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EUROPEAN ENERGY SERVICE COMPANY (ESCO) MARKET ASSESSMENT AND A SPANISH ESCO VALUATION EXERCISE

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Abstract

This Master's final work aim to reflect and express the skills and academic knowledge acquired over the period of the academic year at the Comillas Pontifical University (ICADE) from September 2015 to June 2016. It is an accumulation of academic training attained by the trainee teacher, Juan Molina Huertas.

The objective of this Report is to describe the Energy Service Company (ESCO) market in Europe, its legislative framework, its trend and maturity. Afterwards, the Power & Utility transaction trend is analyzed together with the likely conversion dynamics in the ESCO market. To this extent a merger recorded las January 2016 between the Italian ESCO Innowatio and the German ESCO CLENS is taken into consideration.

Finally, by focusing on the potential of the Spanish ESCO market, which foresee a potential of market expansion between €1.5 and €2.5 billion, an example of company valuation is undertaken by the selection of the Spanish ESCO Nexus Energia as a sample for the valuation exercise.

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1. Executive Summary

The energy efficiency market is growing in Europe. This trend has been the result or, to some extent, the reason why the European Union and its Member States have deployed a portfolio of policies and legislations in order to regulate this industry with the aim of preventing the waste of energy and improve energy efficiency in both sides of the energy markets, demand and supply sides.

Energy Service Company (ESCO) is the main actor that operates in Europe in the energy efficiency market as a result of more awareness about energy efficiency in Europe. Hence, Energy efficiency industry has generated at European level a set of policies, legislation and actors that are nowadays the main milestone of the energy efficiency sector. The Directive 2006/32/EC on the energy end-use efficiency and the Council Directive 93/76/EC on energy services and repealing are the main piece of legislation. The European Commission Joint Research Centre at the Institute for Energy and Transport is an active actor who provides scientific and technical support to the Commission services for the design, the implementation and the monitoring of the EU energy efficiency policies and programs. The first common standard meaning was put forward by the EN 15900 standard in 2010, and later on by the Energy Efficiency Directive (EED, 2012/27/EU) in 2012.

The ESCO business model thus usually recommend three main activities that usually take part of a classic ESCOs activities portfolio:

- Provide energy efficiency solutions in order to achieve energy savings but also lower energy service costs.
- ESCO profitability is strictly related to the energy saving performance.
- Finance contribution of energy systems through energy savings guarantees.

An ESCO is a turnkey service provider. A key benefit of ESCO is the direct contact with a number of other service providers that are required for the development of energy efficiency services. Thus ESCO can collect all the service providers required and group them, hence, case by case choose the best for the client purpose and for the ESCO profitability. Thus the ESCO project benefit for a potential customer is the fact that only approaching an ESCO the client can obtain a project manager, a guarantor, a financier and so on. Also, the ESCO having as a core business the energy efficiency projects, is able to develop the right and most effective knowledge that are required by the energy efficiency clients, playing an important role in the energy efficiency markets

Hence, in terms of contracts signed between the parts, the ESCO activities involves a number contracts signed with subcontractors and of course the client. For instance, ESCO usually sign Energy Performance Contracts, well known in the industry as EPC which perceive an agreement on a specific performance made by the ESCO. According to the performance contract mechanism, the ESCO receives compensation from sharing the cost savings with the client as a result of the ESCO activity over a certain period. At the expiration of the performance contract with the ESCO, the ESCO client will own all the changes and improvements performed by the ESCO and will continue to receive the savings that is now able to perform after the ESCO intervention.

According to the Joint Research Center at the European Commission, out of 30 European countries, only 8 countries show an unchanged development status from 2010. While all the other

countries record either a slow or strong/stable growth. Hence, from the qualitative point of view, it is possible to observe that in 22 out of 30 European countries, the ESCO market keep on growing steadily.

