

Department of “*Business and Management*”

Chair: *M&A and Investment Banking*

STRATEGIC OPTIONS FOR UTILITIES’ RENEWABLE ASSETS

SUPERVISOR

Prof. Luigi de Vecchi

CANDIDATE

Fabrizio Ciabatti

640831

CO-SUPERVISOR

Prof. Francesco Cerri

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Abstract

Renewable energies (i.e. wind, solar, hydro etc.) are becoming more and more important since they constitute a way through which it is possible to minimize/eliminate the negative effects of global warming. This is the reason why political institutions are concerning about this issue and try to incentivize the development of REs industry with a broad range of subsidies (i.e. green certificates, renewable portfolio standards etc.). These are, indeed, fundamental for this industry because electricity generation costs are far higher than fossil fuels' (i.e. coal). So, subsidies will no longer be needed as soon as **grid parity** is reached, that is, when electricity generation costs from renewable sources and fossils fuels are equal. However, together with availability of debt financing, subsidies are currently one of the most important drivers that make REs utilities profitable. As a result, due to the financial crisis begun in 2008, governments have been forced to cut subsidies schemes with consequent negative effects on REs companies' financial performance.

Therefore, the aim of this dissertation is analyzing and predicting the main trends of the REs industry and their effect on corporate activity (i.e. M&A and IPOs); moreover, it will also analyze whether European utilities made a good choice listing (or not) their REs divisions.

The **first goal** will be achieved through an analysis of the following aspects:

- Renewable energy industry analysis
- M&A activity in the Renewables sector
- IPO trends

So, after having learnt which are the main characteristics of REs sector and its trends in terms of corporate activity (M&A and IPOs), we will try to predict the future of such industry.

The **second goal**, instead, will be fulfilled following the steps mentioned below:

- Analysis of the IPO and the delisting of the European companies taken into consideration.
- Comparison between public and private utilities in terms of installed capacity, capex and multiple valuation.

The REs utilities analyzed in the dissertation are EDF Energies Nouvelles, Iberdrola Renovables, EDP Renováveis, Enel Green Power, E.On Climate & Renewables and RWE Innogy.

Starting from the beginning, that is, the analysis of the REs industry, we found that this sector presents **four major characteristics**:

- 1) **Green premium:** before the financial crisis, REs companies were traded at higher EV/EBITDA FY1 multiples than their parent companies. This positive spread, indeed, was called green premium; however, since mainly based on future growth guaranteed by subsidies and debt financing availability, such premium was eroded after 2008.
- 2) **Capital intensity:** there seems to be a positive correlation between capex and EV of a REs utility. So, more investments tend to favor the value increase of such companies.
- 3) **Subsidies dependence:** as already mentioned, incentive schemes are fundamental for the development of REs industry, as long as electricity generation costs are equal to fossil fuels'. Subsidies can take the form Renewable portfolio standards, fiscal incentives, green certificates etc.
- 4) **Debt financing dependence:** if utilities are not able to secure financing coming from external sources, their development pipelines are at risk since they are more likely not to be completed.

Going more towards the core of the dissertation, we analyzed M&A activity in the REs sector. We found it to be very volatile and, more important, very cyclical. In fact, while volumes peaked in 2007, they literally collapsed after Lehman, although immediately increasing in 2009. Once again they were characterized by a downturn in 2010, with a recovery in 2011, which recorded the highest level of M&A volumes in the REs industry ever reached.

IPO trends are also very important to understand which is the feeling around a certain industry; in fact, like M&A activity, **IPOs volumes** and **numbers** are strongly **cyclical**. In particular, the higher the market volatility, highlighted by the VIX index (also known as “fear index”), the lower the IPO volumes. The reason behind this statement can be explained by the fact that investors (and advisors) are not willing to bear any risk coming from deep aftermarket price fluctuations, stemming from a high volatility environment. As for REs related IPOs, for each year since 2007 there has been one IPO ranking in the annual top 10 deals by capital raised; three of them, Iberdrola Renovables, EDP Renováveis and Enel Green Power, will be analyzed in the core of this dissertation.

