



**LISBOA
SCHOOL OF
ECONOMICS &
MANAGEMENT**

MASTER IN

FINANCE

Master Final Work

PROJECT WORK

EQUITY RESEARCH - EFACEC

FILIPA DIAS FIÚZA OLIVEIRA

SEPTEMBER - 2014



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SUPERVISION OF MASTER'S THESIS:

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SEPTEMBER – 2014

ABSTRACT

Efacec is a company that has undergone several changes, going from being a small industrial company to the largest group in the electric field. Its core emphases are the international market among its constant investment in innovation and new technologies. Furthermore, it has a highly skilled workforce resulting in a persistent position at the forefront of the sectors where it develops its activities.

The goal of this project is to determine the intrinsic value of Efacec's shares, through a detailed analysis of the operational performance of the company, its external environment and its growth prospects. The valuation was based on the Free Cash Flow to Firm method, which according to the literature review represents the best method to assess Efacec.

According to the assumptions defined, the firm value of Efacec is 401.666.793 euros and the equity value is 12.457.793 euros (0,30 euros per share). Since Efacec is not a quoted company the Price Earnings Ratio multiple was used to decide whether or not if investors should buy the shares. Taking this into account, the indicator for Efacec of 1,51 is extremely low when compared with its peer group (14,60). Consequently, Efacec's share price is undervalued, despite being considered one of the largest Portuguese multinationals. Thus the recommendation is not to buy Efacec shares.

Keywords: Company Valuation, Discounted Cash Flow, Free Cash Flow to Firm, Enterprise Value, Equity Value, Efacec

ACKNOWLEDGEMENTS

This project is the result of a long process of hard work, which would not been possible without the support and dedication of all who accompanied me. In this way I want to express my gratitude.

To Professor Carlos Bastardo, supervisor of this project, my sincere gratitude for his monitoring and availability and for his wise guidance, support and critical opinion in the elaboration of this project.

To my friends and colleagues, who always helped and motivated me in my academic career.

To Rodrigo Salema who gave me a precious hand in the revision of this project and for his constant support.

Last but not least, I want to thank my family, especially my parents, for their unconditional support and encouragement to the development of this project.

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LIST OF ABBREVIATIONS

ANIMEE - Associação Portuguesa de Empresas do Sector Eléctrico e Electrónico

APT – Arbitrage Pricing Theory

APV – Adjusted Present Value

BBVA – Banco Bilbao Vizcaya Argentaria

BC – Bankruptcy Costs

BU – Business Unit

BV – Book Value

CAPM – Capital Asset Pricing Model

CEO – Companhia da Energia Oceânica

D – Debt

DCF – Discounted Cash Flow

DDM – Dividend Discount Model

DMC – Domestic Material Consumption

E – Equity

EBIT – Earnings Before Interest and Taxes

EBITDA – Earnings Before Interest, Taxes, Depreciation and Amortization

EV – Enterprise Value

EVA – Economic Value Added

FCFE – Free Cash Flow to Equity

FCFF – Free Cash Flow to Firm

FE – Financial Expenses

GDP – Gross Domestic Product

IEA – International Energy Agency

IMF – International Monetary Fund

IPO – Initial Public Offering

NOPAT – Net Operating After Tax

OECD – Organizational for Economic Cooperation and Development

P – Price

PEG – Price Earnings to Growth

PER – Price Earnings Ratio

RES – Renewable Energy Source

ROE – Return-on-Equity

S – Sales

SOTP – Sum-of-the-Parts

SWOT – Strengths, Weaknesses, Opportunities and Threats

T – Tax rate

TV – Terminal Value

WACC – Weighted Average Cost of Capital

1. INTRODUCTION

1.1 Framework

This project consists on the valuation of Efacec and the determination of the intrinsic value of its shares. The process of the valuation of a company is highly profound because it demands the study of the operational performance of the company, as well as the external environment and its respective perspectives of growth.

Although Efacec is a major Portuguese export company and is considered one of the largest Portuguese multinationals, Efacec has not been quoted since 2005. The Group develops its business activities in three areas: energy, environment and transportation. It also develops its businesses in different market segments (Southern Africa, Latin America, United States of America, Central Europe, Iberian, India and Maghreb). This diversification is considered part of the strategy and priorities of the company.

1.2 Project Structure

This project is divided into five parts:

- I. In the first part, a thorough literature review will be done (mentioning and explaining the different methods of a company valuation). The literature review will be drawn on the main academic publications and scientific papers regarding this topic. It is going to result in important information that will be the backbone for the choice of method used to evaluate Efacec.
- II. In the second part, a profound analysis of Efacec will be done regarding the previous three years (2010 to 2012). Accomplished this analysis will incorporate its business and market segments, its operational and financial performance as well as its strategies. To accomplish this, the two important tools of management will be considered, the SWOT analysis and the Porter's Five Forces.
- III. In the third part, more attention will be given to the macroeconomic environment for the major countries where Efacec operates and the industry sector for each business segment of the company.
- IV. In the fourth part, Efacec's valuation will be done, taking into account the major assumptions. In this phase the Free Cash Flow to Firm method will be applied.
- V. In the last part, the target price of Efacec will be reached. Subsequently, various techniques of risk analysis will be undertaken to give more robustness to the values estimated.

2. LITERATURE REVIEW

2.1 Company Valuation

Valuation is neither the objective search for true value that idealists would like it to become, nor the science that some of its supporters make it out to be. According to Damodaran (2006), valuation is considered the heart of finance.

Valuation plays a key role in several areas of finance such as mergers and acquisitions, corporate finance and portfolio management. In the process of mergers and acquisitions, a company's value can be different for distinctive buyers as well as for the sellers. This discrepancy is because of economies of scale or different views about the company and the industry (Fernández, 2007). In corporate finance, it reflects the best practice in increasing the firm's value by altering its dividend and investment decisions. In portfolio management, resources are expended in order to find firms that trade at less than their fair value. Subsequently, it is expected to generate profits as prices converge on value (Damodaran, 2012).

Despite the careful and detailed valuation in various areas of finance, at the end, there will be uncertainty about the final numbers and conclusions. That numbers are supported by assumptions that are made about the future of the company and the economy (Damodaran, 2012).

2.2 Valuation Methods

There are different types of models for valuing companies. These models share some mutual characteristics as well as major differences assumptions. These dissimilarities help us understand why these models deliver distinct results between themselves (Damodaran, 2012).

There are different opinions about the segmentations of the valuation methods in order to value a company. For example, Damodaran (2006, 2012) indicate four main approaches to determine the company's value. These four approaches are shown in Table I and are the models we will be further analyzing.

Table I – Valuation Methods

Discounted Cash Flow (DCF)	Relative Valuation	Contingent Claim Valuation	Asset Based Valuation
Firm Valuation Models: - FCFE (Free Cash Flow to Firm) - EVA (Economic Value Added) Equity Valuation Models: - Dividend Discount Model - FCFE (Free Cash Flow to Equity) APV (Adjusted Present Value)	Multiples: - PER - P/BV - P/S - EV/EBITDA - EV/Sales - PEG	Option Pricing Models: - Black-Scholes Model - Binomial Model	- Liquidation Value - Replacement Cost - Book Value

Source: Damodaran (2006 and 2012)

2.2.1 Discounted Cash Flow (DCF)

All discounted cash flow methodologies include forecasting future cash flows and afterwards discounting them to their present value at an appropriate discount rate that reflects their riskiness (Cooper & Nyborg, 2006; Fernández, 2007).

For some authors, DCF method is the standard technique in modern finance. It is a very powerful instrument that is used to value companies, to price initial public offerings and other financial assets. It is also considered accurate and flexible since firm specific growth rates and cash flows, are less influenced by market errors in the valuation (Goedhart et al., 2005). For others, DCF valuation is criticized because it makes many unrealistic assumptions and it fails to estimate accurately cash flows resulting in serious valuation errors (Dixit & Pindyck, 1995; Leslie & Michaels, 1997). Consequently, Lie & Lie (2002) refer that DCF analysis is frequently discarded in favor of other valuation methods such as multiples or option models.

Despite of the disagreements about which method is the best, DCF method still remains as the most widely used approach in finance and has the best theoretical credentials (Damodaran 2012).

The finance literature contains several discount cash flow methodologies. In this revision will only refer to the following models; used by Damodaran (2006): *Firm Valuation Models*, *Equity Valuation Models* and *Adjusted Present Value*.

2.2.1.1 Firm Valuation Models

According to Damodaran (2006), these models value the whole company (enterprise or firm value) with both growth assets and assets in place. The cash flows before debt payments and after reinvestment needs are designated as free cash flows to the firm. The discount rate is the cost of capital and reflects the composite cost of financing from all bases of capital.

The main models of this method are: *Free Cash Flow to Firm (FCFF)* and *Economic Value Added (EVA)*.

Free Cash Flow to Firm (FCFF)

Brealey et al. (2006) describes the FCFF model as the amount of “cash not required for operations or reinvestment”. The FCFF is equal to the operating cash flows, namely, the cash flow generated by operations, without taking into account borrowing after tax (Fernández, 2002 and 2007).

$$(1) \quad \text{FCFF} = \text{After tax Operating Income} - (\text{Capital Expenditures} - \text{Depreciation}) - \text{Change in non cash Working Capital}$$

According to this method, the value of a levered firm is equal to its expected future after tax unlevered cash flows discounted to present value at the Weighted Average Cost of Capital (WACC) rate (Luehrman, 1997b; Sabal, 2005). The firm value in its core calculation, is given by the following equation supported by (Damodaran, 2006):

$$(2) \quad \text{Value of Firm} = \sum_{t=1}^{t=\infty} \frac{\text{FCFF}_t}{(1+\text{WACC})^t}$$

The WACC is computed by weighting the cost of debt (k_d) and the cost of equity (k_e) according to the company's financial structure (Fernández, 2007):

$$(3) \quad \text{WACC} = \frac{E \times k_e + D \times k_d (1-T)}{E+D}$$

Where, E is the market value of the equity and D is the market value of the debt and T is the tax rate.

For some authors, WACC is the most common technique for valuing risky cash flows. Its major strength is the simplicity from which deviations in the financing mix can be built into the valuation model. This being done through the discount rate rather than through the cash flows (Damodaran, 2006; Ruback, 2000).

Luehrman (1997a) and Damodaran (2012) identified this method as a practical choice when managers aim for a constant debt-to-capital ratio over the long run.

However for other authors, WACC is now obsolete. WACC is affected by deviations in capital structure and therefore the FCF method poses some implementation problems. This is specially true in highly leveraged transactions and project financings in which capital structure varies over time (Esty, 1999; Ruback, 2000).

Despite its problems, WACC is still the most widely method used for firm valuation (Sabal, 2005).

Economic Value Added (EVA)

EVA is an example of the excess return models. It is a measure of the surplus value created by an investment or a portfolio of investments.

Fernández (2006) described EVA as the Net Operating Income After Tax (NOPAT) less the company's book value ($D_{t-1} + E_{t-1}$) multiplied by the WACC:

$$(4) \quad \text{EVA}_t = \text{NOPAT}_t - (D_{t-1} + E_{t-1})\text{WACC}_t$$

The DCF value of a firm should match the value that it is achieved from an excess return model, if there is consistency in the assumptions about growth and reinvestment (Feltham & Ohlson, 1995; Lundholm & O’Keefe, 2001).

2.2.1.2 Equity Valuation Models

Damodaran (2006) affirmed that equity valuation models assess the stake of the equity investors in the company. This is done through the discounting of the cash flows to these investors, using a rate of return, that is suitable for the equity risk in the firm.

There are two types of equity valuation models: *Dividend Discount Model (DDM)* and *Free Cash Flow to Equity (FCFE)*.

Dividend Discount Model (DDM)

DDM denote the oldest alternative of discounted cash flows. Williams (1938) was the first author to relate the present value notion with dividends. This model is suitable for firms that pay a constant and growing stream of dividends (Foerster & Sapp, 2005).

Damodaran (2006) argues that many analysts have discarded DDM. He claims that its focus on dividends is too narrow and its severe adherence to dividends as cash flows exposes it to a serious problem. Nevertheless, it is a simple model that presents intuitive logic and does not require so many assumptions to forecast dividends.

Durand (1957) first introduced this model. Subsequently, the model was further analyzed by Myron Gordon leading to the Gordon growth model. This model can be written as function of its expected dividends in the next time period, the cost of equity and the expected growth rate in dividends (Damodaran, 2006):

$$(5) \quad \text{Value of Stock} = \frac{\text{Expected Dividends next period}}{(\text{Cost of equity} - \text{Expected growth rate in perpetuity})}$$

However, Damodaran also affirmed that this model is restricted to firms that are growing at constant rates that can be prolonged forever. Therefore, there was a need to come out with a new extension of this model in order to face the demand for more flexibility when confronted with higher growth companies. Several authors point out that the decline in dividends can be accredited to an increasing portion of investors who do not want dividends (Baker & Wurgler, 2003).

Free Cash Flow to Equity (FCFE)

Steiger (2008) defined FCFE as the cash flow that is available only to the company’s equity holders. The FCFE is the cash flow available in the firm after covering fixed working capital

requirements, asset investments, paying financial charges and repaying the equivalent part of the debt's principal. It is computed by subtracting from the FCFF the interest and principal payments (after tax) made in each period to the debt holders and subsequently adding the new debt provided (Fernández, 2007):

$$(6) \quad \text{FCFE} = \text{FCFF} - [\text{interest payments} \times (1 - T)] - \text{principal repayments} + \text{new debt}$$

According to Damodaran (2012), the value of equity is achieved by discounting expected cash flows to equity (in period t) at the cost of equity (k_e):

$$(7) \quad \text{Value of Equity} = \sum_{t=1}^{t=n} \frac{\text{CF to equity}_t}{(1 + k_e)^t}$$

Luehrman (1997b) comments on how the FCFE analysis demonstrates how changes in the ownership structure affect the risk and cash flow, year by year, for the equity holders. He also affirms that this model is a better-specialized valuation tool than either the Adjusted Present Value (APV) model or the option-pricing model.

2.2.1.3 Adjusted Present Value (APV)

APV approach was first suggested by Myers (1974) and since then it, has caused a great deal of academic curiosity.

Sweeney (2002) describes the APV method as a starting line because "the WACC approach is a special case of the APV approach".

Damodaran (2012) describe the APV as the only approach that distinguishes the effects on the value of debt financing from the value of the assets of a company.

Damodaran (2006) comments that the APV method is computed in three steps. First, the value of the firm is calculated with no leverage (unlevered firm value), discounting the expected FCFF at the unlevered cost of equity (ρ_u). The following formula is computed by considering that the cash flows grows at a constant rate (g) in perpetuity:

$$(8) \quad \text{Value of Unlevered Firm} = \frac{\text{FCFF}_0(1 + g)}{\rho_u - g}$$

The second step is the computation of the expected tax benefit from a specified level of debt. The use of the present value of the tax shield results from the fact that the company is being financed with debt (Fernández, 2007). The tax benefit is a function of the tax rate of the firm and is discounted at a pre-tax cost of debt to reveal the riskiness of this cash flow:

$$(9) \quad \text{Value of Tax Benefits} = (\text{Tax Rate})(\text{Debt}) = t_c D$$

The final step is to estimate the influence of a certain level of debt on the default risk of the firm and on expected bankruptcy costs. This estimation involves the computation of the probability of default (π_a) after the additional debt and the direct and indirect cost of bankruptcy:

$$(10) \quad \text{PV of Expected Bankruptcy cost} = \\ = (\text{Probability of Bankruptcy})(\text{PV of Bankruptcy cost}) = \pi_a BC$$

This step faces the most important estimation problem, since neither the probability of bankruptcy nor the bankruptcy cost can be estimated straightforwardly.

The value of a levered firm is achieved by adding the net effect debt to the unlevered firm value:

$$(11) \quad \text{Value of Levered Firm} = \frac{FCFF_0(1+g)}{\rho_u - g} + t_c D - \pi_a BC$$

On one hand Esty (1999) claims that the APV is the favored method for companies that are prone in changing their capital structure and are more suitable in leveraged management buyouts (large investments that involve changes in the capital structure). On the other hand, Booth (2002) categorizes some disadvantages of APV approach, Those being its failure to efficiently value distress costs, agency costs and personal taxation. Despite this, the APV method, after WACC, is the most extensively used approach for firm and project valuations (Sabal, 2005). It will substitute the WACC as a selection method among generalists, because it is less disposed to serious errors and it is more informative (Luehrman, 1997a).

Additional components to DCF valuation

- *Cost of Equity (Ke):*

According to Goedhart et al (2005), the cost of equity is estimated by determining the expected rate of return of the company. The rate of return is based on asset-pricing models. Goedhart et al (2005) also state that there are three main asset-pricing models: the Arbitrage Pricing Theory (APT) developed by Ross (1976); the Fama and French (1993) three-factor model and finally the Capital Asset Pricing Model (CAPM) of Sharpe (1964). All of these models require three inputs: risk-free rate, beta and the appropriate risk premium (Damodaran, 2008a).

The most common asset-pricing model to estimate expected returns is the CAPM. This model assumes that the expected rate of return ($E[R_i]$) equals the risk-free rate (r_f) plus the security's

beta (β) times the market risk premium ($E[R_m] - r_f$). R_m is the expected return of the market (Goedhart et al., 2005):

$$(12) \quad E(R_i) = r_f + \beta_i [E(R_m) - r_f]$$

Risk-free rate (r_f):

According to Damodaran (2008b), the risk-free rate is the element for estimating both the cost of equity and capital. He also comments that long-term government bond rates with no default risk and no reinvestment risk are used to calculate the risk-free rate.