The ESCO market has changed in size and number of companies that are active in the market or has been registered in the different national agencies/associations in 2010 - 2013. Not always the companies number is representative of market trend. For instance, in some cases, the number of companies decrease while the market size significantly increases (i.e. Italy). The explanation can be found in the way the market is developing through possible mergers between companies or simply the possibility that some companies exit the market and other, that are bigger and have better knowledges, are able to better deploy energy efficiency programs and make the turnover market grow.

The Spanish ESCO market is growing in both size and strength and in both in the public sector, with local and community authorities, and in the private sector. In Spain, this trend has been driven by market factors, like the increase in energy prices, but also by the growing interest by customers of energy efficiency programs and national or local programs.

It is not clear how many companies are present in the Spanish ESCO market. The agency in charge to register the ESCO kind of companies is the IDEA (Instituto para la Diversificación y Ahorro de la Energía) which accounts around 800 companies although not all of them are able to provide all the ESCO contracts such as ESC, ESPC or EPC programs. Thus, according to what IDAE reports, ESCO companies range between 20 and 60 in total as of 2013 and most of them are national or local companies. While the ESCO market size computed as the sum of energy supply costs, investments, maintenance and projects development in Spain is estimated to range between €400 and €500 million annually. While the industry potential investment may likely range the €1.5 and 6 billion including also monitoring, installation and verification activities, as well as the energy supply.

In 2015, the Power & Utility sector was among the sectors with the highest appetite for merger and acquisition. M&A activity in this sector is thus in a strong momentum in the last years and this trend is rising year after year. In 2014 the P&U sector reached its top with 474 deals, with a value of US$177.1 billion, which meant a rose by 41.2% from 2013. Not surprisingly, in 2015 the momentum was even stronger, with a total P&U deal value of US$200 billion. Which now represents the six-year highest M&A deal value of the industry. Clearly, synergies between companies and macroeconomic conditions are important features that drives companies' corporate strategies toward this direction.

A Spanish ESCO, Nexus Energia, has been valuated as a target company to be acquired by other players that for instance want to enter new markets or achieve more strength in the market they are already operating.

Nexus sales revenues stream has a compound annual growth rate of 61% between 2006 and 2014. However, the sales growth rate used for the company valuation is 12.6% which represent the timeline 2010 – 2014. This period, do not take into consideration all those big events that were the responsible of some of the spikes along the Nexus sales revenues curve.

To valuate Nexus Energia, the Free Cash Flow to the Firm method has been used. According to the FCFF method and the basic principle of companies' valuation, an investment in a company is worth the net present value (NPV) of all the future cash flows discounted by the company WACC.

The valuated enterprise value thus should sum up to €387 million, with the sum of the NPV of the free cash flow weighting for 18% and the present value of the calculated terminal value weighting for the 82%. The equity value that a shareholder would pay as maximum price is thus calculated by summing up the enterprise value minus the net financial debt, plus cash available which would be €274 million.

This Report, is structured in main topic sections, in particular:

- The introduction and background on the ESCO industry, which describes the ESCO legal framework, the business model and the ESCO project characteristics,
- A market assessment of the ESCO in Europe with a country focus on Spain, explaining the regulatory framework, the degree of development and the Spanish ESCO projects.
- The ESCO industry transactions trend.
- The selection of a Spanish ESCO that has been valuated, together with an explanation of business valuation approaches and methods, and a likely forecasts of the financial statements and the business evaluation results.

2. Introduction

During the last decade energy users have been more conscious and interested in reducing their energy costs. This trend has been the result or, to some extent, the reason why the European Union and its Member States have deployed a portfolio of policies and legislations in order to regulate this industry with the aim of preventing the waste of energy and improve energy efficiency in both sides of the energy markets, demand and supply sides.

The above context, has required a chain of services that are necessary steps to supports energy efficiency solutions. For instance, financial solutions, technological knowledge and expertise, market and system management abilities and a set of communications services are necessary skills required by the energy efficiency providers and investors. By investors I mean both investors interested in either side of the electricity chain, supply and demand.