So, after having described the environment REs utilities operate in, we will go through the description of the “strategic options for utilities’ renewable assets”. In particular, the strategic choices (with related cases) taken into consideration are the following:

- 1) IPO and delisting: EDF Energies Nouvelles and Iberdrola Renovables
- 2) IPO: EDP Renováveis and Enel Green Power
- 3) Renewable Assets 100% controlled by the parent company: E.ON and RWE

Each of these companies has been analyzed in terms of financial performance, installed capacity, capex and multiple valuation in order to come with more appropriate conclusions. A brief description of each company is given below:

- 1) **EDF Energies Nouvelles:** utility with least installed capacity at its IPO (1036MW), characterized by the highest growth rate among public companies. With assets were mainly located in France and US, the firm is mostly a wind player. Solid company in terms of profitability, it was listed in 2006 at €28 a share implying an EV/EBITDA 08E multiple of 12.9x and bought back in 2011 at €40 a share with a 2011 EV/EBITDA multiple of 12.4x. The French utility registered growing capex until 2009 when their slowdown began. During the years as a public company, EDF Energies Nouvelles was the only company which registered both an increase in revenues, EBITDA, EBIT and in their related margins (%). Through this acquisition, EDF proved its interest in increasing the electricity generation share coming from renewable sources.
- 2) **Iberdrola Renovables:** most mature and biggest European player in terms of installed capacity, the Spanish giant is a wind player with assets mainly located in US and Spain. As at 31/12/2013, it had an installed capacity of 14,034 MW, that is, almost the double of the second player, Enel Green Power. Listed in 2007 at €5.3 per share, implying an EV/EBITDA FY1 multiple of 17.8x, it was taken private in 2011 at €3.08 per share with a consequent EV/EBITDA FY1 multiple of 9.4x (almost half than its IPO). Iberdrola Renovables' capex peaked the year after the IPO and immediately dropped in the following years. When it was listed, revenues, EBITDA and EBIT literally skyrocketed, although outweighed by a margin (%) decrease. Iberdrola decided to buy back its REs division since it could exploit synergies and because its share price was undervalued, according to Iberdrola Board of Directors.
- 3) **EDP Renováveis:** mature player in the European REs industry, EDP Renováveis is a wind operator with assets mostly located in US and Spain. Listed in 2008 with an installed capacity of 5,032 MW, it was the public company with less CAGR in terms of installed capacity. It was priced at €8 per share implying an EV/EBITDA FY1 multiple of 10.3x and it is currently traded at an EV/EBITDA FY1 multiple of 7.4x. Like Iberdrola, EDP Renováveis' capex peaked the year after the IPO and decreased from 2009 onwards. When public, EDP Renováveis grew linearly in terms of revenues, EBITDA and EBIT while its margins (%) slightly decreased.
- 4) **Enel Green Power:** mature company in the European REs industry, Enel Green Power is the utility with the most diversified technology portfolio operating mainly in EU and Latin

America. Listed in 2010 at €1.60 per share implying an EV/EBITDA FY1 multiple of 8.5x, it is currently traded at an EV/EBITDA FY1 multiple of 7.3x. Enel Green Power is no exception in terms of capex: they boomed the year after the IPO and diminished in 2012. Since its IPO, like EDP Renováveis, its financial performance was characterized by a linear growth of revenues, EBIT and EBITDA and by slight decrease in margins (%).

- 5) **E.On Climate & Renewables:** part of E.On Group, this REs utilities owns assets in Europe and US which accounted for more than 50% of its installed capacity at the end of 2012. Taking into account also large hydro, EC&R would be the second largest European utility, in terms of installed capacity, after Iberdrola. Its capex, maybe abnormally high in 2007, decreased substantially in 2008 and stabilized around that level in the following years. As of March 2013, it was evaluated at an EV/EBITDA FY1 multiple of 12.0x showing that maybe, keeping REs utilities private, was a good choice.
- 6) **RWE Innogy:** part of RWE Group, RWE Innogy is present only in Europe and owns a diversified technology portfolio. It is a small company, if compared to the utilities taken into account but, as of March 2013, it was evaluated at the highest EV/EBITDA FY1 multiple, 12.1x. So, this may support the thesis that listing REs divisions was not a good choice.

A summary of the main operating characteristics of such companies is reported by the table below.

