ENERGY RATING **PROJECT**

SECTOR SUPPLEMENT

MANUFACTURING AND CONSUMER GOODS

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49M

DRIVING TRANSPARENCY, ACCOUNTABILITY AND ENERGY EFFICIENCY IN CORPORATE SOUTH AFRICA

CONTENTS

INTRODUCTION

49M ENERGY EFFICIENCY GUIDELINES

These Sector Supplements have been developed to support the implementation of the Energy Efficiency Guidelines by the companies included in the 49M Energy Efficiency Ratings Index. They are specifically intended to assist companies in reducing their electricity consumption as a function of usable space, number of employees or other appropriate metrics, thereby improving their performance in terms of the Index, both in overall terms and in comparison with their peers in various sectors.

SECTOR SELECTION AND GROUPINGS

The sector groupings for which these supplements have been developed have been selected based on a number of factors, including their level of representation within the Energy Efficiency Ratings Index, their relative degree of importance within the South African economy and the potential that they exhibit for substantive improvements in energy efficiency. In order to cover as wide a range of economic sectors as possible, it was decided in each case to group a number of sectors together on the basis of considerations such as; similarities in energy use profile, supply chain structures and most importantly, the material issues faced by these sectors.

MANUFACTURING AND CONSUMER GOODS

This Sector Supplement addresses the manufacturing and consumer goods sectors and aims to identify the principal energy efficiency challenges facing these sectors.

These Sector Supplements will as far as possible retain the structure of the Energy Efficiency Guidelines in terms of the engagement levels and filters identified for each participant in the Index. Each one will however be based upon a unique set of issues identified as being most material for each particular sector in which substantive opportunities exist for energy efficiency improvements.

MATERIAL ISSUES

Within the manufacturing and consumer goods sectors, it would appear that in the context of energy efficiency and the Energy Efficiency Ratings Index, the most material issues are as follows:

STAKEHOLDER ENGAGEMENT

externally, in terms of customers and supply chains and internally to employees;

EXTERNAL STANDARDS

adherence to external governance standards such as King III or the UN Global Compact;

TRANSPORTATION AND LOGISTICS

management of the transportation and storage of inputs or manufactured products from suppliers to the company and to customers or end consumers;

PRODUCT LIFECYCLE ANALYSIS

the tracking of all inputs used in the manufacturing of products, as well as of the use of products during their lifespan and their disposal or recycling at the end of this lifespan.

Each of these sector-specific material issues can in some way be directly linked to one or more of the general material issues identified in the Energy Efficiency Guidelines, namely:

- Rising operational costs from municipal electricity consumption
- Dependence on external infrastructure and decision-makers
- Reputational impacts from perceived inefficient energy use

According to these associations, companies in these sectors can then make use of the guidelines to develop specific interventions at various levels within their organisations which can reduce their electricity consumption and provide a positive impact to their energy efficiency rating. Examples of such interventions are discussed below.

MATERIAL ISSUE: STAKEHOLDER ENGAGEMENT

The issue of stakeholder engagement is a critical one for the manufacturing sector in South Africa relying, as it does, on relatively high level of labour input into manufacturing processes and a highly structured electricity supply environment.

The first of the energy efficiency issues common to all economic sectors in South Africa - namely **rising electricity costs -** this obviously has a direct impact on the cost structures of manufacturing companies. As a result, this holds implications for issues such as consumer and producer price inflation based on increases in the prices of manufactured products. Rising electricity costs might also inhibit the ability of companies to increase employee wages, thereby increasing the risks of industrial action and disruptions in production. As a result, engagement with both employees and customers around these issues is of critical importance to manufacturing companies. Furthermore, it is equally important that these companies drive energy efficient behaviour across all levels of their operations: from strategy through management to employee behaviour.

Even partially avoiding the impact of rising electricity costs, including through the implementation of energy efficiency measures, can provide companies with significant flexibility in engaging with key stakeholder groups such as customers, employees or organised labour.

With regard to **dependence on external actors,** engagement with landlords, property managers and property developers is vital to any successful efforts on the part of companies to reduce their electricity consumption, particularly as it relates to their buildings and operations. In addition, in the area of supply chains, engagement with suppliers can provide significant improvements in the energy efficiency of the plant, machinery and products that are procured by a company, and in the embedded energy consumption of the products that it manufactures.

Effective engagement with a variety of external actors can assist manufacturing companies in reducing the embedded energy component of the products that they manufacture.

In the area of **reputational impacts,** the engagement on the part of companies with employees and customers (including the end users of their products) is a key element of mitigating the impacts associated with issues such as price increases, supply disruptions or the inability to meet employees wage demands. Furthermore, on the positive side, the opportunities exist for companies to communicate with their various stakeholders regarding the energy efficiency initiatives that they implement.

Levels: Strategic, management, behavioural
Filters: Buildings, operations, supply chains, customers, communication

MATERIAL ISSUE: EXTERNAL STANDARDS

As a rule, manufacturing and consumer goods companies are subject to a wide range of mandatory and voluntary standards. Examples of mandatory standards include those related to product safety, manufacturing processes or toxic emissions, while voluntary standards might include those related to manufacturing efficiency, such as: Six Sigma, ISO 9001 or the standards promoted by South Africa's National Centre for Cleaner Production.