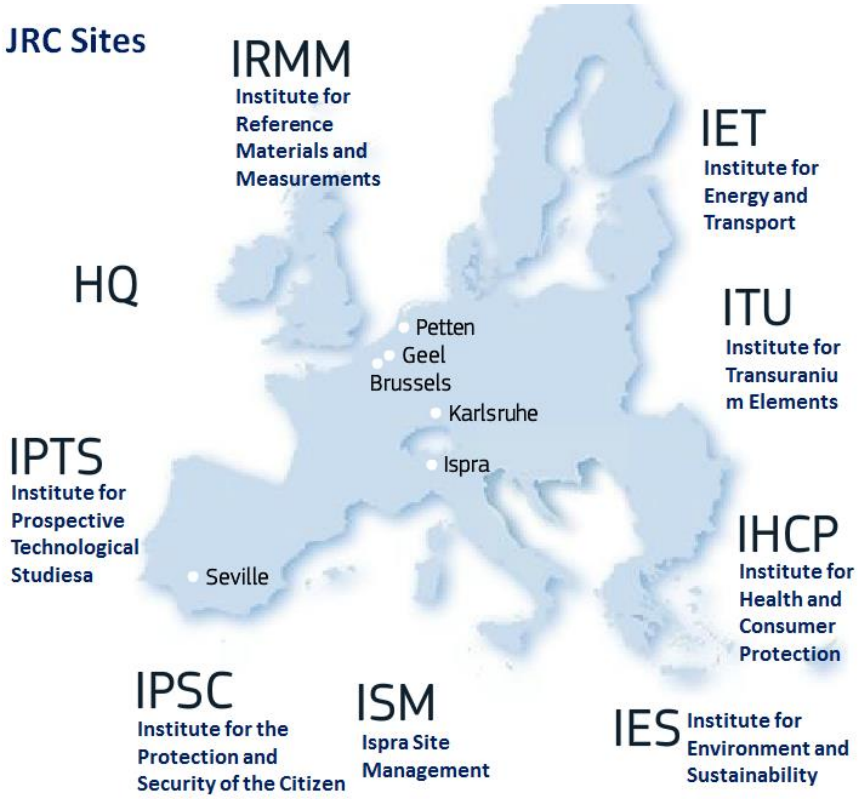
Hence, in the European market, companies providing energy services to supplier and final energy users have started to operate. These kind of companies in particular, offer a wide range of services that goes from the supply and installation of energy efficiency equipment to the energy trading and energy portfolio management. These companies are identified as Energy Service Companies or better known as ESCOs.

An ESCO can supply energy efficiency solutions and requirements and for this reason ESCOs have become a constituent part of the European energy efficiency market. Among the others, Demand Side Management (DSM) services represent for instance an important branch of services that combines some of the skills above mentioned.

Energy efficiency has generated at European level a set of policies, legislation and actors that are nowadays the main milestone of the energy efficiency sector. The Directive 2006/32/EC on the energy end-use efficiency and the Council Directive 93/76/EC on energy services and repealing are the main piece of legislation. The European Commission Joint Research Centre (JRC) at the Institute for Energy and Transport (IET) is an active actor who provides scientific and technical support to the Commission services for the design, the implementation and the monitoring of the EU energy efficiency policies and programs. The first common standard meaning was put forward by the EN 15900 standard in 2010, and later on by the Energy Efficiency Directive (EED, 2012/27/EU) in 2012.

The JRC became the European Commission’s in-house science service established in 1957. The main objective is to support the EU policies with independent, evidence-based scientific and technical support. Has almost 3,000 employees as of the end of 2015 and 7 directorates in 6 locations. Up to 2014 has published 1,370 publications.

Figure 1: JRC Headquarters in Europe.



Source: JRC website.

According to the JRC ESCO Market Report of 2014, the ESCO sector is growing and there are only few mature market such as Germany, the Czech Republic, France and Austria. These market also have a big growing potential in the near future. Moreover, another outlook of the JRC report is that, in spite the financial crisis, during the last 4/5 years, the ESCO sector was experiencing a kick-off in several typical "non-ESCO countries", such as Denmark and Spain.