	EDF Energies Nouvelles	Iberdrola Renovables	EDP Renováveis	Enel Green Power	E.On Climate & Renewable	RWE Innogy
Listed	not anymore	not anymore	yes	yes	no	no
Dominant Technologies (by installed capacity)	Wind	Wind	Wind	Hydro and Geothermic	Wind	Wind and Biomass
Main Asset Location	US and France	Spain and US	Spain and US	EU and Latin America	US, Spain and UK	Germany and UK
Capacity at IPO	1036 (MW) November 29, 2006	7432 (MW) December 13, 2008	5032 (MW) June 4, 2008	5761 (MW) October 31, 2010	n.a.	n.a.
Pipeline U.C. at IPO (MW)	615	1.210	1.612	800	n.a.	n.a.
Reasons IPO	Debt reimbursement Financing operations	Debt reimbursement IBR Development	Financing EDPR growth Debt reimbursement	Enhancing Res assets value Increasing EGP visibility Debt Reimbursement	n.a.	n.a.
Reasons take private	EDF target of diminishing nuclear dependence	Achievement of IPO goals Synergies Low share price	n.a.	n.a.	n.a.	n.a.
Current Capacity {31/12/2012}	5.372	14.034	7.987	8.001	4.237	3.700
CAGR from IPO	31%	13%	11%	16%	n.a.	n.a.
Current Pipeline U.C. {31/12/2012}	1.329	570	1.165	696	2.273	1.300

As for the multiple valuation, the following table will briefly summarize the EV/EBITDA FY1 of each utility for each of the critical steps of the last years, i.e., IPO, take private, today (March 2013).

Company	EV/EBITDA FY1 IPO	EV/EBITDA FY1 Take private	EV/EBITDA 2013
EGP	8.5x	n.a.	7.3x
EDPR	10.3x	n.a.	7.4x
IBR	17.8x	9.4x	8.5x
EEN	12.9x	12.4x	11.2x
EC&R	n.a.	n.a.	12.0x
RWE Innogy	n.a.	n.a.	12.1x

This table will be analyzed only from a financial standpoint, without taking into consideration all the other factors which may influence the evaluation of REs firms (i.e. asset location, parent company nationality etc.). In order to perform a more diligent analysis, we will divide our examination in three parts:

- 1) **Take private operations:** the companies which have been listed and delisted are Iberdrola Renovables and EDF Energies Nouvelles. As it is evident, their patterns are completely different. In fact, while IBR was listed at a very high multiple and taken private at almost the half, EEN valuation did not vary substantially.
- 2) **After the take private:** given that EEN and IBR delistings occurred both in 2011, their patterns are more easily comparable. In particular, since 2011, their EV/EBITDA FY1 valuations both decreased by around 10%.
- 3) **Current valuation:** the most surprising item that is evident from the table above is the valuation of private vs “public¹” companies. In fact, the German private firms, EC&R and RWE Innogy are evaluated more than the other utilities. In particular, this spread is even more meaningful if compared to currently public companies, Enel Green Power and EDP Renováveis.

So, from a financial standpoint, one could argue that going public was not a good choice.

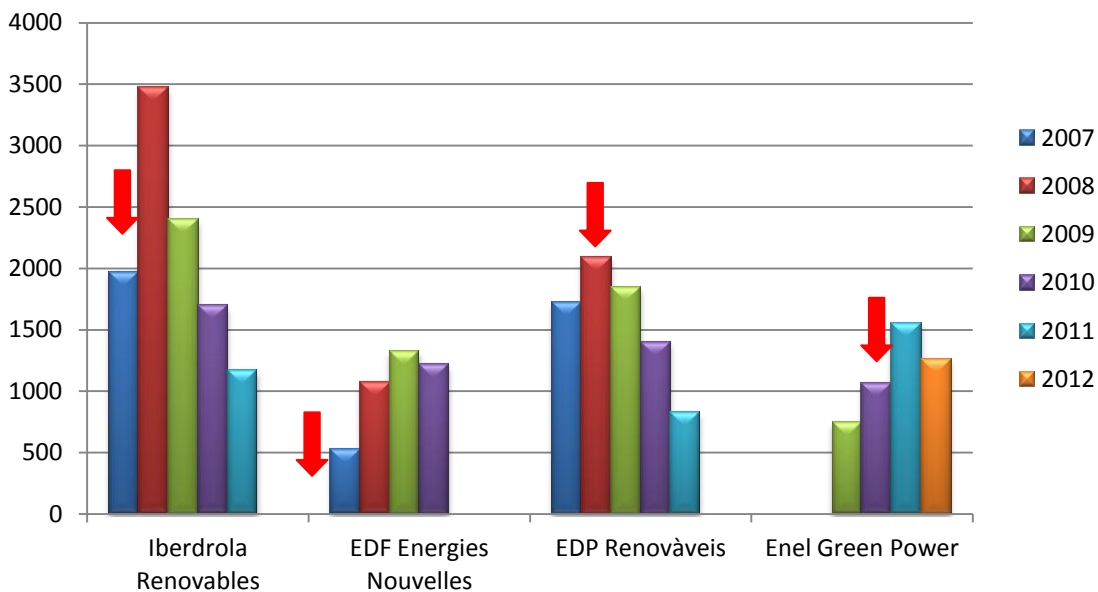
However, each IPO Prospectus of the four public companies analyzed, stated the reasons of the IPOs, as reported by the first table. The most common items are:

- 1) **Debt reimbursement**
- 2) **Financing of the REs utility growth**

In fact, as at those IPOs, the parent companies of the listed utilities had high levels of leverage, which immediately reduced once having raised the proceeds of the operations. Moreover, as it will

¹ At least for a few years

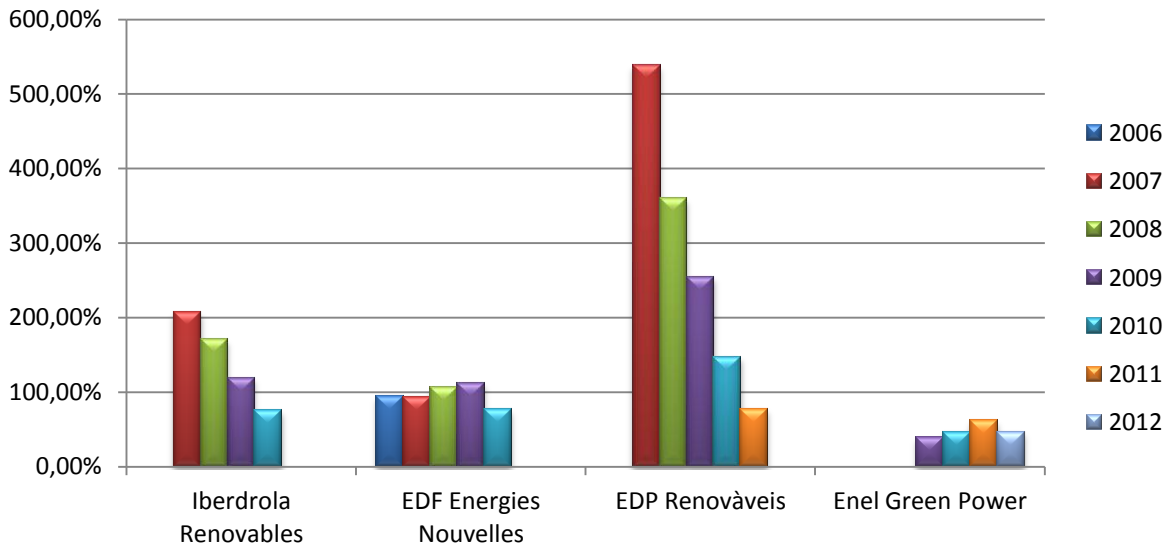
be more evident by the following graph², going public, actually enabled firms to obtain more expansion capital to be deployed in capex, although only in the short term.



Public companies' capex by year (€million)

Most of these REs utilities, indeed, registered either a substantial capex increase in the same year (EDPR) or in the first year after their IPO (IBR, EGP) with decreasing capex afterwards; the so-called **1-year rule**. The only exception is EEN which, as previously mentioned, kept increasing its investments until 2009. However, in order to perform a more proper analysis, the Capex/Sales Ratio should be considered to understand whether those capex were actually justified by the need of more capacity due to higher revenues. Thus, the graph below is particularly relevant.

