00	60,087.40	60,079.56	64,577.32	61,356.40
Total	Coal Equivalent Calculation	Tce	12,749.01	9,793.16	11,601.24	13,106.28	9,791.22	7,108	7,554	7,070