2.1. Background

2.1.1. ESCO Business Model

According to European Commission JRC, energy services include a wide range of activities, such as:

- *"Energy analysis and audits,*
- *Energy management,*
- *Project design and implementation,*

- *Maintenance and operation,*
- *Monitoring and evaluation of savings,*
- *Property/facility management,*
- *Energy and/or equipment supply,*
- *Provision of service (space heating, lighting, etc.)"*[1]

Also, as stated in the introduction above, the Energy Efficiency Directive (EED), among the other objective, define the ESCO activities outline. According to this Directive, in fact, an 'energy service provider' is identified as the

> *"natural or legal person who delivers energy services or other energy efficiency improvement measures in a final customer's facility or premises"* [2]*,*

while 'energy performance contracting' (EPC), a regular used type of contract in the energy efficiency industry, is widely accepted as a

> *"contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings".*[3]

The two above definitions are the two main characteristics of ESCOs identity and activity, but also the only piece of regulation that cover the lack of an official definition for ESCOs. Hence, I do agree with the fact that the JRC ESCO definition is perceived as the most widely accepted definition to classify ESCO profile as "*a company that offer energy services which should include implementing energy-efficiency projects (and other sustainable projects). Many ESCOs work on a turn-key basis*."[4]

The ESCO business model thus usually recommend three main activities that usually take part of a classic ESCOs activities portfolio:

- Achieve energy savings through energy efficiency solutions, in order to lower the general energy costs
- The ESCO benefit is rigidly linked to the energy efficiency and savings performance.
- Energy savings and efficiency will finance the energy system confers

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[1] http://iet.jrc.ec.europa.eu/energyefficiency/esco

[2] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012, on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC - Chapter 1, Article 1.
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:en:PDF

[3] *Ibidem*.

[4] JRC Science and Policy Reports, ESCO Market Report 2014. European Commission. 2014.

In practical terms and, for instance, focusing on the two sides of the energy markets, demand and supply, ESCOs services may refer to:

a) Demand Side Management (DSM) activities and

b) energy supply portfolio optimization.

DSM is a package of programs which need to be interconnected in order to allow electricity customers to reduce them overall consumptions, hence electricity costs. Two are the main activities of interest in DSM programs:

1. Load Shifting: helping customers to transfer them consumption load from period of high demand in the market, when prices can be at high level, to periods of off-peak demand when generally prices are lower. This program is called Demand Response (DR) and can be critical peak shift helping the customers to reduce the demand during peak hours of an amount of roughly 20-50 hours per year. While the other possibility is to reduce the peak hour demand daily for quasi 1 hour a day.

   This kind of services can generate a system with lower general costs because of the lower necessity of building additional generation capacity to meet the potential demand and generate more self-conscious customers in the system.

2. Energy Efficiency and Conservation: energy efficiency programs help customers to use less energy overall while receiving the same level of service. Energy conservation programs help customers in reducing the amount of overall energy consumed and receive the money saved in exchange.

   Smart grid solutions are an example of these programs and have proven that giving real-time information to customers can save roughly the 20% of them consumption.

The above programs have initially been deployed to big energy consumers while recently have been deployed in several countries to an increasing amount of customers that not always were categorized as big. The most known programs in Europe that have received input by the EC are the deployment of smart grids and smart meters. The latter deployed to a wider range of customers that entails mainly household costumers. Electricity smart meter rollout has been conducted on a large-scale base in the recent years and the EU aims to replace at least 80% of electricity meters with smart meters by 2020. 16 Member States are in favor of large-scale deployment even without a deep national cost-benefit analysis (e.g. Italy and Spain)[5]. Regarding smart grid services, from a recent EC survey conducted in 2014, a total of 459 smart grid projects which represent an amount of €3.15 billion in investments have been developed in EU Member States from 2002 and 2014.[6]