Beta (β):

According to Damodaran (1999), the most common way to compute beta is by regressing returns on an asset versus a stock index, with the slope of the regression (b) being the beta of the asset:

$$(13) \quad R_j = a + b R_M$$

Damodaran comments how this computation has at least two flaws: few stocks can control the market index and the firm being evaluated could change during the path of the regression. Consequently, the author recommended three alternatives to simple regression betas: modify the regression betas to reveal the firm's current operating and financial features; calculate the relative risk without using historical prices on the stock and the index; bottom-up betas which characterizes the business where the firm is operating and its current financial leverage. This last point is the approach that delivers the best beta estimate for firms. The beta itself can be calculated in a more accurate way for firms that have had a recent change in their debt/equity ratio. There are important considerations when compute the bottom-up beta. In a first point, it is necessary to identify the business where the firm is in. Secondly, the unlevered beta is computed for the business, by weighting the average unlevered betas, using the market values of the different businesses that the firm is involved in. In this step it is assumed that all firms in a sector have identical operating leverage. Thirdly, the leverage of the firm is calculated using market values. As a last step the levered beta (β_L) is computed using the unlevered beta (β_U). There are several ways to compute levered beta, Table II shown three of them.

Table II – Beta Levered

Fernández (2004)	Damodaran (1994)	Practitioners
$\beta_L = \beta_u + \frac{D(1-T)}{E}(\beta_u - \beta_d)$	$\beta_L = \beta_u + \frac{D(1-T)}{E}\beta_u$	$\beta_L = \beta_u + \frac{D}{E}\beta_u$

Source: Fernández (2006)

Equity Risk Premium or Market Risk Premium:

Damodaran (2009) comments how the choice of an equity risk premium plays a bigger role for valuation than for firm's particular inputs such as growth or cash flows. The author comments how there are three approaches to assessing equity risk premiums. The first one is the survey approach where managers and investors deliver their expectations of the risk premium for the future. However, this approach demonstrates more historical data than expectations. In other words, when stocks go up, investors tend to be more optimistic about future returns and survey approach reflect this optimism. The second one and the most widely used, is the historical return approach. The historical premium is calculated by the difference between the actual returns assessed on stocks over a long period of time with the actual returns earned on a default free. Fernandez et al (2013) affirms that historical equity premium is easy to compute and is equal for all investors. This is true if they use the same market index as well the same time structure and risk-free instrument. However, Damodaran (2009) stated that the historical approach is backward looking. Therefore risk premiums do not vary over short periods and it reverts back over time to historical averages. The last approach is the implied risk premium. It uses future cash flows or bond default spreads to compute the current equity risk premium. It does not involve any historical data and it is more perceptive to changing market conditions.

- *Cost of Debt (Kd):*

The cost of debt is estimated by using the yield to maturity of the company's long-term debt. If the company has publicly traded debt, the yield to maturity is computed directly from the bond's price and assured cash flows. If the firm has illiquid debt, the yield to maturity is calculated using the company's debt rating (Goedhart et al., 2005).

Damodaran (2008b) specified another way to compute the cost of debt by adding a default spread to the risk-free rate, with the scale of the spread depending on the company's credit risk.

2.2.2 Relative Valuation

Relative Valuation assesses the value of an asset that is derived from the pricing of comparable assets relative to a common variable like earnings or cash flows (Damodaran 2006).

According to Damodaran relative valuation is divided in three steps. The first step is to discover comparable assets that are priced by the market. The second step is to scale the market prices to a mutual variable to produce uniform prices that are comparable. The final step is to regulate for changes across assets when comparing their uniform values.

It is implicit, in the relative valuation process that the market is correct in the way it prices stocks on average but at the same time it creates errors on the pricing of individual stocks. However there is a comparison of multiples that will help to recognize these errors (Damodaran, 2012).

On one hand, if the market is right, on average, relative valuation and DCF valuation may converge in the way it prices assets. On the other hand, if the market is constantly over or under pricing a group of assets or an entire sector, relative valuations and DCF valuations deviate from each other (Damodaran, 2006). Furthermore, he also states that relative valuations starts with two choices.

The first choice is the multiple that is used in the analysis. Multiples are determined by the same variables and assumptions that are used in DCF valuation. Each multiple is a function of three variables. Those are, growth, risk and cash flow creating potential. Fernandez (2013) divides the most common used multiples in three groups that are shown in the following table:

Table III - Relative Multiples

Multiples based on the company's capitalization (equity value)	Multiples based on the company's value (equity and debt value)	Growth-referenced multiples
E.g.: - Price Earnings Ratio (PER); - Price to Book Value (P/BV); - Price to sales (P/S)	E.g.: -Enterprise Value to EBITDA (EV/EBITDA); -Enterprise Value to Sales (EV/Sales)	E.g.: -Price Earnings to Growth (PEG); -Enterprise value to EBITDA growth (EV/EG)

Source: Fernandez (2013)

Lie & Lie (2002), state that there is no agreement of what multiple performs best. However they found out that multiples diverge significantly according to company size or profitability.

The second choice is the group of firms that includes the comparable firms. Multiples are used in a combination with comparable firms to define the value of a firm or its equity. A comparable firm is a firm with growth potential, cash flows and risk that are similar to the firm being valued. However, there is an implied assumption that the firms in the same sector are the ones that have similar growth, cash flows and risk. This assumption makes it more challenging to use when there are limited firms in a sector (Damodaran, 2006). Consequently, Fernández (2002) and Kaplan & Ruback (1995) state that multiples are more useful in a second phase of the valuation. Only after performing the valuation using another method, namely the DCF valuation. Both methods together provide a more accurate range of suitable company values (Steiger, 2008).

The final value is computed by multiplying the ratio or multiple from the comparable firms with the performance measure for the company being valued (Kaplan & Ruback, 1995).

2.2.3 Contingent Claim Valuation

Contingent claim valuation is the use of option pricing models in order to quantify the value of assets that share option features (Damodaran, 2006). There are two types of option pricing models: Black-Scholes model and Binomial pricing model (Damodaran, 2012). According to Luehrman (1997a), this approach handles simple contingences better than DCF models. However he considers that option pricing is costly and less intuitive. Damodaran (2012), states that the final values achieved from this approach have much more estimation error than other standard methods. Nonetheless, Copeland & Keenan (1998) advocates that option pricing model is a better tool than DCF models. The DCF does not capture management's flexibility to act in the future when there is uncertainty. In other words, managers are not allowed to change their strategy (for example, exiting and reentering the industry).

2.2.4 Asset Based Valuation

The last method is the Asset Based Valuation. This method computes the company's value by assessing the value of its assets (Fernández, 2007).

According to Damodaran (2012) there are three main types of asset based valuation models: liquidation value, replacement cost and book value. Liquidation value is achieved by combining the estimated sale profits of the assets owned by a firm. Replacement cost is the estimation of what would be the cost to replace all of the assets that a firm has today. Regarding book value approach, it uses the book value as the measure of the value of the assets. These methods do not take into account the company's probable future evolution, the money's temporary value or the industry's current situation (Fernández, 2002).

3. COMPANY'S PRESENTATION

Efacec is a Portuguese company, expert in the electromechanical field, created in 1948. The company arose from Electro-Moderna, one of the oldest Portuguese companies in the electrical equipment, founded in 1921. In 1962, the company acquires Efacec's present denomination.

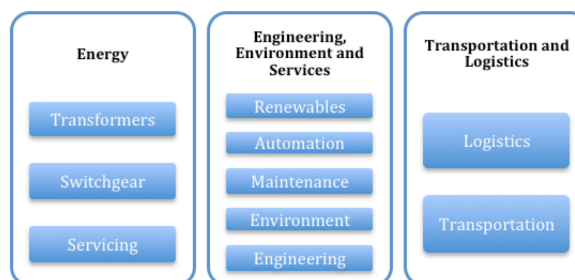
In 2005, Efacec was considered the second best listed company on Euronext Lisbon. In the same year, José de Mello Group and Têxtil Manuel Gonçalves launched a public takeover bid for the share capital of Efacec. Currently these two main shareholders hold Efacec in equal parts. In 2006, all of Efacec's shares were withdrawn from the Stock Exchange. Therefore Efacec is today a non-listed company.

Efacec is present in more than 65 countries over the 5 continents, with industrial facilities in 9 countries (appendix 1). It is also recognized for its excellence and its unique expertise in different areas.

3.1 Business Areas

Efacec is structured in three core business areas: 1) Energy; 2) Engineering, Environment and Services; 3) Transportation and Logistics. These areas integrate Business Units (BU - Figure 1) that are managed autonomously. The BUs are organized by target segments that generate value by developing technologies, skills and knowledge. Its main responsibilities are the identification of markets with vaster potential of success or the identification of the more appropriate products, services and solutions.

Figure 1 – Business Units

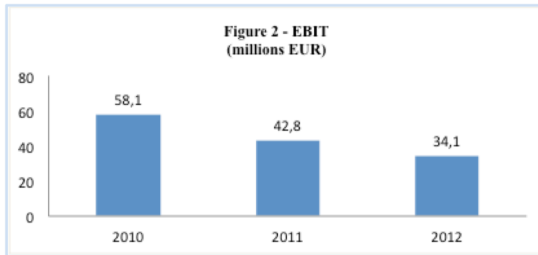


Source: Efacec's Report and Accounts

3.2 Operational and Financial Performance

Operational Performance

Efacec's Earnings Before Interest and Taxes (EBIT) have shown a decreasing tendency,



between 2010 and 2012 (Figure 2). This tendency is due to the increase of the operational costs.

Source: Efacec's Report and Accounts

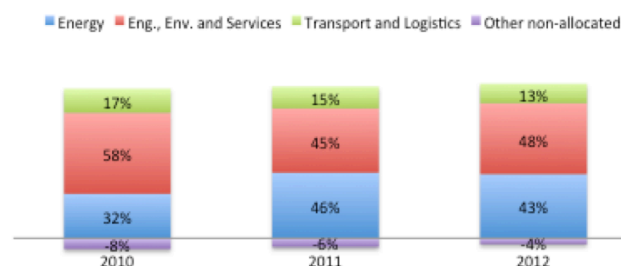
Turnover:

Between 2010 and 2011, there was a decrease in turnover, by approximately 32%. This decrease was due to the downturn of certain markets where Efacec is present as well as the deferment in achieving important projects in those markets. In 2012, turnover reached 780 million Euros, an approximate increase of 11% when compared to 2011. This growth was possible due to the strong increase of sales in the international markets (appendix 2).

➤ Turnover weight by business segment:

In general, Efacec has two main business areas, the Engineering, Environment and Services as well as Energy over 2010 and 2012 (Figure 3). In 2010 an important merger was done in the first sector, leading to numerous companies being integrated into Efacec Engenharia e Sistemas, S.A. This was significant to the company because it permitted to take better advantages of synergies and allowed a greater capability to act in both national and international markets. The activity with less impact in Efacec's business over the years is the Transport and Logistics sector (Figure 3) despite its leadership in the field. Furthermore, Efacec is the frontrunner in supplying automated Materials Handling and Storage Systems.

Figure 3 - Turnover Weight by Business Segment



Source: Efacec's Report and Accounts

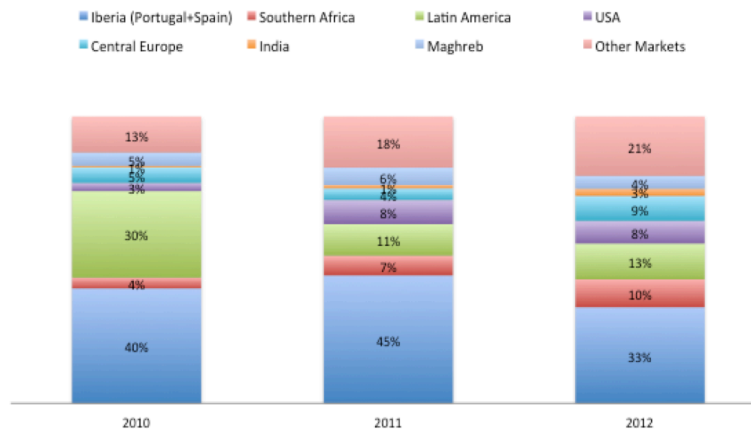
➤ Turnover weight by geographical segment:

In Figure 4 it can be observed, on one hand, that Iberia (Portugal & Spain) represents the core business market of the company from 2010 to 2012. On the other hand, India is the company's

smaller target market. Notwithstanding this, it was the market with the highest growth sales in 2012.

In 2010, the international market represented 60% of its turnover. This value has been increasing over the years, which in 2012 represented 67% of its turnover. Consequently, Efacec have become a highly internationalized and multicultural company.

Figure 4 - Turnover Weight by Geographical Segment



Source: Efacec's Report and Accounts

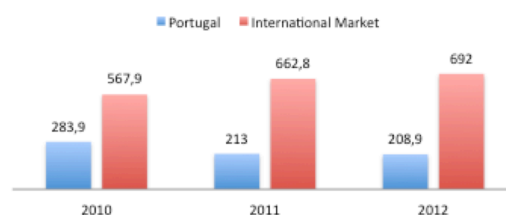
Orders:

In 2011, orders ascendant to 876 million Euros. This allowed to Efacec to increase its cumulative portfolio by the end of the year to 2017 million Euros. The external market represented 76% of the total orders, an increase of 17% when associated with 2010 (Figure 5). The Latin America and Southern Africa market were very important as both represented 46% of the order volume of the external market and 35% of the global market.

In 2012, orders reached to an amount over 900 million Euros. This increase led to a good order book for the following years. The growth shown was originated in the foreign market, which increased 4%, reaching 692 million Euros (Figure 5).

The level of orders in Portugal has been decreasing between 2010 and 2012 (Figure 5). This drop is due to the severe contraction of investments and economical activity.

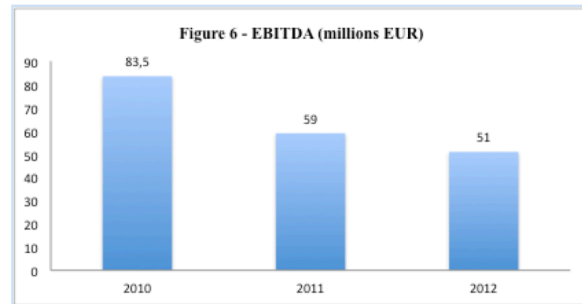
Figure 5 - Orders Received (millions EUR)



Source: Efacec's Report and Accounts

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA):

Between 2010 and 2012, EBITDA showed a tendency of decreasing, reaching 51 millions EUR (Figure 6) in 2012. This value corresponds to a 39% reduction in relation to 2010. The contribution to this drop was the impact of the operations in Brazil, a portfolio of large-sized projects with high operational risk. Moreover the delay in the signing of new orders meant substantial losses thus resulting in an allocation of funds for probable future losses. Furthermore, 2011 was the first financial year of operation of the new transformer plant in the USA, which still had a negative effect over the EBITDA.

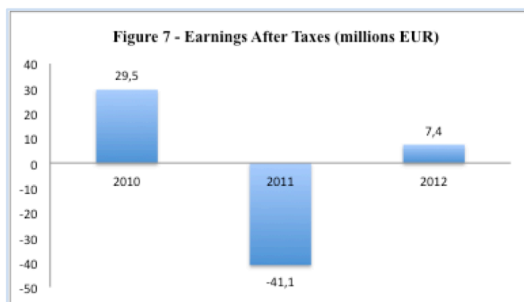


Source: Efacec's Report and Accounts

Financial Performance:

Earnings After Taxes:

In 2011 the earnings after taxes presented a decrease of 71 million approximately (Figure 7).

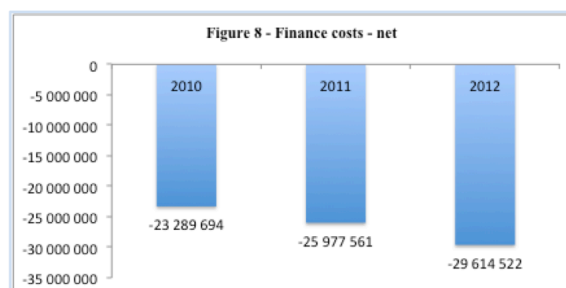


Source: Efacec's Report and Accounts

This drop resulted in significant losses in undergoing projects developed by its associate, *Mabe, (Construção e Administração de Projectos, Ltda.)* in Brazil. In 2012 the earnings exposed a growth, as EFACEC sold its stake that it had in Mabe (Figure 7). In appendix 4 is shown financial information.

Finance costs - net:

In 2011, the conditions of financial markets changed. The strong pressure exerted by banks causing the rise of spreads as well as the debt growth caused an increase on the financial costs. These financial costs also increased in 2012 a growth of approximately 3,6 million Euros in relation to the previous year, whilst keeping about the same proportion in the cost structure of the group (Figure 8).

