

Renewable energy

A new avenue for optimizing costs for companies

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Abstract—IJOA Journal

Nowadays, Companies are carrying heavier and heavier loads than before, considering the market requirement, competitors who have become more numerous in almost all sectors of activity, and above all more creative and stronger on several fronts: marketing, marketing, productivity ... To win in the market, strong companies must have a strong management system that helps them optimize their costs and differentiate themselves from others to ensure a comfortable margin

This article reviews the critical optimization problem that can make this difference. This article will also present the different possible scenarios to optimize the significant costs of a company by proposing to opt for renewable energies.

A number of optimization tools will be discussed and analyzed in this article.

Keywords— Renewable energy, optimization, supply chain

I. INTRODUCTION

Nowadays, Companies are carrying heavier and heavier costs than before, there are some who spend more money on marketing to market their products and achieve their objectives in Turnover, others prefer to invest in margin to have a competitive price compared to competitors ...

The methods to achieve the gain objective are known by almost all companies, in terms of product marketing for commercial companies, or to have a competitive cost price for production companies, or a cost of storage or low transportation for Logistics Company...[1]

on the other hand they all undergo very heavy loads which makes them lose all the gain which they had in their activities.

The purpose of this article is to propose solutions to optimize part of the business expenses: energy expenses.

According to the economist, energy consumption increased by +4.5 at the end of 2017, after + 1.9% at the end of 2016. According to the same newspaper, an increase of + 7.9% came from energy addressed to the national productive sector and + 3% concerning low voltage energy addressed mainly to households. In addition, the consumption of electricity went from 12,453 GWH to 37,446 GWH from 1998 to 2018. This increase reflects the dynamism of our country both economically and socially. And therefore; other solutions are needed to allow businesses to be more profitable.

II. SOLAR ENERGY

Our kingdom is one of the sunny countries most of the year, even in winter, something that cannot be found in the most developed countries in Europe. Moreover, the construction of several solar power plants in the various regions of Morocco provides for the realization of additional solar capacity for the years to come.

Furthermore, solar energy has become the choice of a Moroccan population that can be considered important, but we don't see companies that opt for this solution to reduce the electricity bill when their consumption far exceeds that of houses.[2]

According to the economist: "The Noor Midelt I project, awarded to the EDF Renouvelables, Masdar and Green of Africa consortium, should enable Ma-roc to move from 3rd to 2nd place in the world CSP market This plant will have an installed capacity of 800 MW, almost the equivalent of that of a conventional nuclear reactor (1,000 MW). It will have to feed 1.19 million inhabitants and produce a kwh at 0.68 DH. For the period 2019-2023, the equipment

plan provides for the realization of an additional solar capacity of 2,015 MW (120 Noor PV Tafilalt in 2019, 200 MW Noor PV Atlas in 2020, 200 MW in Koudia Baida in 2023, 300 MW to be carried out in 2023 under the law 13-09)"[3]

III. BIOMASS

On the other hand, all the companies that have organic waste can use this waste to produce energy, citing all the food, cardboard and paper companies, mass distribution like hypermarkets and supermarkets

Biomass, this energy source not yet exploited in Morocco, and which can save the costs of the energy company by exploiting its waste

2.1 definition of recycling

Waste recycling is the direct reintroduction of a waste into the production cycle from which it comes, this means that the waste is transformed into a raw material which will be used to produce new consumer goods while avoiding to draw resources from the planet.

These wastes can be used to produce energy, including methanization, this technology based on degradation by microorganisms of organic matter, under controlled conditions and in the absence of oxygen, this degradation causes:

- Digestate : a moist product, rich in partially stabilized organic matter
- Biogaz: gas mixture saturated with water at the outlet of the digester and composed of approximately 50% to 70% methane (CH₄), 20% to

50% carbon dioxide (CO₂) and some trace gases (NH₃, N₂, H₂S)

2.2 advantages of recycling

this anaerobic digestion produces a double valuation of organic matter and energy, this is the specific interest in anaerobic digestion, compared to other sectors, decreases the amount of waste, also allows a reduction in greenhouse gas emissions by replacing the use of fossil fuels or chemical fertilizers and can treat greasy or very wet organic waste. [4]

3.2 Agreed enterprise and biomass plant

The idea is to question the possibility that a business could benefit from energy from its own waste; have an agreement so that each company that gives its waste to a biomass power plant benefits from energy according to the weight of the waste [5]

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