The deployment of these set of interconnected programs entails a need of more companies that have the knowledge and the ability to develop energy efficiency services. Hence, ESCOs or other

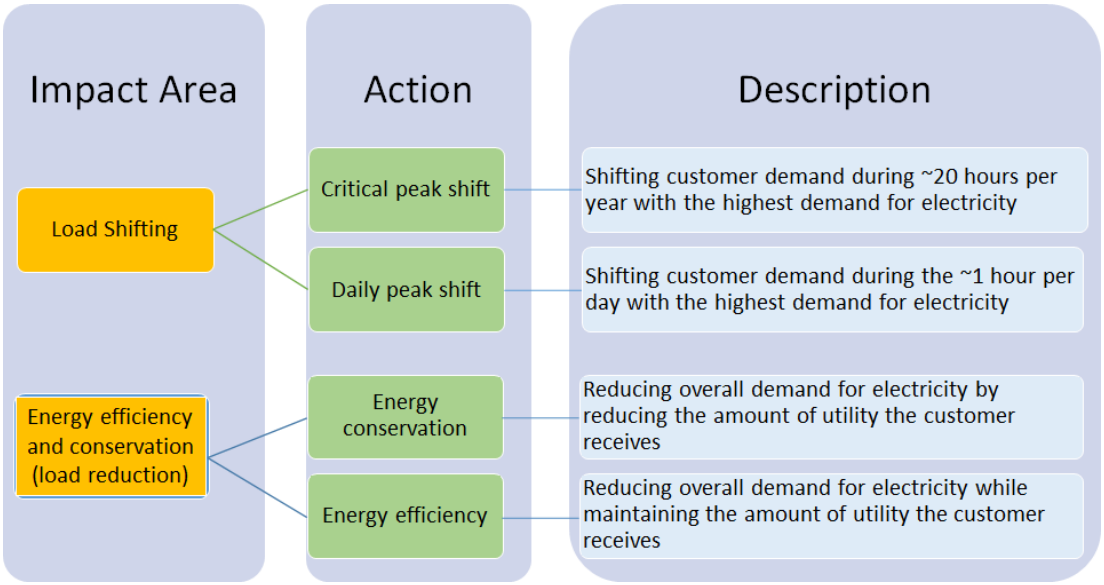
[5] Commission Staff Working Document. CBA and state of play of Smart metering deployment in the EU-27. Brussels, 17.6.2014.

[6] Smart Grid Projects Outlook 2014. JRC Scence and Policy Reports. EC Brussels. 2014.

market players that are able to tailor energy efficiency services to customers' need will play a key role in the next years.

Figure 2 below displays the above mentioned impact area of DSM programs: load shifting and energy efficiency and conservation.

Figure 2: DSM Impact Areas.



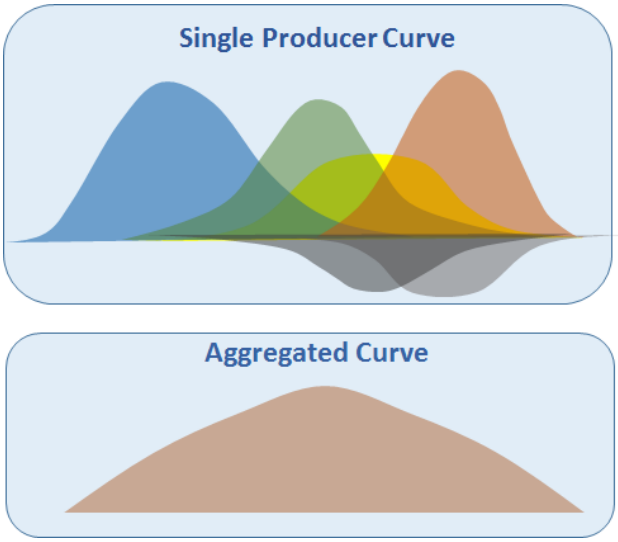
Source: own elaboration.

The other example of ESCOs services mentioned above is the electricity sales optimization that is usually provided to electricity producers and is commonly known as energy portfolio supply optimization.