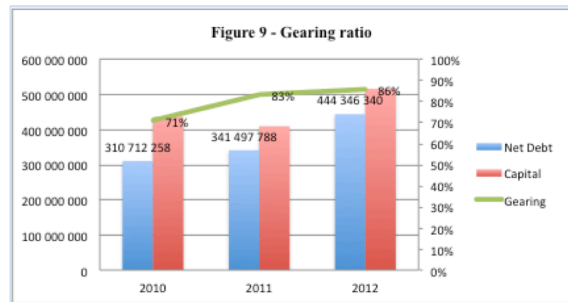


Source: Efacec's Report and Accounts

Debt:

➤ *Gearing ratio:*

In keeping with the industry's market practices, Efacec assembles its capital structure on the basis of the gearing ratio. The division between the Net Debt and the Total Capital computes this ratio. It presented a tendency of growth between 2010 and 2012 (Figure 9). This increase is mainly due to the growth of the net debt, which increased 30% in 2012 (the increase of the shareholder's loans contributed to this growth).



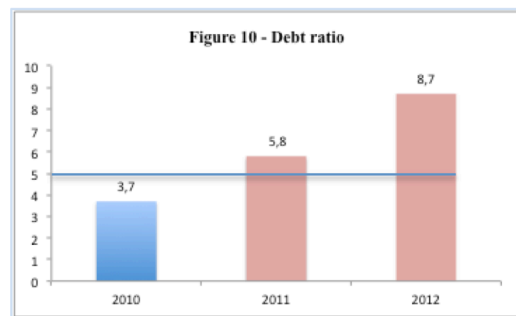
Source: Efacec's Report and Accounts

➤ *Economic and Financial ratios:*

○ Debt Ratio

The Debt ratio is computed by dividing the net financial debt by EBITDA. The value of debt ratio in financing contracts underwritten by the company should be less than 5.

In 2011 and 2012 the debt ratio in some financing contracts was unfulfilled, it meant that, this ratio was greater than 5 (Figure 10).



Source: Efacec's Report and Accounts

Debt ratio has been increasing over the years due to the decreasing in EBITDA and the growth of the net debt.

○ Financial Autonomy

Financial autonomy ratio is established as Equity divided by Assets.

In 2011, the contract value of financial autonomy should be higher than 15%. However this value was not satisfied, since the effective value was 7,2%. This value was obtained after the restatement of Efacec's accounts of 2011, which affected negatively the financial autonomy ratio.

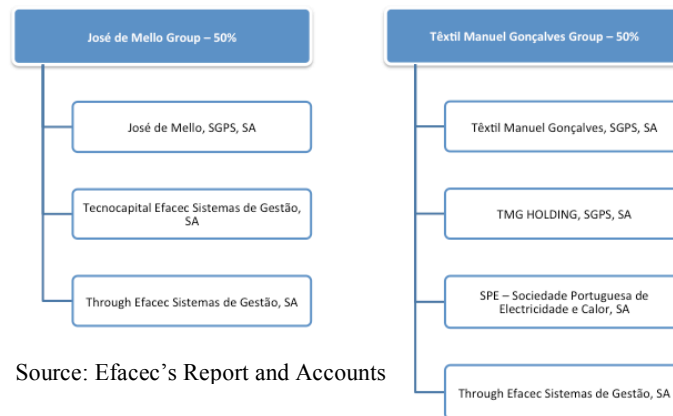
In 2012, the contract value should be between 12 and 15% (the effective value maintained on 7,2%). These values indicate that the debt level is high.

3.3 Shareholder Structure and Dividends

Shareholder Structure

Efacec's share capital value totalizes 41 641 416 euros, totally subscribed and paid-in. The total authorized number of ordinary shares are 41 641 416 with a par value of 1 Euro, without any special rights. The shareholder structure of the company is concentrated since there are only two main shareholders with each detaining 50% of the company (Figure 11). Appendix 3 represents the shareholder structure in a more detailed way.

Figure 11 – Shareholder Structure



Source: Efacec's Report and Accounts

Dividends

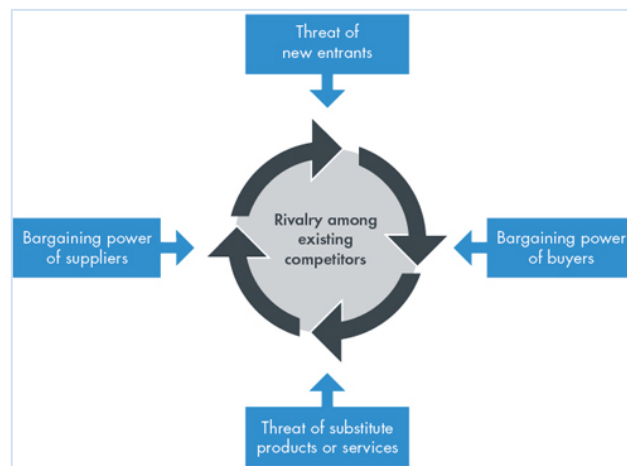
In 2010, the company distributed dividends of 0,41 Euro per share, where the weighted average number of ordinary issued shares was 41 641 416 and the total amount of dividends paid was 17 million EUR. However in 2011 and 2012, Efacec did not distribute any payment of dividends to its shareholders.

3.4 Strategic Analysis

3.4.1 Porter's Five Forces

The Porter's Five Force model identifies and analyzes the five competitive forces that shape the industry (Figure 12). According to Porter (2008), understanding these five forces can help a company recognize the structure of its industry and consequently establish a position that is more beneficial and less exposed to risk. In this project, this model will be applied taking into account the Efacec's global industry - The Electric and Electronic sector (more precisely the electric equipment and energy sector) designated by Associação Portuguesa de Empresas do Sector Eléctrico e Electrónico (ANIMEE). The reasoning behind this choice was due to the similarities found in the industry structure (buyers, suppliers, barriers to entry and so forth). Since Efacec has a variety of unit markets, we are analyzing the market where Efacec concentrates its operations, the Iberian Market.

Figure 12 – Five Forces that shape Industry Competition



See Appendix 5

3.4.2 SWOT Analysis

In the current context it was possible to construct the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, considering the external and internal environment of Efacec in order to understand its business position (appendix 6).

4. MACROECONOMIC ENVIRONMENT AND INDUSTRY SECTOR

4.1 Macroeconomic Environment

In this section we will analyze the macroeconomic scenario in 2012 and its outlooks for the next five years for Portugal and the primary markets where Efacec operates. The International Monetary Fund (IMF) and Banco Bilbao Vizcaya Argentaria (BBVA) Research will be used as the main sources for statistical data and information.

The Gross Domestic Product (GDP), inflation (average consumer prices) and the unemployment rate are the main indicators that are going to be analyzed for each country.

Global Economy:

The year of 2012 was marked by continued difficulty as a result of the international financial crisis that erupted in 2007 and the sovereign debt crisis in the Eurozone.

IMF emphasized the progress of the global situation. More specifically, the decreasing risks of the strict crisis in the USA and the Eurozone due to the implementation of effective political measures.

Iberian Market:

Portugal:

In 2012, Portugal was marked by the decline of the economic activity. The GDP dropped 3,2% as a consequence of the austerity measures. In 2013 this austerity is expected to remain thus leading to a recession of 2,3%, according to IMF. However this value presents a tendency of growth for the next four years (appendix 7).

Inflation reached 2,8% in 2012. This value is expected to decrease in 2013 to 0,7% because a reversal of the impact of fiscal consolidation measures implemented in 2012 is expected (appendix 7).

According to the IMF, the Portuguese unemployment rate was 15,7% in 2012 and is expected to rise until 2014. This growth is an outcome of the high indebtedness of some institutional sectors and the relatively low level of qualifications in the labor force (appendix 7).

Spain:

Like Portugal, Spain also fell back into recession in 2012, after some stabilization in 2011. The GDP dropped by 1,42% because of the decline in domestic demand. The expectation for 2013 is also a slight decline, though, below the 2012 value. For the following years it is expected to

increase due to the recovery in the global economy and due to the stronger exports with recovery in traditional markets and strong growth in newer markets (appendix 8).

Concerning inflation, in 2012, the value reached 2,4% a decrease in relation to 2011. This was a result of a slowdown in energy prices. In 2013 this value is expected to decrease to 1,9% (appendix 8).

The unemployment rate was 25% in 2012. This value is expected to grow in 2013, despite the expected decline in the active population. The projection for the next years is of a decrease due to the expected growth recovery and improvement in efficiency in the labor market (appendix 8).

Latin America:

Brazil:

The Brazilian economy experienced a slowdown in activity in 2012. The GDP increased by 0,9% in 2012, which is relatively low compared with the values, obtained in the last two years. According to IMF, this decrease is mainly due to the contraction of the investment, especially of the private investment. In 2013 and for the next four years the GDP is expected to grow, due to the growth of the investment and the organization of world events. However, IMF affirmed that Brazil despite continuing growing is slowing down (appendix 9).

The inflation in 2012 reached the value of 5,4%. In 2013, according to the IMF, inflation pressures are not expected to diminish. Thus inflation is expected to increase to 6,1% (appendix 9).

The unemployment rate remains at historically low levels. In 2012 it stood at 5,5% a reduction compared with last years. However, this value is expected to grow in 2013. In the following years the unemployment rate is expected to stabilize to 6,5% (appendix 9).

Argentina:

The Argentine economy slowed down in 2012, where GDP increased 1,9% due to high inflation and uncertainty in the global economy. In 2013, this value is expected to rise to 2,8% due to the expectations of economic subsidies set by the government and the expected sustained exports (appendix 10).

According to IMF, the unemployment rate stood at 7,2% in 2012, an increase in relation to 2011. The expectation for 2013 and 2014 is of a decrease, followed by an increase in the following years (appendix 10).

Paraguay:

Paraguay is a country with great potential although its competitiveness levels are quite low. In 2012, GDP dropped by 1,2% due to two main events. The effects of the outbreak of foot-and-mouth disease in September 2011 and the severe drought that damaged the production of soybean (the country's main export). In 2013, the GDP is expected to grow by 11%. This growth is a result of the expected normalization of the weather conditions that will drive soybean production to record levels (appendix 11).

The inflation reached 3,8% in 2012. The prospect for 2013 is difficult to predict. This is due to the expected sharp increase in growth in the same respective year, which normally implicates upward inflationary pressures. Nevertheless, and despite the volatile nature of inflation in Paraguay, inflation is expected a decrease to 3,6% due to the projections of more stable rates (appendix 11).

Uruguay:

In 2012, there was a slowdown in the Uruguayan economy, where GDP remained stable at 3,9%. This slowdown can be explained by a cutback of private investment. In 2013 this value is expected to increase to 4,2% (appendix 12).

Inflation remains the main focus for concern in Uruguay. In 2012, this indicator reached 8,1% an increase in relation to 2011. In 2013 it is also expected an increase. However in 2014, inflation will drop to 8,3% due to the Central Bank of Uruguay (BCU) maintaining the real interest rate slightly positive (appendix 12).

According to IMF, the unemployment rate reached 6% in 2012 and it would increase to 6,3% in 2013. This will lead to a slowdown in domestic consumption growth (appendix 12).

Chile:

In 2012 Chile's economic activity in a surprising way grew above IMF expectations. The expected GDP for 2012 was 5% whereas the actual GDP was 5,6%. This positive performance was due to a more nonthreatening than predicted external situation and to an increase in consumer and business confidence. In 2013 and 2014 the GDP is expected to reach 4,4% and 4,5% respectively, since the factors of domestic demand are expected to moderate (appendix 13).

One of the major risks to the economic activity is the increasing acceleration of inflation. However in 2012, inflation stood at 3%, a decrease in relation to 2011. The low inflation in 2012 can be explained by temporary effects, for example, the downward adjustment in fuels

due to a reduction in geopolitical risk premiums. In 2013, inflation is projected to decrease to 1,7% and in 2014 will reach the value of 3% (appendix 13).

Regarding the labor market, the unemployment rate fell to 6,4% in 2012 a decrease of 0,7 percentage points from 7,1% in 2011. This decrease is a direct result of the behavior of wages (appendix 13).

4.2 Industry Sector

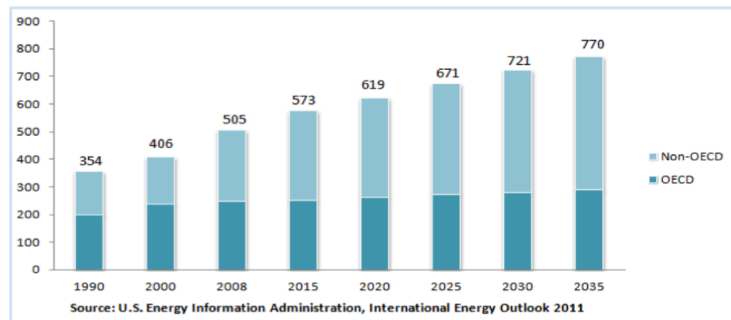
The three main strategic industries of Efacec: Energy, Transports and Logistics as well as Environment will be analyzed.

Energy Industry:

Consumption:

According to the US Energy Information Administration's International Energy Outlook 2011, the energy consumption is projected to grow to 55% in 2035 in the global market. Nations outside the Organizational for Economic

Figure 13 – World Energy Consumption (1990-2035)
(In Quadrillion British thermal unit)



Cooperation and Development (OECD) show signs of the fastest rate of growth in energy consumption. Within the OECD, the growth is projected to remain less to 20%.

➤ *Oil Energy:*

Oil prices continue to rise due to the slow growth in supply and fast growth in demand of emerging markets. This is the segment that remains particularly volatile.

➤ *Gas Energy:*

According to the International Energy Agency (IEA), approximately 20% of the world's electricity is created from gas. The IEA reports demand for gas fell 3% in 2009, indicating the greatest drop in three decades. Currently the demand of the global gas market has recovered to higher levels than before the global recession.

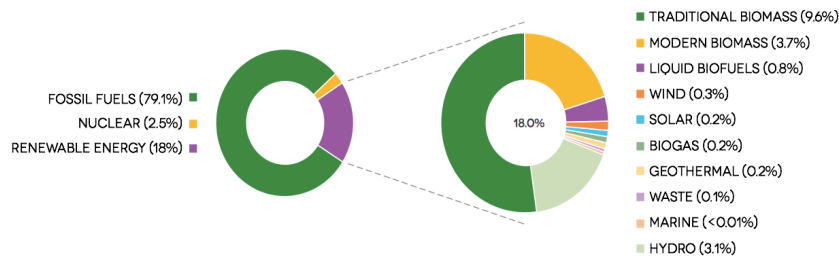
➤ *Nuclear Energy:*

Between 2010 and 2015, the nuclear energy market is forecast to grow at a 4,5% rate. In 2010, more than 13% of global electricity produced was originated from nuclear power plants. According to the International Atomic Energy Agency, in the same year, the United States was the world's biggest nuclear generating country.

➤ **Renewable Energy:**

In 2010, the renewable energy market presented a growth of approximately 6,5%. This market is the fastest growing sector between energy sources worldwide.

Figure 14 – Global Share of Renewable Energy in Total Final Energy Consumption, 2010

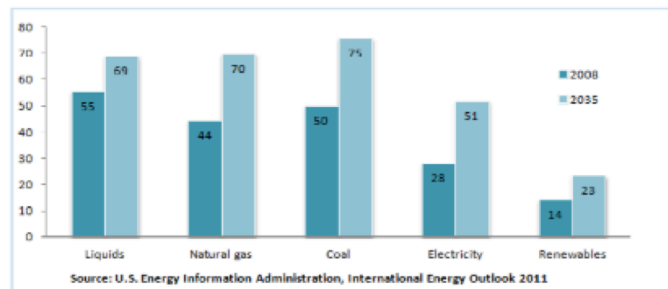


Source: Authors' analysis based on IEA 2012

➤ **Coal Energy:**

Coal represents 40% of the world's electricity and its use is projected to increase more than 60% by 2030. Developing countries are the main consumers of this source. However, the main problem of coal energy is the negative effect it has on the environment.

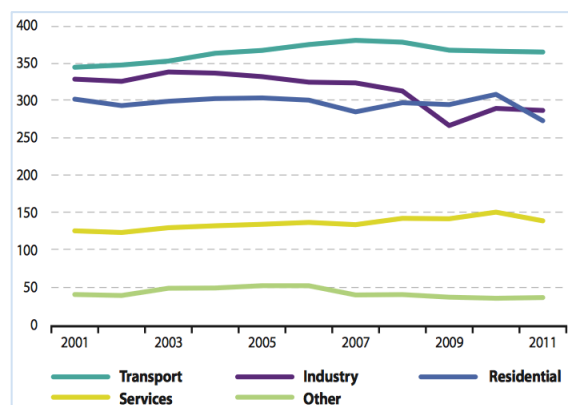
Figure 15 – World Industrial Sector Consumption by Fuel (2008 and 2035) (In Quadrillion British thermal unit)



Final Energy Consumption by Sector:

Between 2001 and 2011 there were decreases in the consumption of energy by industry and households, whereas there were increases in services and in the transport sector.

Figure 16 – Final energy consumption, by sector, EU-28 (In million tones of oil equivalent)



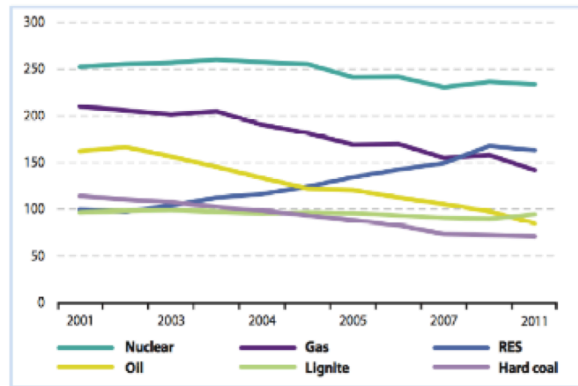
Source: Eurostat

Production:

In the EU-28, the total primary energy production dropped between 2001 and 2009. Between 2009 and 2010 it grew by 2%, followed by a 4% decrease from 2010 to 2011.