In terms of the issue of **rising electricity costs,** the majority of voluntary standards include measures aimed at directly improving energy efficiency standards in areas such as: buildings, operations or procurement. These standards can provide significant assistance to manufacturers in their attempts to improve their energy efficiency and reduce their electricity consumption.

The implementation of manufacturing or production standards, particularly those that include elements relating directly to energy efficiency, can hold a direct positive impact for manufacturing costs.

With regard to **dependence on external actors,** companies in manufacturing-related sectors are often constrained in terms of the supply sources for inputs into their manufacturing processes, including electricity. Ttheir ability to improve the energy efficiency levels within their supply chains is somewhat limited. This suggests that the issue of stakeholder engagement assumes particular importance in terms of improving the ability of manufacturing companies to improve their energy efficiency performance. External standards can provide a significant degree of guidance for companies in terms of such stakeholder engagement.

Companies that can successfully drive the adoption of external standards within their supply chains, stand to benefit from reduced levels of embedded energy in their production inputs, and potentially from reduced input costs in their production processes.

In the area of **reputational impacts** faced by companies in the manufacturing and consumer goods sectors, it would appear that manufacturers are to some extent more exposed to reputational risk than the retailers of their products. For this reason, the ability of manufacturing companies to point to their adherence to external energy efficiency standards can serve to mitigate this reputational risk to a significant degree.

Levels: Strategic, Management
Filters: Buildings, Operations, Supply chains, Communications

MATERIAL ISSUE: TRANSPORTATION AND LOGISTICS

This issue comprises a key element of the manufacturing and consumer goods sectors. Since companies in these sectors assume some degree of responsibility for the execution of these functions even ifthey are outsourced to external service providers. Therefore, this issue can be considered as closely linked with that of stakeholder engagement.

In terms of **rising electricity costs,** these can generally be considered as having a more significant impact in the area of warehousing than that of transportation. Direct engagement with the suppliers of such services in the area of energy efficiency can lead to direct cost reductions.

In a manufacturing environment, engagement with suppliers of storage and warehousing services regarding energy efficiency interventions to be implemented by these suppliers, can result in direct cost reductions for manufacturers.

The issue of **dependence on external actors** is a key one for all companies operating in these sectors, particularly in the context of ensuring both the uninterrupted supply of inputs to manufacturing process, and the uninterrupted delivery of products to customers in the wholesale or retail sectors. From a strategic perspective, it is key that strategic relationships are developed with transportation and logistics service providers and that these are maintained and enhanced at management and employee level.

Strategic relationships need to be developed with suppliers of transport, warehousing and logistics services, particularly regarding energy efficiency issues. Equally importantly, these relationships need to be maintained at all levels within the company.

Finally, apart from a focus on relationships with external transportation and logistics service providers, it is critical that when these functions are internal, they maximise energy efficiency and minimise electricity consumption. In order to achieve this objective the principal focus should be on ensuring the effective adoption of appropriate management process and behavioural interventions.

Levels: Strategic, Management, Behavioural
Filters: Buildings, Operations, Supply chains

MATERIAL ISSUE: PRODUCT LIFECYCLE

In an energy efficiency context, it would appear that the effective analysis of a product's entire lifecycle, as well as the effective management of all aspects of this lifecycle from manufacturing, to use, to disposal, holds significant opportunities for energy efficiency improvements.

In terms of **rising electricity costs,** in the majority of instances, electricity comprises a significant (and increasing) percentage of the direct costs of manufacturing. It is critical that companies accurately calculate this cost and make every effort to mitigate its impact through the adoption of energy efficiency interventions at all levels: from strategic to management to employee behaviour change.

Manufacturers need to accurately calculate the direct and embedded costs of energy in their products and manufacturing processes, and make full use of every opportunity to reduce these costs at all levels within the company.

With regards **dependence on external actors -** apart from the constraints in the supply of production inputs and the challenges of stakeholder engagement - one of the most significant constraints faced by manufacturers relates to their relative lack of control over the use and disposal of their products once the manufacturing process is complete. Therefore, manufacturers appear to remain relatively exposed to **reputational impacts** arising from the energy inefficient use or improper disposal of their products. It would appear that significant opportunities exist for manufacturers to become involved in programmes aimed at improving the energy efficiency of these aspects of the life cycle of their products. These might include involvement with retailers in energy efficiency education initiatives, product-take-back programmes, recycling initiatives or various other measures.

Manufacturers of consumer goods, appear to carry the majority of reputational risks associated with the energy efficiency of their products across the entire lifecycle of these products. It is therefore imperative for these manufacturers to be publicly seen to make every effort to improve the energy efficiency of their products through manufacturing, lifetime use and disposal.

Levels: Strategic, Management, Behavioural
Filters: Operations, Supply chains, Communications

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