The main effect of portfolio supply optimization is the reduction of supply shifts through compensations which gives synergies perceived by suppliers as cost savings. These savings are the results of grouping a large number of power plants that belongs to several producers and convert them to one producer. As a result, this portfolio of electricity producers that have different production curves, may act as one producer with one production curve that compensate positive and negative production shifts and have an aggregate production curve.

Figure 3 below displays a figurative explanation of the above mentioned portfolio supply optimization program as a service usually provided by ESCOs.

Figure 3: Portfolio Supply Optimization.



Source: own elaboration.

The above program can be provided to any kind of electricity producer, conventional energy resources and non-conventional energy resources as renewable resources. The portfolio optimization helps electricity producers to save costs through the reduction of stoppages and restarts that usually power plants experience in supplying into the power market. Also this technique can reduce the waste of energy produced by a renewable power plants that by definition is a non-programmable energy resource, in particular wind and solar, and cannot program its production curve and supply to the market.

2.1.2. ESCO Project Benefits

ESCOs have been a revolution in the energy efficiency sector, creating a way in which energy savings may be painless for customers, at no or low up-front cost.

An ESCO is a turnkey service provider. A key benefit of ESCO is the direct contact with a number of other service providers that are required for the development of energy efficiency services. Thus ESCO can collect all the service providers required and group them, hence, case by case choose the best for the client purpose and for the ESCO profitability. Thus the ESCO project benefit for a potential customer is the fact that only approaching an ESCO the client can obtain a project manager, a guarantor, a financier and so on. Also, the ESCO having as a core business the energy efficiency projects, is able to develop the right and most effective knowledge that are required by the energy efficiency clients, playing an important role in the energy efficiency markets. This effective and efficient way that represents the benefit that an ESCO client can gather from the ESCO services and programs is displayed in

Table 1 below. Contracting and partnerships advantages are in fact the first benefit of an ESCO project.

Table 1: ESCO contracting and partnership benefit.

	Own investment	ESCO project	
Preparation	Company A	**ESCO contracting**	Subcontractor A
Implementation	Company B		Subcontractor B
Financing	Company C		Subcontractor C - Bank
Purchase of primary energy	Company D		Subcontractor D
Operation and management	Company E		Subcontractor E

Source: JRC ESCO EU Reports 2014.

The above framework of services provided by ESCOs have a risk that in principle is borne by ESCOs. Thus depending on whom is the energy efficiency developers the risk can be shared by the involved actors or borne only by ESCO. This represent also the main risk of ESCO business: they bear investment, operational, credit and inflation/exchange rate risks.

Hence, in terms of contracts signed between the parts, the ESCO activities involves a number contracts signed with subcontractors and of course the client. ESCO usually sign Energy Performance Contracts, well known in the industry as EPC which perceive an agreement on a specific performance made by the ESCO. These kind of contracts have a long list of variations and versions but here I will highlight only the main categories. In particular:

1. Shared savings: the ESCO provide the investment and get in returns a share of the savings performed under the EPC contract. All the features of this kind of contract are not standardized and the cost savings, the length of the contract, the risk and the payback time are variables on which the savings split between the ESCO and client usually depends.

2. Guaranteed savings: in this case is the client that provide the investment and pays for the ESCO services as a merely service provider.

The first category is more common in new markets where the client does not have experience thus rely on the ESCO experience and financial guarantees.

Other categories of ESCO contracts are:

a. Delivery Contracting

b. Chauffage[7] or Energy Service Plus contracts

c. Contract Energy Management (CEM)

d. Comfort contracting

[7] One of the most common contract types in Europe, which endorse an arrangement between parts with a fee for services calculated based on the client's existing energy bill minus a certain level of (monetary savings, with a guarantee of the service provided.

e. BOOT (Build Own Operate and Transfer)

f. Integrated Energy contracting (IEC).

Exhibit 1: ESCO Performance Contract Mechanism.