In the last decade, Renewable Energy Source (RES) production raised around 63% whereas reductions were verified in the production of all other fuels. In 2011 the main source of primary energy production was still nuclear energy while renewables only accounted for a small amount.

**Figure 17 – Primary energy production, by fuel, EU-28
(In million tones of oil equivalent)**



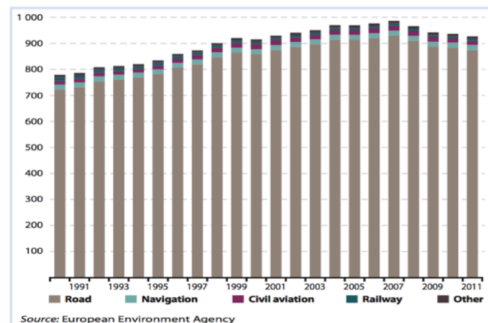
Source: Eurostat

Transportation and Logistics Industry:

Transportation:

In 2011, the global transportation services market experienced a 7% growth. It is expected to increase 37% in the next five years. This industry plays a fundamental role in the global economy. EU-28 emissions from transport grew by 19% between 1990 and 2011. Emissions from road transport, civil aviation and navigation increased by 21%, 17% and 1% respectively, over the period of 1990 to 2011. Furthermore, emissions from railway transportation decreased by 46%.

**Figure 18 – Greenhouse gas emissions from transport, by mode of transport, EU-28
(In million tone of CO₂ equivalent)**



Source: European Environment Agency

Logistics:

Logistics is one of the most essential basic industries for any economic growth. This industry includes the integration of material handling, transportation and the supply chain management.

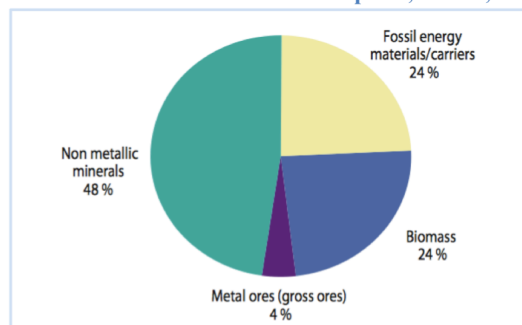
Over the next few years the global logistics market will develop mainly in the emerging markets in detriment from traditional Western economies. However, the size of the US and European logistics industries will continue strong.

Environment Industry:

According to the UK Centre for Economic and Environmental Development, the global environmental goods and services market is estimated to raise in 2015, representing a 45% overall growth over the previous ten years. Technological innovation continues crucial to limiting the environmental effect of industrialization and urbanization.

The use of resources is measured through the use of the Domestic Material Consumption indicator (DMC). In 2011, non-metallic minerals reported 48% of the total amount of DMC while metal ores for 4%.

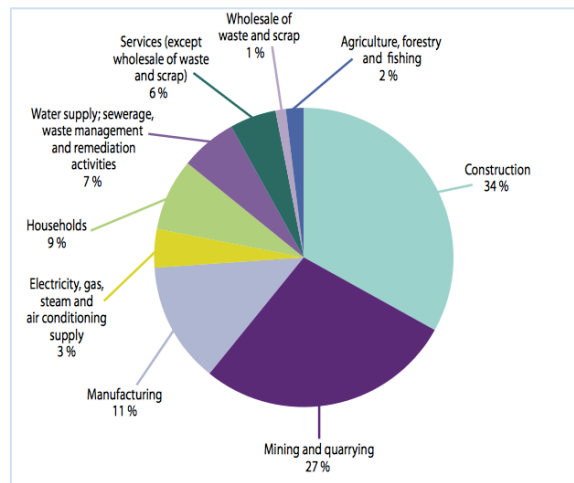
Figure 19 – Domestic Material Consumption, EU-27, 2011 (%)



Source: Eurostat

In 2010, the EU-28 produced 2505 million tones of waste. The activities that created the highest amount of waste were construction, which translated into 34% of the total waste, while mining and quarrying accounted for 27%.

Figure 20 – Waste generation by economic activity and households, EU-28, 2010 (%)



Source: Eurostat

5. VALUATION

5.1 Methodology

Fernández (2007) states that sometimes, the company's value is achieved by adding the values of its different segments or business unit. Efacec will be evaluated using this method, Sum-of-the-Parts (SOTP) by computing separately its business segments.

The value of the business areas will be determined by the DCF method through the estimation of future free cash flows to the firm. It is also possible to value Efacec through the APV method since Efacec presents high indebtedness. However, the FCFF method is the most adequate to value Efacec since its debt-to-capital ratio is relatively constant over time. The FCFF will be projected for a five-year time horizon and then will be discounted to a constant rate WACC.

5.2 Assumptions

The following assumptions will be used to compute Efacec's business segments in relation to the projection of the FCFF and the WACC rate. Efacec defines its financial information by business volume, profits, balance amounts (total assets and total liabilities) and by investments made during the years, detailed by business segment. Thus, the other items of the FCFF had to be estimated in total terms using only historical information.

5.2.1 Turnover

The Efacec's turnover was estimated for each business segment since there is lack of information for each market and business segment together.

To estimate Efacec's turnover the following formula was used:

$$(14) \quad \text{Turnover} = \text{Turnover}_{n-1} \times (1 + g_{\text{nominal}})$$

The nominal growth rate is achieved by using the inflation (appendix 6) and the real growth rate. The latter, was computed by considering the PIB's projection for the next five years and the historical turnover information (2010 to 2012).

In the PIB's projection the average PIB's projection for each market segment was first calculated. Next the total average PIB's projection by considering the average turnover's weight for each market segment (2010 to 2012) was calculated (appendix 14). In this rate, the average weight for each business segment of the last three years was also taken into account (appendix 15).

The final g sales (3,19%) was calculated using the average of the nominal growth rates between 2010 and 2017 (appendix 16). This was the value considered to find Efacec's future turnover.

5.2.2 Operational Costs

Concerning the operational costs (with exception of staff costs), the average weight over sales, during the historical period to the turnover of future periods was applied. This item does not have the financial information for each of the business segments, thus it was computed in total terms.

To project the staff costs the average growth rate of the number of employees in the historical period and the weight of staff costs item in the turnover of the same period was considered. The same weight for each variable (50%) was considered. Subsequently, the average growth rate, given the staff costs of 0,5% (appendix 17), was calculated.

5.2.3 Investment in Capital Expenditures and Depreciations and Amortizations

When calculating the capex's ratio over turnover for each business segment, it was verified that the amount invested has been decreasing over time. Capex projections were calculated by multiplying the average of capex's ratio over sales of the last three years to the turnover of future periods (appendix 18).

The depreciations and amortizations are crucial to compute the free cash flow. By projecting gross assets, the value of depreciations and amortizations for each business segment can be projected from the average historical rate (appendix 19).

5.2.4 Working Capital

Working capital translates the operational liquidity that the company can release to face its short-term commitments. It is computed as the difference between current assets and current liabilities.

As there is no information for each business segment, to compute the working capital, it was first calculated in total terms by using the values of the balance sheet. Subsequently, to estimate the working capital for each business segment the turnover's weight multiplied by total working capital for each period was considered (appendix 20).

5.2.5 Debt/Financing

Efacec's debt has been increasing in the last three years (appendix 21). There is lack of information of financial debt for each business segment, so being, total debt had to be computed in total terms.

Computing first the net debt made debt's projections calculation. It was calculated by using the difference between the total assets and the total liabilities, equity and shareholder's loans.

Then total debt is figured by adding the net debt, the shareholder's loans and the cash and cash equivalents (appendix 22).

5.2.6 Weighted Average Cost of Capital (WACC)

The WACC rate was calculated for each business segment and formula (3) mentioned in point 2.2.1.1 was considered (appendix 23).

5.2.6.1 Cost of Equity

The cost of equity was computed using the CAPM (formula (12) described above) and its components are explained below (appendix 24).

5.2.6.1.1 Risk-free rate

Regarding the risk-free rate, the German government bond for 10 years on December of 2012 was contemplated (1,38%).

5.2.6.1.2 Beta

As Efacec is not a quoted company, its respective β_L was computed by using the conventional approach stated by Damodaran (2012).

Firstly, the companies' benchmark's levered betas through a regression of its returns assets (R_i) and its market's returns (R_m) were calculated. Secondly, the Blume's effect¹ (Blume, 1971) was removed to calculate the companies unlevered betas through the Damodaran's (1994) formula mentioned in Table II. The Efacec's β_U for each business segment relates to the average of the companies benchmark's β_U . Finally, the Efacec's β_L for each business segment was computed using Damodaran's (1994) formula (appendix 25).

5.2.6.1.3 Market Risk Premium

The market risk premium was computed by considering the countries of each market segment of Efacec. Subsequently, the risk premiums average was calculated, for each market. The final market risk premium (6,85%) was achieved by multiplying these values by the turnover's weighted average for each market segment (appendix 26).

5.2.6.2 Cost of Debt

There is no real value to compute Efacec's cost of debt. Thus, the cost of debt is calculated through the sum of the risk-free rate with the default-risk spread (Risk and Failure model).

¹ According to Blume (1971), the adjusted beta is firstly derived from historical data, but changed by the assumption that a security's true Beta will move towards the Market average, of 1, over time. The Blume's effect aims to adjust the prices of market liquidity's lack. The formula used to adjust Beta is: $(0,67) \times \text{Raw Beta} + (0,33) \times 1,0$.

To figure the default-risk spread, a rating of BB to the Portuguese state through Interest Coverage Ratio was taken into account. Subsequently, the risk-free rate (5,38%) was added. Furthermore, the rating of EBITDA/FE (Financial Expenses) ratio of the last three years was calculated. To that value the risk-free rate (6,88%) was added. Finally the average of the last two results (5,38% and 6,88%) was calculated. Moreover a 6% cost of debt rate was considered (appendix 27).

5.2.6.3 Tax rate

For the tax rate it was assumed a constant marginal tax rate of 25% for the period in analysis.

5.2.7 Perpetual Growth rate

Steiger (2008) states that the determination of the perpetual growth rate is extremely important on the DCF method, since minor modifications in this rate will have vast effects on the Terminal Value (TV) and consequently on the total value of the firm. He affirms that in general a perpetual growth rate must be between 0% and 5%.

This rate should also be in line with the nominal GDP growth (JP Morgan Chase, 2006) as well as less than the real growth of a mature economy (e.g. USA). So being it was assumed for Efacec's perpetual growth, a rate of 2%.

5.3 Sum-of-the-parts FCFF

After all assumptions applied, the EV for each business segment can be calculated (appendix 28). The EV (company value) is the sum of the FCFF and the TV discounted at the WACC rate (Steiger, 2008).

$$(15) \quad \text{Company Value} = \sum_{t=0}^n \frac{FCFF_t}{(1+r)^t} + \frac{TV}{(1+r)^{n+1}}$$

The FCFF is computed using formula (1) referred in point 2.2.1.1. The TV is calculated by using the following equation supported by Beranek & Howe (1990):

$$(16) \quad TV = \frac{FCFF_{TV}(1+g)}{r-g}$$

Where r is the WACC rate and g is the perpetual growth rate.

5.3.1 Others non-allocated

Others non-allocated item are assets related to corporate centers and investments in activities located outside the Group's core business. This also includes eliminated intra-Group activities.

To compute the WACC rate for this item the average WACC rate of the other three businesses segment of Efacec were considered. The EV was computed by adding the FCFF and the TV (appendix 29).

6. VALUATION RESULTS

To obtain Efacec's equity value, the EV for each business segment with the other non-allocated item included were added. Subsequently, the company's financial liabilities value (net debt, provisions, minorities and derivatives) was removed. Finally the extra-operation assets (financial investments in the Group's companies and associates, financial investments in other companies and cash and equivalents) were added.

The intrinsic value of Efacec's share price obtained in the valuation was 0,30€.

Table IV – Efacec's Target Price

(amounts in euros)	
Energy	322 313 416
Eng., Env. and Services	72 650 229
Transport and Logistics	-6 764 391
Other non-allocated	13 467 539
Enterprise Value	401 666 793
Net Debt	444 346 339
Provisions	17 277 822
Minorities	3 266 163
Derivatives	9 321 771
Total Debt&Others	474 212 095
Extra-operation Assets (Surplus assets)	
Financial investments in the Group's companies and associates	11 714 791
Financial investments in other companies	47 742 767
Cash and equivalents	25 545 537
Total	85 003 095
Equity Value	12 457 793
Number of Shares	41 641 416
Price Target	0,30

Source: Efacec's Report and Accounts and own calculations

7. RELATIVE VALUATION

The first step to perform the relative valuation process is the choosing of the multiple/s to use in the analysis. The multiples EV/EBITDA and PER are models that were chosen due to its simplicity and also the fact that they are models that allow comparison with other companies in the same sector as Efacec.

Since Efacec is not a quoted company, that is do not have market-based data information, the second step is to find companies that have similar characteristics (growth potential, cash flows and risk) to Efacec. Kaplan & Ruback (1995) confirmed that comparable companies have similar future cash flow expectations and similar risk to the firm being valued.

As comparable companies, Siemens, ABB, Schneider Electric, Alstom, Ansaldo STS Group and ThyssenKrupp AG were considered. In appendix 30 it is shown some indicators for the comparable companies as well as for Efacec. Through this table, one can see that a major risk factors is the high Efacec's indebtedness, which is the highest in the peer group. It also can be seen that Efacec has the lowest value of equity in relation to the peer group.

As future information of the comparable companies is not known, to continue the relative valuation process, it was consider the historical data (2012) for each company. Then it was calculated the arithmetic mean and the harmonic mean (appendix 31). In order to compute Efacec's final value the harmonic mean was used because it demonstrates that it can lead to a superior results (Liu, et al. 2001) and (Baker & Ruback, 1999) (appendix 32).

The market multiples EV/EBITDA and the PER (in this case since Efacec is not quoted in the stock exchange, the evaluation value was used) was quite low. The reasoning being, that in the investors perspective, EFACEC presents two major issues and if quoted in the stock exchange it would truly diminish the investors appetite to invest.

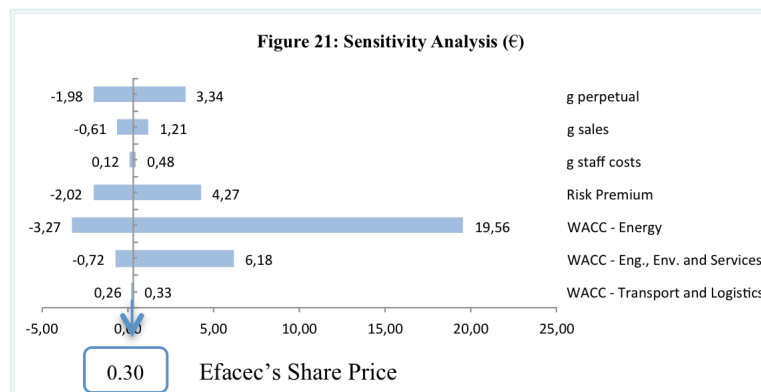
The company has difficulties in growth due to the financial crisis in Portugal and in Europe, despite the effort of internationalization of the management as well the high debt value. The difficulties in growth and excess debt demonstrate how currently the company has no competitive advantage. Most likely if their stocks were quoted, they would have low multiples regarding their similar competitors since it is an unattractive company. In this way EFACEC presents a PER (theoretical) of 1.41 against an industry PER of 14,6 (appendix 31).

In appendix 33, Efacec's final value by using the arithmetic mean can be seen.

8. SENSITIVITY ANALYSIS

The intrinsic value of Efacec's share price obtained in the valuation is not certain since this value was supported by assumptions that are made about the future of the company and the economy. Therefore, it is necessary to perform a sensitivity analysis that will estimate with a more precise certainty, the range of values that this share price can assume.

The variables that were used to perform the sensitivity analysis are the sales growth rate, the perpetual growth rate, the staff costs growth rate, the WACC rate for each business segment and the risk premium. In Figure 22 it is shown that the variable more prone to change is the WACC rate for the Energy segment. A variation of 1 p.p. causes a change of Efacec's value from a negative value of -3,27 euros per share to a positive value of 19,56 euros per share in the context of *ceteris paribus*. Likewise, the risk premium also has a big impact. A variation of 0,5 p.p. origins a change of the value from -2,02 euros per share to 4,27 euros per share. Further analysis shows that the WACC rate for Engineering, Environment and Services segment is another value that is also sensible. A variation of 1 p.p. causes a change of Efacec's value from -0,72 euros per share to 6,18 euros per share. The other variables present more modest changes.



Source: Own calculations

For further information see appendix 34.

9. CONCLUSION

The major goal of a valuation is to estimate the value of what a company is worth for potential buyers or other interested stakeholders despite how on this project it was discussed how there is no ideal model to determine this value. There are in fact different types of models for valuing companies with mutual characteristics but with different assumptions. For Efacec the FCF method was chosen and subsequently a relative valuation was performed to provide a more accurate range of suitable company values.