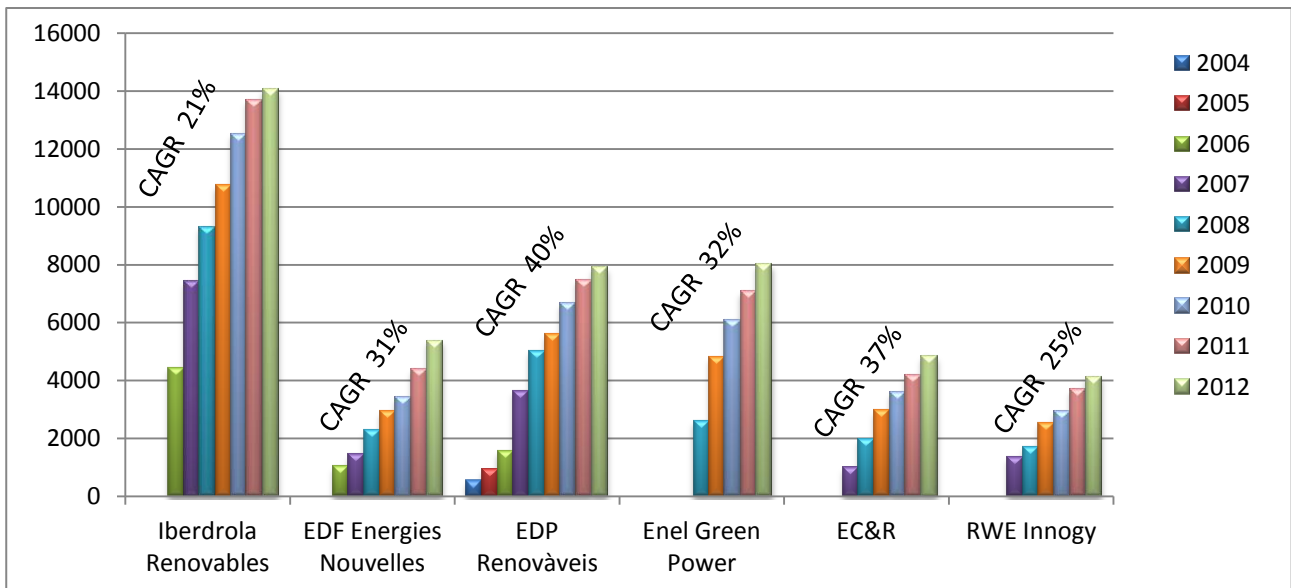
² The red arrow refers to the year of the IPO



Public companies' Capex/Sales Ratio by year

As it is evident, IBR but in particular EDPR, invested more than their revenues until 2009. EDPR Capex/Sales Ratio 2007 was even higher than 5, meaning that its capex were more than five times higher than the revenues actually occurred. So, in order to balance this trade-off, they reduced their capex stabilizing their ratio over the years to a similar level of their direct competitors, EEN and EGP. On the contrary, the latter have both adopted a similar policy, that is, keeping Capex/Sales constant around a certain level: 1 for EEN and 0.5 for EGP.

The effect of capex is reflected in the installed capacity registered by each company over the years. However, it is interesting to compare the increase of public companies installed capacity with private ones'. Then, their CAGR will be compared in order to understand whether going public actually contributed to the medium-term growth or not.



Public and private companies' installed capacity by year (MW)

As it is evident, the graph above shows a few key findings about the following topics:

- 1) **Installed capacity trend**
- 2) **Installed capacity growth rate**
- 3) **Size – installed capacity relation**

As for the first one, installed capacity trends can be divided in three groups:

1. **Linear growth:** the German private companies grow almost linearly although EC&R growth rate is higher than RWE Innogy.
2. **Decreasing growth rate:** public companies (with the exception of EEN) show a descending growth rate. In fact, while their installed capacity substantially increased in the first year(s) as public companies, it slowed down soon afterwards.
3. **Increasing growth rate:** EEN is the only company which seems to keep growing, especially in the last years, when each of its competitors did not.

Installed capacity growth rate shows some interesting aspects too. On average, it does not seem to be a correlation between going public and growth rate. In fact, even taking into account the 40% CAGR registered by EDPR, inflated by the low installed capacity of 2004, the average CAGR is around 30%. So, if we compare this value to the different CAGRs, we find out that public companies are not the ones which show the highest values. Therefore, there seems not to be a relation between installed capacity growth rate and being public.