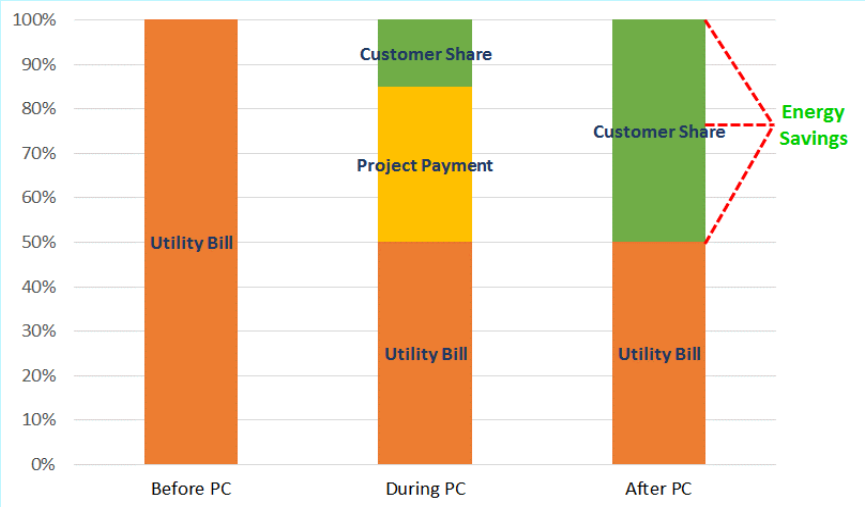
Table 2: EPC Dynamics

	Purposes	Investment Required	ESCO Cost Bear
EPC	• Reduce energy use • Lower energy expenses • Renew facilities • Renew building systems	• No upfront capital expenditures	• Technology identification • Equipment installation • Facility operation • Facility maintenance

According to the performance contract mechanism, the ESCO receives compensation from sharing the cost savings with the client as a result of the ESCO activity over a certain period. At the expiration of the performance contract with the ESCO, the ESCO client will own all the changes and improvements performed by the ESCO and will continue to receive the savings that is now able to perform after the ESCO intervention.

Example.

Figure 4: EPC Effect on Utility bill



Looking at the investment opportunities in energy efficiency along the public sector, ESCO approach, also in this sector has been innovative. From a survey conducted by the European Bank for Reconstruction and Development (EBRD), the dynamics in this sector shows an underinvestment along the public sector in EBRD's countries. The public sector is a very important segment for energy efficiency and shows high energy savings potentials and attractive paybacks period. The public sector underinvestment condition is determined by the condition of lack in budgetary funds, resources and knowledges. It is well known how hard is for public authorities to

raise more debt due to imposed ceilings and how hard is for them to have the right designing and planning knowledges for efficient investments on energy efficiency operations.

The EPC contracts and ESCOs and private financing tools became the solutions to this extend because of some key characteristics of ESCOs EPC in a way already mentioned above:

- Off balance sheet financing on commercial basis
- The possibility of private sector to have the right knowledge to design and implement energy efficiency investments
- The procurement of these energy efficiency services is based on the performance and Net Present Value (NPV) of the project.

This is one of the pragmatic point that has boosted the growing of ESCOs sector in the recent years. The traditional approach to finance energy efficiency project along the public sector has in fact always suffered from the opposite characteristics listed above:

- The public sector usually requires debts or large amounts of grants that are rigorously on balance sheet.
- Often there is a lack of expertise to design tender and implement these kind of investments because energy efficiency services are new requirements that need new expertise not developed by public authorities.
- In case of development by public authorities the procurement procedure does not relate to the best performance of the project.

2.1.3. The EU Framework

Focusing on the main pieces of legislation that have been deployed by the European Commission to stimulate the ESCO sector, it is worth to mention the legislative ESCO underpinning framework that started back in early '90s with the adoption of the Recommendation to Member States to promote ESCO and Third Party Financing.