Between 2010 and 2012 an analysis of Efacec's operational and financial activity was performed through the analysis of its reports and accounts. It was concluded that the operational performance in that period was mainly explained by further businesses development on the international market segment.

Further breakdown was done through the examination of its strengths and its weaknesses (SWOT analysis in appendix 6) and the five competitive forces that shape the industry where Efacec operates (appendix 5).

With this information and values collected Efacec's valuation reached a target price of 0,30 euros per share. Other research analysis that allows comparison with this value was not found.

Since Efacec is not a quoted company, this share price can be compared with the peer group by using the Price Earnings Ratio (P/E ratio). PER multiple is a valuation method used to compare a company's current share price to its per-share earnings. It is a commonly used ratio that helps the investor to decide whether to buy or not shares of a company.

A higher P/E ratio reflects greater expected future gains because of perceived growth opportunities and some competitive advantages. This can indicate an overpriced stock. However, it can also indicate that the share price is somewhat more expensive, thus less attractive. A lower P/E ratio normally means that a company is undervalued. However, this is not always true because the company can earn low earnings than expected.

The theoretical PER of Efacec (1,51) compared with the industry harmonic mean (14,60) is too low (appendix 31). The fact that the share price is too cheap does not mean that the company is attractive. In fact, this low value indicates that Efacec presents a poor current and future performance and the market has less confidence that the company's earnings will increase. At the end it is a poor investment. So it is recommended not to buy Efacec shares.

There are several reasons that can explain this low share price. The first being the high Efacec's indebtedness and the financial crises in some markets where Efacec operates, especially in the Iberian market. The other reason is the high constant WACC rates projected for each business segment. Furthermore, the slow growth does not compensate the losses in the outcome of non-recurring factors that took place mainly in Brazil.

To improve Efacec's financial situation, it is recommended that the company continue to accelerate its financial exposure in areas with more potential of growth, such as Central Europe and Latin America markets, in order to face the losses in the Iberian market and in Brazil. In this country it is recommended to close all the projects. Additionally, it should reduce its borrowings especially in bank overdrafts and bank loans and to further reduce its short-term maturity debt.

Other actions that Efacec should follow in order to improve its financial situation, are to sell some associations that decrease its financial results such as CEO (Companhia da Energia Oceânica), SA and the Greenlight Solar Investment Spain, SL. These two associations have negative results between 2010 and 2012. It is also recommended to sell some joint ventures that also have negative results in the same period such as C&S Efacec MV India Pvt. Ltd. and Ensul Meci-Efacec -Cogeração do Porto, ACE.

9.1 Recommendations for future work on Efacec's Equity Research

As a final note, the following recommendations should be considered for future evaluations on Efacec Group's company:

- Efacec's business performance and its strategies in areas which present more potential of growth, in order to face the losses that occurred in markets such as Brazil and USA.
- Efacec's strategies regarding its high indebtedness.
- Additional information should be researched besides Efacec's Report and Accounts concerning the markets where Efacec develops its businesses.
- It is also suggested to give particular attention to the possibility of Efacec sell some companies of the Group in order to face its losses.

REFERENCES

Academic material - articles and books:

- Baker, M. & Ruback, R. S. (1999). Estimating Industry Multiples. Harvard University, Cambridge, 1–30.
- Baker, M., & Wurgler, J. (2003). Appearing and disappearing dividends: The link to catering incentives. Stern School of Business.
- Beranek, W., & Howe, K. M. (1990). The Regulated Firm and the DCF Model: Some Lessons From Financial Theory. *Journal of Regulatory Economics*, 193.
- Blume, M. E. (1971). On the assessment of risk. *Journal of Finance*, 26(nº1), 1–10.
- Booth, L. (2002). Finding Value Where None Exists: Pitfalls in Using Adjusted Present Value. *Journal of Applied Corporate Finance*, 15(1), 8–17.
- Brealey, R. A., Myers, S. C., & Allen, F. (2006). *Principles of Corporate Finance*, (8^o Edition ed.). McGraw-Hill.
- Cooper, I., & Nyborg, K. (2006). Consistent methods of valuing companies by DCF: Methods and assumptions, 1–20.
- Copeland, T. E., & Keenan, P. T. (1998). How much is flexibility worth? *The McKinsey Quarterly*, (2), 38–49.
- Damodaran, A. (1994). *Damodaran on Valuation*, New York: John Wiley and Sons.
- Damodaran, A. (1999). Estimating Risk Parameters. Stern School of Business, 1–31.
- Damodaran, A. (2006). Valuation Approaches and Metrics: A Survey of the Theory and Evidence. Stern School of Business, 1–77.
- Damodaran, A. (2008a). Equity Risk Premiums (ERP): Determinants, Estimation and Implications. Stern School of Business, 0–76.
- Damodaran, A. (2008b). What is the riskfree rate? A Search for the Basic Building Block. Stern School of Business, 1–33.
- Damodaran, A. (2009). Equity Risk Premiums (ERP): Determinants, Estimation and Implications - A post-crisis Update. Stern School of Business, 1–86.
- Damodaran, A. (2012). *Investment Valuation: Tools and Techniques for determining the value of any asset*. (Third Edi.) Hoboken, New Jersey: John Wiley and Sons.
- Dixit, A. K., & Pindyck, R. S. (1995). The Options Approach to Capital Investment. *Harvard Business Review*, 105–115.

- Durand, D. (1957). Growth Stocks and the St. Petersburg Paradox. *Journal of Finance*, 12, 348-363.
- Esty, B. C. (1999). Improved Techniques for Valuing Large-Scale Projects. *The Journal of Project Finance*, 9–25.
- Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 3–56.
- Feltham, G. A., & Ohlson, J. A. (1995). Valuation and Clean Surplus Accounting for Operating and Financial Activities. *Contemporary Accounting Research*, 11(2), 689–731.
- Fernández, P. (2002). *Valuation methods and shareholder value creation*. San Diego CA: Academic Press
- Fernandez, P. (2004). The value of tax shields is NOT equal to the present value of tax shields. *Journal of Financial Economics*, 73(1), 145–165.
- Fernández, P. (2006). Valuing companies by cash flow discounting: ten methods and nine theories. University of Navarra - IESE Business School, Working Paper nº 451
- Fernández, P. (2007). Company valuation methods. The most common errors in valuations. University of Navarra - IESE Business School, Working Paper nº 449
- Fernandez, P. (2013). Valuation using multiples. How do analysts reach their conclusions? University of Navarra - IESE Business School, 1–11.
- Fernandez, P., Aguirreamalloa, J., & Corres, L. (2013). Market Risk Premium used in 82 countries in 2012: a survey with 7,192 answers. University of Navarra - IESE Business School, 1–18.
- Foerster, S. R., & Sapp, S. G. (2005). The Dividend Discount Model in the Long-Run: A Clinical Study. *Journal of Applied Finance*, 1–40.
- Goedhart, M., Koller, T., & Wessels, D. (2005). The right role for multiples in valuation. *The Online Journal of Mckinsey & Co.*, 1–5.
- JP Morgan Chase. (2006). JP Morgan M&A EBS lecture presentation. Frankfurt.
- Kaplan, S. N., & Ruback, R. S. (1995). The Valuation of Cash Flow Forecasts: An Empirical Analysis. *Journal of Finance*, 50(4), 1059–1093.
- Koller, T., Goedhart, M., & Wessels, D. (2005). *Valuation: Measuring and Managing the Value of Companies* (Fourth Edi., pp. 5–767). New Jersey: John Wiley and Sons.
- Leslie, K. J., & Michaels, M. P. (1997). The real power of real options. *The Mckinsey Quarterly*, (3), 4–22.

- Lie, E., & Lie, H. J. (2002). Multiples Used to Estimate Corporate Value. *Financial Analysts Journal*, 58(2), 44–54.
- Liu, J., Nissim, D., & Thomas, J. (2001). Equity Valuation Using Multiples, 1–59.
- Luehrman, A. T. (1997a). Using APV: A Better Tool for Valuing Operations. *Harvard Business Review*, 1–12.
- Luehrman, A. T. (1997b). What's it Worth? A General Manager's Guide to Valuation. *Harvard Business Review*, 132–142.
- Lundholm, R., & O'Keefe, T. (2001). Reconciling Value Estimates from the Discounted Cash Flow Model and the Residual Income Model. *Contemporary Accounting Research*, 18(2), 311–335.
- Myers, S. C. (1974). Interactions of Corporate Financing and Investment Decisions-Implications for Capital Budgeting. *The Journal of Finance*, 29(1), 1–25.
- Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard Business Review*, Reprint R0801 E, 23–41.
- Ross, S. A. (1976). The Arbitrage Theory of Capital Asset Pricing. *Journal of Economic Theory*, 13, 341–360.
- Ruback, R. S. (2000). Capital Cash Flows: A Simple Approach to Valuing Risky Cash Flows. Harvard Business School, 1–27.
- Sabal, J. (2005). WACC or APV?: The Case of Emerging Markets. Department of Financial Management and Control, ESADE Universitat Ramon Llull, 1–19.
- Sharpe, W. F. (1964). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. *The Journal of Finance*, 19(3), 425–442.
- Steiger, F. (2008). The Validity of Company Valuation Using Discounted Cash Flow Methods. European Business School, 1–21.
- Sweeney, R. (2002). Accrual-Accounting Versus Cash-Flow Valuations. Working paper, McDonough School of Business, Georgetown University.
- Williams, J. (1938). *The Theory of Investment Value*. Harvard University Press, Cambridge.

Reports:

ABB, Report and Accounts (2012).

Alstom, Report and Accounts (2012).

Ansaldo STS Group, Report and Accounts (2012).

BBVA Research, Economic Outlook, Brazil (First Quarter 2013).

BBVA Research, Economic Outlook, Chile (First Quarter 2013).

BBVA Research, Economic Outlook, Paraguay (First Half 2013).

BBVA Research, Economic Outlook, Spain (First Quarter 2013).

BBVA Research, Economic Outlook, Uruguay (First Half 2013).

Efacec, Report and Accounts (2009, 2010, 2011, 2012).

Siemens, Report and Accounts (2012).

Schneider Electric, Report and Accounts (2012).

ThyssenKrupp AG, Report and Accounts (2012).

U.S. Energy Information Administration, International Energy Outlook (2011).

Internet Sources:

ANIMEE - <http://www.animee.pt>

BBVA Research - <http://www.bbvagmr.com/KETD/ketd/ing/index.jsp>

Bloomberg - <http://www.bloomberg.com>

Efacec - <http://www.efacec.pt>

European Environment Agency - <http://www.eea.europa.eu>

Eurostat - <http://epp.eurostat.ec.europa.eu>

Global Trade - <http://www.globaltrade.net>

IMF - <http://www.imf.org/external/index.htm>

International Energy Agency (IEA) - <http://www.iea.org>

KPMG - <http://www.kpmg.com/global/en/services/tax/tax-tools-and-resources/pages/corporate-tax-rates-table.aspx>

Ozforex (Foreign Exchange Services) - <http://www.ozforex.com.au>

Trading Economics - <http://www.tradingeconomics.com/germany/government-bond-yield>

U.S. Energy Information Administration (eia) - <http://www.eia.gov>

Yahoo Finance - <http://finance.yahoo.com>

Database:

Damodaran - spreadsheets

Factiva

IMF - World Economic Outlook Database (April 2013, October 2013, April 2014)

Yahoo Finance

APPENDIXES

Appendix 1 – Market Units

Europe	America	Africa	Asia
Iberian Portugal Spain Central Europe Romania Republic of Bulgaria Czech Republic Austria Greece Hungary Slovakia Poland Ukraine	USA Latin America Brazil Argentina Paraguay Uruguay Chile	Maghreb Algeria Tunisia Morocco Libya Southern Africa Angola Mozambique South Africa	India

Source: Efacec's Report and Accounts

Appendix 2 – Turnover Weight by Business Segment

(millions EUR)	2009		2010		2011			2012		
Business Segment	Turnover	Turnover	Weight	g	Turnover	Weight	g	Turnover	Weight	g
Energy	304 270 451	331 494 165	32,1%	8,9%	323 547 218	45,9%	-2,4%	336 530 930	43,1%	4,0%
Eng., Env. and Services	378 897 575	603 991 170	58,4%	59,4%	316 953 208	45,0%	-47,5%	372 418 868	47,7%	17,5%
Transport and Logistics	137 085 635	179 388 506	17,3%	30,9%	107 702 449	15,3%	-40,0%	101 825 890	13,1%	-5,5%
Other non-allocated	-11 376 356	-80 793 693	-7,8%	610,2%	-43 089 294	-6,1%	-46,7%	-30 678 556	-3,9%	-28,8%
Total	808 877 305	1 034 080 148	100%	27,8%	705 113 581	100%	-31,8%	780 097 132	100%	10,6%

Source: Efacec's Report and Accounts (values in euros)

Appendix 3 – Detailed Shareholder Structure

Source: Efacec's Report and Accounts

Shareholders	Number of Shares	% Share Capital
José de Mello, SGPS, SA	6 412 778	15,40%
Tecnocapital, SGPS, SA	4 164 115	10%
Through Efacec Sistemas de Gestão, SA ¹	10 243 815	24,6%
José de Mello Group	20 820 708	50%
Têxtil Manuel Gonçalves, SGPS, SA	9 957 952	23,91%
TMG HOLDING, SGPS, SA	210 000	0,50%
SPE – Sociedade Portuguesa de Electricidade e Calor, SA	408 942	0,98%
Through Efacec Sistemas de Gestão, SA ¹	10 243 814	24,6%
Têxtil Manuel Gonçalves Group	20 820 708	50%

⁽¹⁾ The shareholder Efacec Sistemas de Gestão, SA holds 20 487 629 shares of the company, which corresponds to 49,2% of its share capital. These shares are held by José de Mello, SGPS, SA at 50% and by Têxtil Manuel Gonçalves, SGPS, SA at 50%.

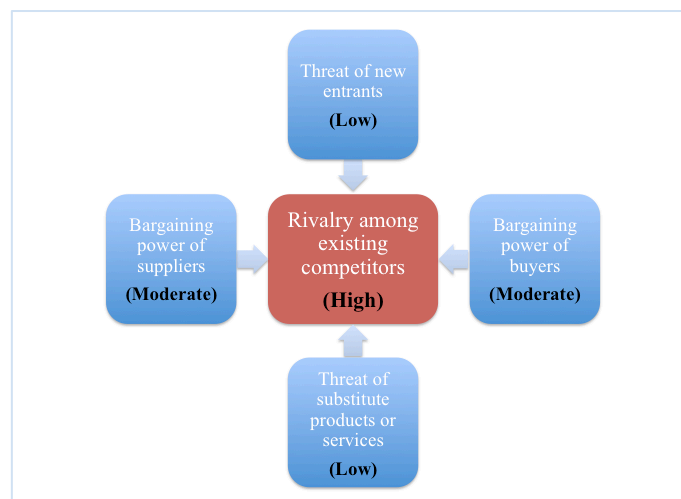
Appendix 4 – Indicators of Economic-Financial Situation 2010-2012

(Million euros)	2010	2011	2012
Net Assets	994,9	950,7	1.002,8
Equity	126,1	68,5	72,1
Net Financial Liability (Net Debt)	310,7	341,5	444,3
Capital Structure Ratios			
- Financial Autonomy (%)	12,7%	7,2%	7,2%
- Borrowings (Financ. Debt/(Equity+Financ. Debt) (%)	71,1%	83,3%	86%
- Debt/Equity book value	2,46	4,98	6,16
Financial Coverage Ratio			
- Debt Ratio (Financial Debt/EBITDA)	3,7	5,8	8,7
- EBIT/FE	2,49	1,65	1,15
Return-on-Equity (ROE) (%) – Profitability Ratio	23,4%	-60,0%	10,3%
Total Current Assets	676,5	604,1	661,4
Total Current Liabilities	635,3	719,9	876,6
General Liquidity Ratio	1,06	0,84	0,75
Working Capital	41,2	-115,9	-215,2

Source: Efacec's Report and Accounts and own calculations

Appendix 5 – Porter's Five Forces

Figure 22 – Final Five Forces that shape Industry Competition

**Threat of new entrants:**

In the electric and electronic industry, there are high barriers to entry mainly due to:

- ✓ Large capital requirement – in this sector a company must spend lot of money in order to compete. There is the constant need for innovation, which forces the company to invest more in Research and Development.
- ✓ High switching costs– since there is a high level of new product and applications.
- ✓ The need for advanced technology – this need makes it tough for new competitors to enter the market because they have to develop these technologies before competing.
- ✓ The know-how knowledge – there is a pre-requisite for skilled employees to accomplish constant innovation.
- ✓ Economies of Scale – this is only possible to achieve through the use of advanced technologies and production of high quantities, which make it difficult for new entrants to compete as they have a higher unit cost of production.
- ✓ Strong brand recognition – this sector has strong brand names and Efacec is one of them. The new competitors will have to improve their brand value in order to enter in the market.

The threat of new entrants in this market represents a **weak** level of threat for Efacec when considering the reasons stated.

Bargaining power of suppliers:

The electric and electronic industry has sufficient number of suppliers that guarantee a suffice level of competition. Efacec has always considered its suppliers as crucial partners to its value chain. Its limited size compared with the main players of international dimension reduces its negation power with suppliers, especially the international players. Furthermore, the cost of switching suppliers is high. The supplier that first provides the product or project presents the advantage of dominating the technology installed, which facilities its selection.