However, the third topic shows an important finding. **Size** seems to be **related to installed capacity**. In order to explain this concept more clearly, we will divide the companies taken into account in three groups:

1. EEN, EC&R and RWE Innogy started with similar installed capacity in 2007, and ended up in 2012 with similar capacities again.
2. EDPR began 2007 with less than 50% of IBR capacity and ended 2012 with a little more than 50% of IBR capacity.
3. EGP. Enel Green Power is the only outlier. In fact, it started with a capacity similar to the first Group (EEN, EC&R and RWE Innogy) but ended 2012 surpassing EDPR.

So, in terms of installed capacity, EGP only seems to have benefited from being public, although its Capex/Sales Ratio has always been the lowest.

However, on top these findings, a very important aspect has to be carefully considered: asset location. This driver seems to be extremely important for the following reasons:

1. **Decrease of the regulatory risk:** since REs industry is strongly regulated and still highly dependent on subsidies, diversified asset location can be helpful to avoid risks stemming from governments' policy changes.
2. **More access to new resources:** being present in more countries may help when companies need to raise capital.

In fact, companies whose assets were mainly located in US were initially more affected than the others in terms of capex decrease (EDPR and IBR). Then, when in 2011 the crisis hit Europe, companies whose assets were located in troubled countries such as Spain, Portugal and Italy, were the ones which suffered most (again, EDPR, IBR and partially EGP).

So, before the conclusions, we should briefly recall the main findings, divided in three groups:

1) Value drivers

- ✓ *Green Premium:* five years ago, REs utilities were traded at a premium over their “fossil fuels” competitors. Now the situation is reversed due to the unpredictable future of the industry.
- ✓ *Subsidies dependence:* incentives are still a fundamental driver for REs industry. They will not be needed anymore as soon as grid parity is reached.

- ✓ *Capital intensity*: capex are fundamental for the growth of REs companies. In fact they contribute to increase their installed capacity, one of the most important drivers of REs value.
- ✓ *Debt financing dependence*: given that REs utilities have always relied on debt to finance their growth, if debt is not easily available as it was before Lehman, then REs firms growth is at risk.

2) Corporate Activity

- ✓ *M&A activity*: global deals value has been very volatile since 2007. However the trend is the decrease of mega-deals with an increased number of acquisitions at lower prices, pulled down by the crisis
- ✓ *IPO activity*: IPO activity is negatively correlated to market volatility. If the latter increases, IPO number and volumes are likely to decrease.

3) Companies' related findings

- ✓ *Being public was not beneficial in terms of installed capacity increase*: public companies only reported relevant installed capacity increase in the short term; on the contrary, in the medium term, the installed capacity CAGR is similar to private companies'.
- ✓ *Size is a key to predict future growth rate*: small companies are not likely to become big players while giants like Iberdrola remain unrivalled. The only exception is EGP, which had the half of the installed capacity of EDPR in 2007 but got ahead of it in 2012.
- ✓ *Asset location is a key determinant for companies' growth*: companies whose assets were located in troubled countries were more affected, in terms of installed capacity growth, than the others in the short term. Financial crisis, beginning in the US, pulled down IBR, EDPR and EC&R capex while did not affect substantially EGP and EEN investments. EGP started suffering from the world crisis when the latter became a sovereign debt crisis which hit Italy (and EU) at the end of 2011. The effect is a lower stock price.
- ✓ *Asset location and capex correlation*: as a consequence of the last two findings, capex and asset location are strongly correlated. In particular, depending on the financial conditions of the country where utilities' assets are located, companies' capex will vary substantially. If the country shows signs of weakness or it is affected by a crisis, capex will probably be lower.

- ✓ *1-year rule*: when REs utilities went public, they increased their capex at the least in the very short-term, i.e., within the year following the IPO.
- ✓ *Private companies' multiples are higher than "public" ones'*: the market seems to reward the choice of never being listed, although asset location may be a relevant variable.

So, before the conclusions, we should recall, once again, the goals of this dissertation:

- Analyzing and predicting the main trends in the REs industry and their impact in terms of corporate activity (i.e. M&A, IPO, etc)
- Understanding whether utilities made a good choice listing their REs divisions or not

The answers to these issues are contained in the following and last section.