At the end, the power of suppliers in this sector is considered **moderate**.

Bargaining power of buyers:

Considering the nature of the electric and electronics industry, there is high price sensitivity because today's consumers tend to demand high quality. However, in this market, costumers are usually involved in contracts with certain companies that oblige them to have loyalty and therefore unable to switch. It is inefficient for the customer to switch companies due to the personalization of the products.

Furthermore, in the future, customers also require updates and service from the companies that they signed agreements with.

In terms of availability of information from the buyer to the product, in general Efacec offers the buyers a wide customer service to ensure maximum availability and performance of its center at any time.

Therefore the power of buyers in this industry is **moderate**.

The treat of substitutes:

In the electric and electronic industry, other than substitute goods, one can also consider the pressure of integrating substitute solutions that incorporate innovative technologies. However the high competition, the economy worsens and the high price sensitivity would benefit Efacec. The reason being that the company presents more competitive prices combined with high quality and technology in comparison with the main dimensional international players.

So the treat of substitutes goods and services represents a **weak** level to Efacec.

Rivalry among existing competitors:

There is severe competition in electric and electronic market due to the following reasons:

- ✓ Large number of equally positioned competitors
- ✓ Rapid change in technologies
- ✓ High research and development costs
- ✓ High exit barriers

Consequently, the rivalry among existing competitors in this sector is significantly **high** and requires Efacec to constantly focus on research and development and subsequently increasing its innovativeness and efficiency.

Appendix 6 – SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • International and multicultural company • Leader in the Transport & Logistics field (Portugal) • Recognition for its excellence and unique expertise in diverse areas • R&D projects with significant impact on the environment (reduction of CO₂ emissions) • Strong investment in innovation • Strong employee involvement in corporate volunteer activities • Several partnerships with associations that operate in technological, social and cultural areas • Strong growth ambition • Great commercial vitality • Strong flexibility • Strong concern with safety and the community • First company to obtain the International Railway Industry Standard • Products and services with above-average technology and quality • Prestigious brand and image (highly-skilled, technology-driven and human company) • Good working environment within the company 	<ul style="list-style-type: none"> • Difficulties in obtaining credit • Negative margin due to losses in the outcome of non-recurring factors that took place mainly in Brazil and also due to the consequence of the youth of the new US-based transformers plant • Reinforcement of the working capital as a result of business increase and reduction of the amount of advance payments made to customers • Significant increase of financial problems • Short maturity of debt, where mostly corresponds to short-term debt (<1 year) • High level of indebtedness due to the increase of shareholder's loans • Increase of operational costs • Debt ratio was not fulfilled in 2011 and 2012
Opportunities	Threats
<ul style="list-style-type: none"> • Expansion in other areas outside of Efacec's markets • The gradual recovery expected of the worldwide economy throughout 2013 • Focus on the development of new technology and business partnerships • Opportunity of a greater cross-referencing of management information between Business and Market Units. • Opportunity to reduce risk exposure through partnerships • Possibility of developing a new portal that allows Efacec managers to have a more understandable view and risk exposure of all analyzed proposals • Possibility of intensifying the Logistics, Engineering, Environment and Automation activities in Central Europe as well as Environmental Business in Maghreb • Opportunity to develop products for smart power grids • Higher presence in India and Southern Africa 	<ul style="list-style-type: none"> • Global economic crisis • Depressed business climate • Requirements and specifications of Efacec's markets (the costumers and environments in which it operates) • Competitiveness risk as a result of new market needs and technological changes • Severe contraction of investments in Portugal and Spain • Financial and foreign exchange instability caused by the international economic situation • The unpredictability of financial markets • Fluctuations on commodity prices

Table V – Strengths, Weaknesses, Opportunities and Threats (SWOT) of Efacec

Appendix 7 – Portugal: Economic data

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	1,94	-1,55	-3,17	-2,32	0,64	1,54	1,82	1,82
Unemployment rate	Percent of total labor force	10,80	12,74	15,65	18,25	18,51	18,06	17,49	16,91
Inflation (average consumer prices)	Percent change	1,39	3,56	2,78	0,70	1,03	1,54	1,47	1,53

Source: International Monetary Fund, World Economic Outlook Database, April 2013

Appendix 8 – Spain: Economic data

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	-0,32	0,42	-1,42	-1,56	0,74	1,35	1,46	1,51
Unemployment rate	Percent of total labor force	20,08	21,65	25,00	27,00	26,50	25,60	24,70	23,80
Inflation (average consumer prices)	Percent change	2,04	3,05	2,44	1,94	1,50	1,50	1,39	1,49

Source: International Monetary Fund, World Economic Outlook Database, April 2013

Appendix 9 – Brazil: Economic data

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	7,53	2,73	0,87	3,02	4,04	4,13	4,16	4,16
Unemployment rate	Percent of total labor force	6,74	5,97	5,50	6,00	6,50	6,50	6,50	6,50
Inflation (average consumer prices)	Percent change	5,04	6,64	5,40	6,13	4,73	4,50	4,50	4,50
Total Investment	Percent of GDP	20,24	19,73	17,64	18,52	18,56	18,65	18,75	18,84

Source: International Monetary Fund, World Economic Outlook Database, April 2013

Appendix 10 – Argentina: Economic data

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	9,16	8,87	1,90	2,77	3,46	3,00	3,00	3,00
Unemployment rate	Percent of total labor force	7,75	7,15	7,20	7,12	6,82	6,92	7,01	7,03
Inflation (average consumer prices)	Percent change	10,46	9,78	10,04	9,84	10,05	10,05	10,05	10,05

Source: International Monetary Fund, World Economic Outlook Database, April 2013

Appendix 11 – Paraguay: Economic data

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	13,09	4,34	-1,20	12,00	4,60	4,70	4,70	4,70
Inflation (average consumer prices)	Percent change	4,65	8,25	3,68	3,24	4,61	4,80	4,45	4,15

Source: International Monetary Fund, World Economic Outlook Database, October 2013

Appendix 12 – Uruguay: Economic data

* Projection Database from October 2013

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	8,95	6,53	3,94	4,20	2,79	3,00	3,28	3,61
Unemployment rate	Percent of total labor force	6,67	5,99	6,03	6,30	6,80	6,90	7,00	7,10
Inflation (average consumer prices)	Percent change	6,70	8,09	8,10	8,49*	8,29	8,00	7,54	6,95

Source: International Monetary Fund, World Economic Outlook Database, April 2014

Appendix 13 – Chile: Economic data

Indicators	Units	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
GDP	Percent change	5,70	5,77	5,62	4,40	4,50	4,50	4,50	4,50
Unemployment rate	Percent of total labor force	8,15	7,12	6,43	6,18	6,40	6,40	6,40	6,40
Inflation (average consumer prices)	Percent change	1,41	3,34	3,01	1,73	3,00	3,00	3,00	3,00

Source: International Monetary Fund, World Economic Outlook Database, October 2013

Appendix 14 – Average PIB's projection for each market segment

PIB - Market Segment	2013E	2014E	2015E	2016E	2017E
Iberia (Portugal+Spain)	-1,94%	0,69%	1,45%	1,64%	1,67%
Southern Africa	5,81%	6,21%	6,15%	5,93%	4,55%
Latin America	5,28%	3,88%	3,87%	3,93%	3,99%
USA	1,85%	2,95%	3,56%	3,44%	3,34%
Central Europe	0,23%	1,88%	2,60%	2,88%	2,92%
India	5,68%	6,23%	6,63%	6,86%	6,92%
Maghreb	0,61%	1,22%	10,96%	9,95%	6,03%
Other Markets	2,84%	3,42%	3,63%	3,73%	3,75%
Total Average PIB	1,30%	2,42%	3,33%	3,38%	3,11%

Market Segment by weight	2010		2011		2012		Average
	Turnover	Weight	Turnover	Weight	Turnover	Weight	Weight
Iberia (Portugal+Spain)	414 094 591	40,04%	314 347 507	44,58%	261 007 529	33,46%	39,36%
Southern Africa	38 662 090	3,74%	48 715 430	6,91%	75 955 211	9,74%	6,79%
Latin America	312 345 534	30,21%	77 472 193	10,99%	97 546 861	12,50%	17,90%
USA	29 504 623	2,85%	59 444 619	8,43%	61 595 526	7,90%	6,39%
Central Europe	55 910 968	5,41%	28 550 896	4,05%	68 314 503	8,76%	6,07%
India	6 303 049	0,61%	7 865 857	1,12%	19 740 996	2,53%	1,42%
Maghreb	47 550 073	4,60%	42 901 221	6,08%	34 502 007	4,42%	5,04%
Other Markets	129 709 220	12,54%	125 815 859	17,84%	161 434 498	20,69%	17,03%
Total	1 034 080 148	100%	705 113 581	100%	780 097 132	100%	100%

Source: Efacec's Report and Accounts and Own calculations (values in euros)

Appendix 15 – Efacec's Turnover Evolution

Business Segment	2013E			2014E			2015E			2016E			2017E		
	Turnover	Weight	g	Turnover	Weight	g	Turnover	Weight	g	Turnover	Weight	g	Turnover	Weight	g
Energy	342 151 170	42,73%	1,7%	357 846 353	42,77%	4,6%	368 342 523	42,33%	2,9%	378 923 979	41,93%	2,9%	389 831 893	41,52%	2,9%
Eng., Env. and Services	385 614 791	48,15%	3,5%	403 714 032	48,25%	4,7%	423 596 575	48,68%	4,9%	444 207 587	49,15%	4,9%	465 792 610	49,62%	4,9%
Transport and Logistics	102 290 077	12,77%	0,5%	103 181 289	12,33%	0,9%	104 677 807	12,03%	1,5%	106 126 979	11,74%	1,4%	107 637 859	11,47%	1,4%
Other non-allocated	-29 260 890	-3,65%	-4,6%	-27 990 333	-3,35%	-4,3%	-26 494 440	-3,04%	-3,9%	-25 446 734	-2,82%	-4,0%	-24 456 972	-2,61%	-3,9%
Total	800 795 148	100%	2,7%	836 751 342	100%	4,5%	870 122 466	100%	4,0%	903 811 811	100%	3,9%	938 805 390	100%	3,9%

Source: Efacec's Report and Accounts and Own calculations

Appendix 16 – Sales growth rate (g sales)

	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	Average
Growth rates	27,8%	-31,8%	10,6%	2,7%	4,5%	4,0%	3,9%	3,9%	3,19%

Source: Own calculations

Appendix 17 – Staff costs growth rate

	2013E	2014E	2015E	2016E	2017E
Turnover	805 000 025	830 697 889	857 216 100	884 580 848	902 272 465
Staff costs	-153 708 020	-154 123 393	-156 775 411	-160 634 834	-163 847 530
g	-2,45%	0,27%	1,72%	2,46%	
Average (g staff costs)	0,50%				

Source: Own calculations (values in euros)

Appendix 18 – Capex's projection

Energy	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Turnover	1 034 080 148	705 113 581	780 097 132	805 000 025	830 697 889	857 216 100	884 580 848	902 272 465
Capex	21 364 404	10 947 734	6 142 295	11 822 835	12 200 253	12 589 720	12 991 619	13 251 451
Capex/Sales ratio	2,07%	1,55%	0,79%					
Average	1,47%							
Eng., Env. and Services	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Turnover	1 034 080 148	705 113 581	780 097 132	805 000 025	830 697 889	857 216 100	884 580 848	902 272 465
Capex	4 357 996	15 918 197	2 857 015	8 171 319	8 432 170	8 701 349	8 979 120	9 158 703
Capex/Sales ratio	0,42%	2,26%	0,37%					
Average	1,02%							

Transport and Logistics	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Turnover	1 034 080 148	705 113 581	780 097 132	805 000 025	830 697 889	857 216 100	884 580 848	902 272 465
Capex	983 151	907 012	683 799	835 493	862 165	889 687	918 089	936 451
Capex/Sales ratio	0,10%	0,13%	0,09%					
Average	0,10%							

Other non-allocated	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Turnover	1 034 080 148	705 113 581	780 097 132	805 000 025	830 697 889	857 216 100	884 580 848	902 272 465
Capex	2 632 088	1 493 844	569 016	1 447 214	1 493 414	1 541 088	1 590 283	1 622 089
Capex/Sales ratio	0,25%	0,21%	0,07%					
Average	0,18%							

	2010		2011		2012		Average weight
	Capex	Weight	Capex	Weight	Capex	Weight	
Energy	21 364 404	72,82%	10 947 734	37,41%	6 142 295	59,91%	56,71%
Eng., Env. and Services	4 357 996	14,85%	15 918 197	54,39%	2 857 015	27,87%	32,37%
Transport and Logistics	983 151	3,35%	907 012	3,10%	683 799	6,67%	4,37%
Other non-allocated	2 632 088	8,97%	1 493 844	5,10%	569 016	5,55%	6,54%
Total	29 337 640	100%	29 266 788	100%	10 252 125	100%	100%

Source: Efacec's Report and Accounts and own calculations (values in euros)

Appendix 19 – Amortization and Depreciation projection

Energy	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Gross Assets	404 639 078	433 684 616	434 630 837	456 907 699	479 895 701	503 617 545	528 096 656	553 065 350
Amortizations and depreciations	10 823 418	10 944 580	11 426 791	11 921 542	12 521 341	13 140 286	13 778 990	14 054 570
Amortizations and depreciations/Gross assets ratio	2,67%	2,52%	2,63%					
Average	2,61%							

Eng., Env. and Services	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Gross Assets	404 639 078	433 684 616	434 630 837	456 907 699	479 895 701	503 617 545	528 096 656	553 065 350
Amortizations and depreciations	2 632 458	2 782 488	3 099 899	3 054 257	3 207 923	3 366 495	3 530 128	3 600 731
Amortizations and depreciations/Gross assets ratio	0,65%	0,64%	0,71%					
Average	0,67%							

Transport and Logistics	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Gross Assets	404 639 078	433 684 616	434 630 837	456 907 699	479 895 701	503 617 545	528 096 656	553 065 350
Amortizations and depreciations	819 456	1 180 528	1 224 439	1 152 083	1 210 047	1 269 861	1 331 584	1 358 216
Amortizations and depreciations/Gross assets ratio	0,20%	0,27%	0,28%					
Average	0,25%							

Other non-allocated	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Gross Assets	404 639 078	433 684 616	434 630 837	456 907 699	479 895 701	503 617 545	528 096 656	553 065 350
Amortizations and depreciations	2 278 067	2 293 774	1 611 062	2 227 524	2 339 595	2 455 244	2 574 585	2 626 077
Amortizations and depreciations/Gross assets ratio	0,56%	0,53%	0,37%					
Average	0,49%							

Source: Efacec's Report and Accounts and own calculations (values in euros)

Appendix 20 – Working Capital projection

	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Fixed Assets	218 054 473	231 745 808	218 839 644	241 116 506	264 104 508	287 826 352	312 305 463	337 274 157
Non Operational Assets	100 305 786	114 868 190	122 519 815	111 885 477	115 457 176	119 142 893	122 946 269	125 405 195
Current Operational Assets	622 952 996	564 438 553	635 891 206	595 179 204	614 178 997	633 785 317	654 017 526	667 097 877
Cash Components	53 559 529	39 624 992	25 545 537	37 764 587	38 970 139	40 214 176	41 497 925	42 327 884
Total Asset	994 872 784	950 677 543	1 002 796 202	985 945 774	1 032 710 820	1 080 968 738	1 130 767 184	1 172 105 112
Equity	122 463 227	65 795 409	68 853 100	79 853 972	68 123 604	62 605 700	58 315 049	55 671 130
Minority Interests	3 608 630	2 746 006	3 266 163	3 157 939	2 694 045	2 475 831	2 306 151	2 201 594
Debt	364 481 354	386 122 781	474 618 626	426 436 163	470 184 325	508 481 632	546 542 596	580 156 933
Non Operational Liabilities	25 704 516	83 595 530	31 682 459	49 380 572	50 956 939	52 583 628	54 262 245	55 347 490
Current Operational Liabilities	478 615 057	412 417 817	424 375 854	427 117 128	440 751 907	454 821 947	469 341 142	478 727 965
Total Equity and Liabilities	994 872 784	950 677 543	1 002 796 202	985 945 774	1 032 710 820	1 080 968 738	1 130 767 184	1 172 105 112
Working Capital	-144 337 939	-152 020 736	-211 515 352	-168 062 076	-173 427 090	-178 963 370	-184 676 384	-188 369 912
Change in Working Capital	-	-7 682 797	-59 494 616	43 453 276	-5 365 014	-5 536 280	-5 713 014	-3 693 528

	2011	2012	2013E	2014E	2015E	2016E	2017E
Energy	-69 755 976	-91 246 917	-71 806 924	-74 168 094	-75 759 243	-77 425 753	-78 219 192
Δ NWC	-	-21 490 941	19 439 993	-2 361 170	-1 591 150	-1 666 510	-793 439
Eng., Env. and Services	-68 334 324	-100 977 564	-80 928 590	-83 674 739	-87 123 679	-90 765 190	-93 460 598
Δ NWC	-	-32 643 240	20 048 974	-2 746 148	-3 448 941	-3 641 511	-2 695 407
Transport and Logistics	-23 220 380	-27 609 048	-21 467 516	-21 385 601	-21 529 720	-21 684 986	-21 597 377
Δ NWC	-	-4 388 667	6 141 532	81 915	-144 119	-155 266	87 609
Other non-allocated	9 289 945	8 318 176	6 140 954	5 801 343	5 449 272	5 199 546	4 907 255
Δ NWC	-	-971 768	-2 177 223	-339 610	-352 071	-249 726	-292 291
Total	-152 020 736	-211 515 352	-168 062 076	-173 427 090	-178 963 370	-184 676 384	-188 369 912

Source: Efacec's Report and Accounts and own calculations (values in euros)

Appendix 21 – Historical evolution of Efacec's Debt

Financial Debt	2010	2011	2012
Loans (non current)	207 764 860	78 611 379	22 311 563
Loans to partners and shareholders (non current)	0	0	94 621
Loans (current)	156 454 495	307 416 781	452 212 442
Loans to partners and shareholders (current)	261 999	94 621	0
Total	364 481 354	386 122 781	474 618 626

Source: Efacec's Report and Accounts (values in euros)

Appendix 22 – Efacec's debt projections

	2013E	2014E	2015E	2016E	2017E
Debt	426 436 163	470 184 325	508 481 632	546 542 596	580 156 933
Cash and cash equivalents	37 534 208	38 732 405	39 968 852	41 244 770	42 069 666
Other financial investments	230 380	237 734	245 323	253 155	258 218
Shareholder's loans	3 583 028	3 697 408	3 815 440	3 937 239	4 015 984
Net Debt	385 088 548	427 516 778	464 452 017	501 107 432	533 813 065

Source: Own calculations (values in euros)

Appendix 23 – WACC

Energy		Eng., Env. and Services		Transport and Logistics	
Kd	6,13%	Kd	6,13%	Kd	6,13%
Ke	38,41%	Ke	36,86%	Ke	39,54%
D	444 346 339	D	444 346 339	D	444 346 339
E	72 119 263	E	72 119 263	E	72 119 263
D+E	516 465 602	D+E	516 465 602	D+E	516 465 602
E/D+E	0,14	E/D+E	0,14	E/D+E	0,14
D/D+E	0,86	D/D+E	0,86	D/D+E	0,86
Tax rate	25%	Tax rate	25%	Tax rate	25%
WACC	9,32%	WACC	9,10%	WACC	9,48%

Source: Own calculations (values in euros)

Appendix 24 – Cost of equity

Energy

Rf	1,38%
Beta L	5,40
Risk Premium	6,85%
Ke	38,41%

Eng., Env. and Services

Rf	1,38%
Beta L	5,18
Risk Premium	6,85%
Ke	36,86%

Transport and Logistics

Rf	1,38%
Beta L	5,57
Risk Premium	6,85%
Ke	39,54%

Source: Own calculations

Appendix 25 – Efacec's Beta levered and unlevered

Energy	Siemens		ABB		Schneider Electric		Alstom	
	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly
Returns	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years
Horizon	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years
# Observations	258	59	261	59	261	59	261	59
Beta L (unadjusted)	1,08	1,10	1,44	1,49	1,21	1,05	1,05	1,35
Beta L (adjusted - Blume)	1,05	1,07	1,29	1,33	1,14	1,04	1,03	1,23
Average Beta L	1,06		1,31		1,09		1,13	
Total Debt	20 707 000 000		7 619 732 163		8 132 000 000		5 022 000 000	
Net Debt	9 292 000 000		1 202 996 141		4 395 000 000		2 492 000 000	
Book Value of Equity	31 302 000 000		13 199 667 095		16 816 000 000		4 434 000 000	
Market Value of Equity	66 455 000 000		36 089 884 240		30 454 000 000		8 618 055 477	
Minority Interests	569 000 000		540 000 000		174 000 000		107 000 000	
Entreprise Value	76 316 000 000		37 832 880 381		35 023 000 000		11 217 055 477	
D/E - Market Value	0,14		0,03		0,14		0,29	
D/E - Book Value	0,30		0,09		0,26		0,56	
Corporate tax rate	29,5%		18,1%		33,3%		33,3%	
Beta U (market value)	0,96		1,27		0,99		0,95	
Beta U (book value)	0,88		1,22		0,93		0,82	

Beta U - Book value (average)	0,96
Beta L	5,40

Transport and Logistics	Siemens		ABB		Alstom		Ansaldo	
	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly
Returns	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years
Horizon	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years
# Observations	258	59	261	59	261	59	261	59
Beta L (unadjusted)	1,08	1,10	1,44	1,49	1,05	1,35	0,41	0,34
Beta L (adjusted - Blume)	1,05	1,07	1,29	1,33	1,03	1,23	0,61	0,56
Average Beta L	1,06		1,31		1,13		0,58	
Total Debt	20 707 000 000		7 619 732 163		5 022 000 000		18 375 000	
Net Debt	9 292 000 000		1 202 996 141		2 492 000 000		-301 982 000	
Book Value of Equity	31 302 000 000		13 199 667 095		4 434 000 000		469 166 000	
Market Value of Equity	66 455 000 000		36 089 884 240		8 618 055 477		1 128 000 000	
Minority Interests	569 000 000		408 564 727		107 000 000		427 000	
Entreprise Value	76 316 000 000		37 701 445 109		11 217 055 477		826 445 000	
D/E - Market Value	0,14		0,03		0,29		-0,27	
D/E - Book Value	0,30		0,09		0,56		-0,64	
Corporate tax rate	29,5%		18,1%		33,3%		31,4%	
Beta U (market value)	0,96		1,27		0,95		0,71	
Beta U (book value)	0,88		1,22		0,82		1,04	

Beta U - Book value (average)	0,99
Beta L	5,57

Eng., Env. and Services	Siemens		ABB		ThyssenKrupp AG	
Returns	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly
Horizon	5 Years	5 Years	5 Years	5 Years	5 Years	5 Years
# Observations	258	59	261	59	258	59
Beta L (unadjusted)	1,08	1,10	1,44	1,49	1,27	1,55
Beta L (adjusted - Blume)	1,05	1,07	1,29	1,33	1,18	1,37
Average Beta L	1,06		1,31		1,27	
Total Debt	20 707 000 000		7 619 732 163		7 185 000 000	
Net Debt	9 292 000 000		1 202 996 141		5 800 000 000	
Book Value of Equity	31 302 000 000		13 199 667 095		4 526 000 000	
Market Value of Equity	66 455 000 000		36 089 884 240		8 510 000 000	
Minority Interests	569 000 000		408 564 727		540 000 000	
Enterprise Value	76 316 000 000		37 701 445 109		14 850 000 000	
D/E - Market Value	0,14		0,03		0,68	
D/E - Book Value	0,30		0,09		1,28	
Corporate tax rate	29,5%		18,1%		29,5%	
Beta U (market value)	0,96		1,27		0,86	
Beta U (book value)	0,88		1,22		0,67	

Beta U - Book value (average)	0,92
Beta L	5,18

Source: Company's Reports and Accounts and own calculations (values in euros)

Appendix 26 – Market Risk Premium

		2012	Average MRP
Portugal	Iberia	6,5%	6,0%
Spain		5,5%	
Brazil	Latin America	7%	8%
Argentina		10%	
Paraguay		NA	
Uruguay		9,6%	
Chile		5,6%	
Romania	Central Europe	8%	7%
Bulgaria		8,6%	
Czech Republic		NA	
Austria		6%	
Greece		7,4%	
Hungary		7%	
Slovakia		7,3%	
Poland		6%	
Ukraine		NA	
USA		North America	
Algeria	Maghreb	NA	7,3%
Tunisia		NA	
Morocco		7,3%	
Libya		NA	
Angola	Southern Africa	NA	6%
Mozambique		NA	
South Africa		6%	
India	Asia	8%	8%
Peru	Other Markets	8%	8%
Ecuador		15,9%	
Oman		7,3%	
Venezuela		12%	
Egypt		8%	
Cape Verde		NA	
Ireland		6%	
France		6%	
United Kingdom		5%	
Australia		6%	
Turkey		9%	
Bahrain		8,3%	
Indonesia		8%	
Singapore		5,7%	
United Arab Emirates		NA	
Final MRP		6,9%	

Source: Fernandez (2013) and own calculations

Market Segment by weight	2010		2011		2012		Average
	Turnover	Weight	Turnover	Weight	Turnover	Weight	Weight
Iberia (Portugal+Spain)	414 094 591	40,04%	314 347 507	44,58%	261 007 529	33,46%	39,36%
Southern Africa	38 662 090	3,74%	48 715 430	6,91%	75 955 211	9,74%	6,79%
Latin America	312 345 534	30,21%	77 472 193	10,99%	97 546 861	12,50%	17,90%
USA	29 504 623	2,85%	59 444 619	8,43%	61 595 526	7,90%	6,39%
Central Europe	55 910 968	5,41%	28 550 896	4,05%	68 314 503	8,76%	6,07%
India	6 303 049	0,61%	7 865 857	1,12%	19 740 996	2,53%	1,42%
Maghreb	47 550 073	4,60%	42 901 221	6,08%	34 502 007	4,42%	5,04%
Other Markets	129 709 220	12,54%	125 815 859	17,84%	161 434 498	20,69%	17,03%
Total	1 034 080 148	100%	705 113 581	100%	780 097 132	100%	100%

Source: Own calculations

Appendix 27 – Cost of debt

Risk and Failure Model: $Kd = Rf + p$
For large manufacturing firms

If interest coverage ratio is		Rating is	Spread is
>	≤ to		
-100000	0,199999	D	12,00%
0,2	0,649999	C	10,50%
0,65	0,799999	CC	9,50%
0,8	1,249999	CCC	8,75%
1,25	1,499999	B-	7,25%
1,5	1,749999	B	6,50%
1,75	1,999999	B+	5,50%
2	2,249999	BB	4,00%
2,25	2,499999	BB+	3,00%
2,5	2,999999	BBB	2,00%
3	4,249999	A-	1,30%
4,25	5,499999	A	1,00%
5,5	6,499999	A+	0,85%
6,5	8,499999	AA	0,70%
8,50	100000	AAA	0,40%

Source: Damodaran

	2010	2011	2012
EBIT	58 094 589	42 846 741	34 111 255
Financial Expenses	23 289 693	25 977 561	29 614 522
Ratio (EBIT/FE)	2,49	1,65	1,15
Average	1,77		

Rf	1,38%
p (Spread B+)	5,50%
kd	6,88%

Rating of Portugal: BB

p (Spread BB)	4,00%
Rf	1,38%
kd	5,38%

Source: Own calculations

Average Kd	6,13%
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Appendix 28 – Sum-of-the-parts FCFF

Energy	2012	2013E	2014E	2015E	2016E	2017E
EBITDA	45 990 826	36 085 252	40 127 165	44 344 976	48 706 380	51 393 572
Amortization&Depreciation	11 426 791	11 921 542	12 521 341	13 140 286	13 778 990	14 054 570
EBIT	34 564 035	24 163 710	27 605 824	31 204 690	34 927 390	37 339 002
EBIT (1-t)	25 923 026	18 122 782	20 704 368	23 403 517	26 195 542	28 004 251
(-) capex	6 142 295	11 822 835	12 200 253	12 589 720	12 991 619	13 251 451
(+) depreciation	11 426 791	11 921 542	12 521 341	13 140 286	13 778 990	14 054 570
(-) Δ NWC	-21 490 941	19 439 993	-2 361 170	-1 591 150	-1 666 510	-793 439
FCF	52 698 463	-1 218 504	23 386 626	25 545 233	28 649 424	29 600 809
(1+WACC)^t		1,093	1,195	1,306	1,428	
DFCF		-1 114 635	19 569 489	19 553 647	20 060 408	412 549 571
Value of Operations Explicit				58 068 909		
Value of Operations Perpetuity				264 244 507		
EV				322 313 416		

Eng., Env. and Services	2012	2013E	2014E	2015E	2016E	2017E
EBITDA	10 819 267	12 574 274	13 982 719	15 452 459	16 972 234	17 908 613
Amortization&Depreciation	3 099 899	3 054 257	3 207 923	3 366 495	3 530 128	3 600 731
EBIT	7 719 368	9 520 017	10 774 796	12 085 964	13 442 106	14 307 883
EBIT (1-t)	5 789 526	7 140 013	8 081 097	9 064 473	10 081 579	10 730 912
(-) capex	2 857 015	8 171 319	8 432 170	8 701 349	8 979 120	9 158 703
(+) depreciation	3 099 899	3 054 257	3 207 923	3 366 495	3 530 128	3 600 731
(-) Δ NWC	-32 643 240	20 048 974	-2 746 148	-3 448 941	-3 641 511	-2 695 407
FCF	38 675 650	-18 026 023	5 602 998	7 178 559	8 274 098	7 868 347
(1+WACC)^t		1,091	1,190	1,299	1,417	
DFCF		-16 522 112	4 707 082	5 527 570	5 839 602	112 999 829
Value of Operations Explicit				-447 858		
Value of Operations Perpetuity				73 098 087		
EV				72 650 229		

Transport and Logistics	2012	2013E	2014E	2015E	2016E	2017E
EBITDA	-8 316 859	534 620	594 503	656 992	721 608	761 420
Amortization&Depreciation	1 224 439	1 152 083	1 210 047	1 269 861	1 331 584	1 358 216
EBIT	-9 541 298	-617 463	-615 543	-612 869	-609 976	-596 796
EBIT (1-t)	-7 155 974	-463 097	-461 658	-459 651	-457 482	-447 597
(-) capex	683 799	835 493	862 165	889 687	918 089	936 451
(+) depreciation	1 224 439	1 152 083	1 210 047	1 269 861	1 331 584	1 358 216
(-) Δ NWC	-4 388 667	6 141 532	81 915	-144 119	-155 266	87 609
FCF	-2 226 666	-6 288 039	-195 690	64 640	111 280	-113 441
(1+WACC)^t		1,095	1,199	1,312	1,436	
DFCF		-5 743 724	-163 277	49 265	77 469	-1 547 599
Value of Operations Explicit				-5 780 267		
Value of Operations Perpetuity				-984 124		
EV				-6 764 391		

Source: Own calculations (values in euros)

Appendix 29 – Sum-of-the-parts FCFF – Other non-allocated

Other non-allocated	2012	2013E	2014E	2015E	2016E	2017E
EBITDA	2 546 137	1 594 889	1 773 533	1 959 951	2 152 716	2 271 484
Amortization&Depreciation	1 611 062	2 227 524	2 339 595	2 455 244	2 574 585	2 626 077
EBIT	935 075	-632 634	-566 062	-495 293	-421 869	-354 593
EBIT (1-t)	701 306	-474 476	-424 546	-371 470	-316 402	-265 945
(-) capex	569 016	1 447 214	1 493 414	1 541 088	1 590 283	1 622 089
(+) depreciation	1 611 062	2 227 524	2 339 595	2 455 244	2 574 585	2 626 077
(-) Δ NWC	-971 768	-2 177 223	-339 610	-352 071	-249 726	-292 291
FCF	2 715 121	2 483 056	761 245	894 758	917 626	1 030 334
(1+WACC _{avg})^t		1,093	1,195	1,306	1,427	
DFCF		2 271 797	637 221	685 258	642 980	14 397 950
Discount rate (average WACC)				9,30%		
Value of Operations Explicit				4 237 256		
Value of Operations Perpetuity				9 230 283		
EV				13 467 539		

Source: Own calculations (values in euros)

Appendix 30 – Principal indicators from the peer group (EUR/USD₂₀₁₂ = 1,3217)

Benchmark Financials	Siemens	ABB - Dollars	ABB - Euros	Schneider Electric	Alstom	Ansaldo STS Group	ThyssenKrupp AG	Efacec
Total Debt	20 707 000 000	10 071 000 000	7 619 732 163	8 132 000 000	5 022 000 000	18 375 000	7 185 000 000	474 618 626
Net Debt	9 292 000 000	1 590 000 000	1 202 996 141	4 395 000 000	2 492 000 000	-301 982 000	5 800 000 000	444 346 339
Market Value Equity	66 455 000 000	47 700 000 000	36 089 884 240	30 454 000 000	8 618 055 477	1 128 000 000	8 510 000 000	72 119 263
D/E	0,14	0,03	0,03	0,14	0,29	-0,27	0,68	6,16
Minority Interests	569 000 000	540 000 000	408 564 727	174 000 000	107 000 000	427 000	540 000 000	3 266 163
Enterprise Value	76 316 000 000	49 830 000 000	37 701 445 109	35 023 000 000	11 217 055 477	826 445 000	14 850 000 000	-
EBIT	7 043 000 000	4 058 000 000	3 070 288 265	2 866 000 000	1 072 000 000	117 073 000	-988 000 000	34 111 255
Debt/EBIT	2,94	2,48	2,48	2,84	4,68	0,16	-7,27	13,91
Equity book value	31 302 000 000	17 446 000 000	13 199 667 095	16 816 000 000	4 434 000 000	469 166 000	4 526 000 000	72 119 263
Total Assets	108 282 000 000	49 070 000 000	37 126 428 085	36 156 000 000	31 047 000 000	1 865 549 000	38 284 000 000	1 002 796 202
Financial Autonomy	28,91%	35,55%	35,55%	46,51%	14,28%	25,15%	11,82%	7,2%
Indebtedness	21,34%	16,81%	16,81%	18,84%	30,93%	2,18%	32,61%	86,00%

Source: Companies' Report and Accounts and own calculations (values in euros)

Appendix 31 – Peer Group Multiples

Comparable companies	EV/EBITDA	PER	PER - Efacec
Siemens	7,80	14,48	1,51
ABB	9,00	17,65	
Schneider Electric	9,68	15,80	
Alstom	6,63	11,58	
Ansaldo	5,99	14,90	
ThyssenKrupp AG	9,62	NA	
Industry Mean	8,12	14,88	
Industry Harmonic Mean	7,85	14,60	

Source: Factiva; Companies' Report and Accounts and own calculations

Appendix 32 – Efacec’s Value – harmonic mean

Efacec Group (2012) - using harmonic mean	Values from Income Statement	Efacec EV	Efacec Debt&Others	Efacec Extra-operation Assets	Efacec Equity
EBITDA	51 039 372	400 334 170	474 212 095	85 003 095	11 125 170
Net Income	8 248 871				120 445 218
Number of Shares	41 641 416				
Share Price (EV/EBITDA)	0,27				
Share Price (PER)	2,89				

Source: Efacec’s Report and Accounts and own calculations (values in euros)

Appendix 33 – Efacec’s Value – arithmetic mean

Efacec Group (2012) - using arithmetic mean	Values from Income Statement	Efacec EV	Efacec Debt&Others	Efacec Extra-operation Assets	Efacec Equity
EBITDA	51 039 372	414 072 928	474 212 095	85 003 095	24 863 928
Net Income	8 248 871				122 775 140
Number of Shares	41 641 416				
Share Price (EV/EBITDA)	0,60				
Share Price (PER)	2,95				

Source: Efacec’s Report and Accounts and own calculations (values in euros)

Appendix 34 – Sensitivity Analysis

G sales		0,30
	1,19%	-0,61
	1,59%	-0,43
	1,99%	-0,25
	2,39%	-0,07
	2,79%	0,12
	3,19%	0,30
	3,59%	0,48
	3,99%	0,66
	4,39%	0,84
	4,79%	1,03
	5,19%	1,21

A variation of 0,4 p.p. on the growth sales rate, causes a change in Efacec’s share price of -0,61 euros to 1,21 euros.