1. **REs industry future**: the years to come will probably see the consolidation of REs industry. This industry, indeed, is characterized by relatively “small” players and a very low concentration. Due to the effects of the financial crisis, most of the companies, and in particular REs utilities, have **lost** a substantial part of their **market capitalization**. However, as we have seen, private companies (those which are supposed to be smaller) have been even more affected by the crisis than public ones. The effect could be a **new wave of M&A**. Large firms (i.e. EGP, IBER, EDPR and EEN) start to buy their smaller competitors (e.g. Theolia, Friel, Alerion, Falck Renewables, etc), at much cheaper prices than a few years ago, in order to grow and strengthen their market share. So, if the world and EU in particular, finally overcome this crisis, REs industry is likely to see a prosperous future (at least until the next crisis). Positive effects will also impact IPOs. Since these are correlated with market volatility, a standard deviation decrement will probably help listings of new companies (e.g. EC&R, RWE Innogy), which could be attracted by the renovated interest of investors in the industry³. As for existing utilities, they could try to protect their market cap deterioration by investing in new countries (e.g. China, India and Turkey), **improving their geographical diversification**. In fact, for some firms, since “good” asset location acted like a shield from the effects of the crisis⁴, investing in other countries, preferably characterized by a strong positive growth (e.g. China) should be seriously considered as an option to survive. In growing countries, indeed, it is also easier to ensure finance to develop long-term projects: in a few words, **growth fosters growth**. This is the reason why,

³ Resulting in the “green-premium”

⁴ EEN and EGP

countries/companies which show signs of weakness must immediately react and improve their situation: otherwise, investors could leave them minimizing their possibilities to grow. So, concluding, REs industry is not dead and it will never be. Political forces are always more and more concerned about the environment: so they cannot ignore the benefits “green energies” will bring. However, the final switch from fossil fuels to renewables will occur only when grid parity is reached, either by a price increase of fossil fuels⁵, or by a production costs reduction of renewable energies⁶.

- 2. Considerations on the listing of RE divisions:** companies who went public experienced an incredible **growth** in terms of **revenues** and **EBITDA** and exploited the **1-year rule**. In fact, their **capex** registered record levels within the first year after the IPO and permitted the companies to **increase** their **installed capacity**. However, in the medium term, installed capacity began to flatten, no matter whether the utility was public or not. So, **going public was not beneficial in terms of long-term installed capacity growth**. On the contrary, being public surely enabled such companies to obtain **more access** to sources of **finance** (rare during crisis), and to **new countries**, fundamental to maintain a positive growth and to increase their regulatory diversification which is highly appreciated by investors. However, almost all of the **companies** which went **public** experienced a **decline** in their **profit margin**, that, together with unfortunate asset locations and lower capex, caused their **stock prices** to **fall** (IBR, EDPR and EGP). On the contrary EEN, the only company which increased its profit margin without substantially decreasing its capex, being also characterized by an “average” degree of geographical diversification, enjoyed a large price increase since its IPO.

Concluding, the future of REs industry will be bright again once out of the financial crisis: IPO and M&A activity will probably increase and companies will grow bigger and bigger. On the wave of what the companies analyzed in this dissertation did, other REs utilities, probably coming from China and from other growing countries will decide to go public while others, smaller, will be acquired by larger players. They will probably float their shares when the market is ready to pay a green premium again; this could be, indeed, the moment when we may hear some rumors on EC&R and RWE Innogy IPOs. As for EGP and EDPR, they are likely to remain listed until the next economy expansion. In fact while EDPR stock price is already sufficiently low to justify a take private, its parent company, EDP, may probably not have the financial resources to do it, due to the negative effects of the financial crisis Portugal and Spain are dealing with. On the contrary, EGP

⁵ Very likely in the medium term since resources such as coal, oil and gas will no longer be available on earth.

⁶ The more investments in R&D, the more cost reduction is expected.

will unlikely be bought back since its stock price is very close to its IPO's and Enel current leverage is a strong barrier.

These were all hypotheses and predictions. The only sure thing is that, sooner or later, economy will recover and REs industry will strongly benefit from it.