G Staff Costs		0,30
	0,00%	0,48
	0,10%	0,44
	0,20%	0,41
	0,30%	0,37
	0,40%	0,33
	0,50%	0,30
	0,60%	0,26
	0,70%	0,23
	0,80%	0,19
	0,90%	0,16
	1,00%	0,12

A variation of 0,1 p.p. on the g of staff costs, causes a change in Efacec’s share price of 0,12 euros to 0,48 euros.

Perpetual Growth Rate	0,30
1,00%	-1,98
1,20%	-1,57
1,40%	-1,14
1,60%	-0,69
1,80%	-0,21
2,00%	0,30
2,20%	0,84
2,40%	1,40
2,60%	2,01
2,80%	2,65
3,00%	3,34

A variation of 0,2 p.p. on the perpetual growth rate causes a change in Efacec's share price of -1,98 euros to 3,34 euros.

WACC - Transport and Logistics	0,30
4,48%	0,32
5,48%	0,33
6,48%	0,32
7,48%	0,32
8,48%	0,31
9,48%	0,30
10,48%	0,29
11,48%	0,28
12,48%	0,27
13,48%	0,27
14,48%	0,26

A variation of 1 p.p. on the WACC rate of Transports and Logistics area causes a change in Efacec's share price of 0,26 euros to 0,32 euros.

Perpetual Growth Rate	g sales											
	0,30	1,19%	1,59%	1,99%	2,39%	2,79%	3,19%	3,59%	3,99%	4,39%	4,79%	5,19%
1,00%	-2,89	-2,71	-2,53	-2,35	-2,16	-1,98	-1,80	-1,62	-1,43	-1,25	-1,07	-1,07
1,20%	-2,48	-2,30	-2,12	-1,94	-1,75	-1,57	-1,39	-1,21	-1,03	-0,84	-0,66	-0,66
1,40%	-2,05	-1,87	-1,69	-1,51	-1,32	-1,14	-0,96	-0,78	-0,59	-0,41	-0,23	-0,23
1,60%	-1,60	-1,42	-1,23	-1,05	-0,87	-0,69	-0,51	-0,32	-0,14	0,04	0,22	0,22
1,80%	-1,12	-0,94	-0,76	-0,57	-0,39	-0,21	-0,03	0,16	0,34	0,52	0,70	0,70
2,00%	-0,61	-0,43	-0,25	-0,07	0,12	0,30	0,48	0,66	0,84	1,03	1,21	1,21
2,20%	-0,08	0,11	0,29	0,47	0,65	0,83	1,02	1,20	1,38	1,56	1,75	1,75
2,40%	0,49	0,67	0,86	1,04	1,22	1,40	1,59	1,77	1,95	2,13	2,31	2,31
2,60%	1,10	1,28	1,46	1,64	1,83	2,01	2,19	2,37	2,55	2,74	2,92	2,92
2,80%	1,74	1,92	2,10	2,29	2,47	2,65	2,83	3,01	3,20	3,38	3,56	3,56
3,00%	2,42	2,61	2,79	2,97	3,15	3,34	3,52	3,70	3,88	4,06	4,25	4,25

A growth in perpetual growth rate of 1 p.p. correlated with a growth in the g sales of 2 p.p. causes a valorization of Efacec's share price from 0,30 euros to a positive value of 4,25 euros. While a reduction in the perpetual growth rate of 1 p.p. combined with a reduction in the g sales also of 2 p.p. the Efacec's share price will be devaluated to -2,89 euros.

		g sales											
		0,30	1,19%	1,59%	1,99%	2,39%	2,79%	3,19%	3,59%	3,99%	4,39%	4,79%	5,19%
g Staff Costs	0,00%	0,30	-0,44	-0,25	-0,07	0,11	0,29	0,47	0,66	0,84	1,02	1,20	1,39
	0,10%		-0,47	-0,29	-0,11	0,07	0,26	0,44	0,62	0,80	0,99	1,17	1,35
	0,20%		-0,51	-0,32	-0,14	0,04	0,22	0,40	0,59	0,77	0,95	1,13	1,32
	0,30%		-0,54	-0,36	-0,18	0,00	0,19	0,37	0,55	0,73	0,92	1,10	1,28
	0,40%		-0,58	-0,40	-0,21	-0,03	0,15	0,33	0,52	0,70	0,88	1,06	1,24
	0,50%		-0,61	-0,43	-0,25	-0,07	0,12	0,30	0,48	0,66	0,84	1,03	1,21
	0,60%		-0,65	-0,47	-0,28	-0,10	0,08	0,26	0,45	0,63	0,81	0,99	1,17
	0,70%		-0,68	-0,50	-0,32	-0,14	0,05	0,23	0,41	0,59	0,77	0,96	1,14
	0,80%		-0,72	-0,54	-0,35	-0,17	0,01	0,19	0,37	0,56	0,74	0,92	1,10
	0,90%		-0,75	-0,57	-0,39	-0,21	-0,03	0,16	0,34	0,52	0,70	0,89	1,07
	1,00%		-0,79	-0,61	-0,43	-0,24	-0,06	0,12	0,30	0,49	0,67	0,85	1,03

A growth in the g staff costs of 0,2 p.p. correlated with a growth in the g sales of 2 p.p. causes a valorization of Efacec's share price from 0,30 euros to 1,14 euros. While a reduction in the perpetual growth rate of 2 p.p. combined with a reduction in the g sales of 0,2 p.p. the Efacec's share price will be devaluated to -0,54 euros.

		WACC - energy											
		0,30	4,32%	5,32%	6,32%	7,32%	8,32%	9,32%	10,32%	11,32%	12,32%	13,32%	14,32%
Risk Premium	4,35%	0,30	20,48	11,95	7,37	4,52	2,58	1,17	0,10	-0,74	-1,41	-1,96	-2,42
	4,85%		20,24	11,72	7,15	4,30	2,36	0,95	-0,12	-0,95	-1,62	-2,17	-2,63
	5,35%		20,04	11,52	6,95	4,11	2,16	0,76	-0,31	-1,14	-1,81	-2,36	-2,82
	5,85%		19,86	11,34	6,78	3,93	1,99	0,59	-0,48	-1,31	-1,98	-2,53	-2,99
	6,35%		19,70	11,19	6,62	3,78	1,84	0,43	-0,63	-1,46	-2,13	-2,68	-3,13
	6,85%		19,56	11,04	6,48	3,64	1,70	0,30	-0,76	-1,60	-2,26	-2,81	-3,27
	7,35%		19,43	10,92	6,35	3,51	1,58	0,17	-0,89	-1,72	-2,38	-2,93	-3,39
	7,85%		19,31	10,80	6,24	3,40	1,46	0,06	-1,00	-1,83	-2,49	-3,04	-3,49
	8,35%		19,20	10,69	6,13	3,30	1,36	-0,04	-1,10	-1,93	-2,59	-3,14	-3,59
	8,85%		19,10	10,60	6,04	3,20	1,27	-0,13	-1,19	-2,02	-2,69	-3,23	-3,68
	9,35%		19,01	10,51	5,95	3,11	1,18	-0,22	-1,28	-2,10	-2,77	-3,31	-3,77

A growth in the risk premium of 2,5 p.p. correlated with a growth in the WACC rate for Energy area of 5 p.p. causes a devaluation of Efacec's share price from 0,30 euros to -3,77 euros. In the extreme opposite way it can be seen that there is a significant valorization of the Efacec's share price.

Appendix 35 – Balance-Sheet Forecast

ASSETS	(Amounts in euros)					
	2012	2013E	2014E	2015E	2016E	2017E
Fixed Asset	218 839 644	241 116 506	264 104 508	287 826 352	312 305 463	337 274 157
Tangible fixed assets	186 358 608					
Intangible fixed assets	7 975 295					
Goodwill	24 505 741					
Non operational assets	122 519 815	111 885 477	115 457 176	119 142 893	122 946 269	125 405 195
Financial investments in the Group's companies and associates	11 714 791	11 229 395	11 587 869	11 957 786	12 339 512	12 586 302
Financial investments in other companies	47 742 767	46 956 325	48 455 303	50 002 132	51 598 341	52 630 308
Debtors and deferred costs	4 090 119	4 505 782	4 649 619	4 798 048	4 951 215	5 050 239
Deferred tax assets	58 791 290	49 131 768	50 700 192	52 318 685	53 988 844	55 068 621
Derivative financial instruments	180 848	62 207	64 193	66 242	68 357	69 724
Operational assets	635 891 206	595 179 204	614 178 997	633 785 317	654 017 526	667 097 877
Inventories	89 552 966	88 338 135	91 158 136	94 068 160	97 071 080	99 012 502
Customers and accrued income	483 064 726	446 470 596	460 723 193	475 430 772	490 607 859	500 420 016
Shareholder's loans	4 726 750	3 583 028	3 697 408	3 815 440	3 937 239	4 015 984
Debtors and deferred costs	52 144 136	54 524 974	56 265 564	58 061 719	59 915 212	61 113 516
Income tax	5 837 298	2 007 880	2 071 978	2 138 121	2 206 376	2 250 503
Derivative financial instruments	565 330	254 591	262 719	271 105	279 760	285 355
Cash and equivalents	25 545 537	37 764 587	38 970 139	40 214 176	41 497 925	42 327 884
Other financial investments	271 243	230 380	237 734	245 323	253 155	258 218
Cash and cash equivalents	25 274 294	37 534 208	38 732 405	39 968 852	41 244 770	42 069 666
Total Assets	1 002 796 202	985 945 774	1 032 710 820	1 080 968 738	1 130 767 184	1 172 105 112
EQUITY AND LIABILITIES						
Equity						
Capital	41 641 416	41 641 416	41 641 416	41 641 416	41 641 416	41 641 416
Additional paid-in capital	45 000 000	45 000 000	45 000 000	45 000 000	45 000 000	45 000 000
Financial instruments reserves	-4 263 987	-4 199 513	-4 333 573	-4 471 913	-4 614 669	-4 706 962
Revaluation reserves	21 456 768	21 078 170	21 751 044	22 445 399	23 161 919	23 625 157
Reserves and retained profit	-33 392 529	-22 487 297	-35 131 486	-41 119 927	-45 955 954	-48 941 523
Other retained comprehensive income	-1 588 568	-1 178 804	-803 798	-889 275	-917 664	-946 958
Equity for Shareholders of Efacec Capital SGPS (Total)	68 853 100	79 853 972	68 123 604	62 605 700	58 315 049	55 671 130
Non-controlled interests	3 266 163	3 157 939	2 694 045	2 475 831	2 306 151	2 201 594
Total Equity	72 119 263	83 011 910	70 817 649	65 081 531	60 621 201	57 872 724
Liabilities						
Non operational liabilities						
Provisions	17 277 822	34 861 657	35 974 539	37 122 947	38 308 016	39 074 177
Suppliers	600 563	674 638	696 174	718 398	741 331	756 158
Creditors and accrued costs	1 283 557	2 183 385	2 253 085	2 325 009	2 399 230	2 447 215
Deferred tax liabilities	5 711 879	5 584 521	5 762 794	5 946 759	6 136 596	6 259 328
Derivative financial instruments	6 808 638	6 076 372	6 270 347	6 470 514	6 677 071	6 810 613
Financial Debt	474 618 626	426 436 163	470 184 325	508 481 632	546 542 596	580 156 933
Loans (non current)	22 311 563					
Loans to partners and shareholders (non current)	94 621	426 436 163	470 184 325	508 481 632	546 542 596	580 156 933
Loans (current)	452 212 442					
Loans to partners and shareholders (current)	0					
Operational liabilities	424 375 854	427 117 128	440 751 907	454 821 947	469 341 142	478 727 965
Suppliers	152 814 460	149 379 074	154 147 674	159 068 501	164 146 415	167 429 343
Creditors and accrued costs	107 179 927	108 671 097	112 140 184	115 720 014	119 414 122	121 802 405
Income tax	0	228 757	236 059	243 595	251 371	256 398
Deferred income	161 868 334	166 079 962	171 381 702	176 852 687	182 498 322	186 148 289
Derivative financial instruments	2 513 133	2 758 238	2 846 288	2 937 150	3 030 912	3 091 530
Total Liabilities	930 676 939	902 933 864	961 893 172	1 015 887 207	1 070 145 983	1 114 232 388
Total Equity and Liabilities	1 002 796 202	985 945 774	1 032 710 820	1 080 968 738	1 130 767 184	1 172 105 112

Source: Efacec's Report and Accounts and own calculations

Appendix 36 – Income Statement Forecast

Income Statement (by nature)	(Amounts in euros)					
	2012	2013E	2014E	2015E	2016E	2017E
Sales and services rendered	780 097 132	805 000 025	830 697 889	857 216 100	884 580 848	902 272 465
Cost of sold and consumed inventories	-298 527 032	-332 201 603	-342 806 412	-353 749 756	-365 042 443	-372 343 292
Change in production	15 114 135	18 210 160	18 791 479	19 391 356	20 010 382	20 410 590
External supplies and services	-291 259 810	-285 232 731	-294 338 162	-303 734 263	-313 430 315	-319 698 921
Staff costs	-157 572 295	-158 360 281	-159 152 208	-159 948 095	-160 747 961	-161 551 828
Amortization and depreciation	-17 362 190	-18 355 406	-19 278 906	-20 231 886	-21 215 288	-21 639 594
Provisions and asset impairment	434 073	-1 736 085	-1 791 506	-1 848 695	-1 907 711	-1 945 865
Other operating costs	-5 806 072	-5 682 801	-5 864 212	-6 051 414	-6 244 592	-6 369 484
Other operating income	8 993 314	9 056 267	9 149 547	9 290 450	9 427 019	9 615 560
Operating profit	34 111 255	30 697 544	35 407 510	40 333 796	45 429 939	48 749 630
Financial losses and costs	-36 350 997	27 238 431	23 605 928	26 206 778	28 470 909	30 717 886
Financial gains and income	6 736 475					
Losses/Profits in associates	4 253 668	-19 705 126	-20 334 169	-20 983 293	-21 653 139	-22 086 202
Losses/Profits in other companies	-152 583	-105 531	-108 900	-112 376	-115 964	-118 283
Total	-25 513 437	-47 049 088	-44 048 997	-47 302 448	-50 240 011	-52 922 370
Profit before taxes	8 597 818	-16 351 543	-8 641 488	-6 968 652	-4 810 072	-4 172 740
Income tax of the year	-1 633 881	1 668 904	881 985	711 249	490 935	425 887
Income tax of prior years	1 284 934	701 736	724 138	747 254	771 109	786 531
Income tax	-348 947	2 370 640	1 606 123	1 458 503	1 262 044	1 212 417
Consolidated net result	8 248 871	-13 980 903	-7 035 365	-5 510 149	-3 548 028	-2 960 323
Attributed to:						
Shareholders of Efacec Capital SGPS	7 437 613	-14 318 346	-7 383 580	-5 869 480	-3 918 830	-3 338 541
Minority interests	811 257	337 443	348 215	359 331	370 802	378 218
Net Profit per share - Basic	0,18	-0,34	-0,18	-0,14	-0,09	-0,08
Net Profit per share - Diluted	0,18	-0,34	-0,18	-0,14	-0,09	-0,08

Source: Efacec's Report and Accounts and own calculations