In 1992, with the enactment of the Directive 93/76/EC, the EC invited the Member States to implement a set of tools related to TPF lengthwise the public sector. Afterwards, in 1996, 2 standard type of contracts on energy efficiency of buildings and industry for ESCOs have been published. In 2002, ESCOs were already the main actors in conducting energy efficiency activities especially in the lighting industry and, at that time, the European Commission created an *ad acta* program called the *GreenLight Program.*

The 2003, was the first year when the Joint Research Center at the European Commission Directorates General conducted its first survey of ESCOs in the European Union. That was also the first stage in creating the first centralized database of ESCOs at the EC. From that day, every year, the JRC organizes the annual ESCO workshop where the status of the industry and ESCO markets and energy efficiency financing is discussed by participants, with a focus on the new EU Member States.

The legislation at European level has been growing and the End-use Efficiency & Energy Services Directive (better known as the Energy Service Directive) 2006/32/EC has been the momentous stage towards the promotion of energy efficiency in Europe. The Directive was including an indicative energy savings target for each Member States, obligations on the public sector to lead as illustration case or example in making use of energy services and energy efficient procurement, and measures with the aim to strengthen energy efficiency and energy services.

Chapter III of the Energy Service Directive, is about the promotion of energy services, and in particular, according to Art. 6. Member States must ensure that energy companies *"refrain from any activities that might impede the demand for and delivery of energy services and other energy efficiency improvement measures, or hinder the development of markets for energy services and other energy efficiency improvement measures"*[8]. Provisions under the Energy Services Directive have not resulted in unfasten all the potential of savings that could be offered if energy services were extensively and broadly used. Therefore, "*a focus on both supply and demand of energy services, including other actors as companies, was necessary and recognized by the European Commission when putting forward its proposal for the Energy Efficiency Directive* of 2012" (as stated in the Coalition for Energy Savings 2013).

In 2010, the Energy Performance of Buildings Directive, 2010/31/EU also known as the EPBD Directive was enacted. Nowadays, it is the main piece of EU legislation on buildings energy efficiency and savings and contribute to boost the ESCO market through the promotion of energy efficiency buildings and the public measures related to them. The art. 11 of the EPBD is the most important to this extent because represent the main driver of ESCO contracts and enumerate a list of characteristics that Member States need to include in the configuration of EPC. This list includes *"the indication of cost-effective improvement of the energy performance, the technical feasibility study, building type certification and the EPC validity"*.[9]

Also, in 2010, through the European standard EN 15900:2010, energy efficiency services (EES) were designed as a settled task or tasks designed in order to achieve an energy efficiency improvement and other agreed performance criteria. The EN 15900:2010 EES shall include:

- *"an energy audit (identification and selection of actions)*
- *the implementation of actions and the measurement and*
- *verification of energy savings".*

Further requirement is the provision of the entire documentation that describes the agreed framework for the services performance and services follow-up. These activities are carried out during a contractually defined period of time and through contractually agreed methods, where for instance the energy efficiency improvement need to be measured and verified.

[8] EU Directive on End-use Efficiency & Energy Services, 2006/32/EC.
[9] EU Directive on Energy Performance of Buildings, 2010/31/EU.
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:153:0013:0035:EN:PDF

Finally, the Energy Efficiency Directive 2012/27/EU has been enacted on 4 December 2012 with a transposition deadline on 5 June 2014. The most important article for the ESCO and EPC industry is the art. 18. This article requires Member States to[10]:

- *"ensure access to clear information about EPC contracts (in particular about guarantees and customers' rights), financial instruments and opportunities for energy efficiency projects;*
- *encourage the development of quality labels;*
- *develop and ensure access to a list of certified and/or qualified service providers;*
- *support the public sector to use ESCO services;*
- *identify and publicize points of contact, where final customers can receive help;*
- *remove regulatory and non-regulatory barriers;*
- *find a solution for proper handling of complaints by customers;*
- *enable independent market intermediaries; and furthermore*
- *ensure that energy distributors, distribution system operators and retail energy sales companies refrain from blocking the market of energy services and do not abuse their dominant position."*

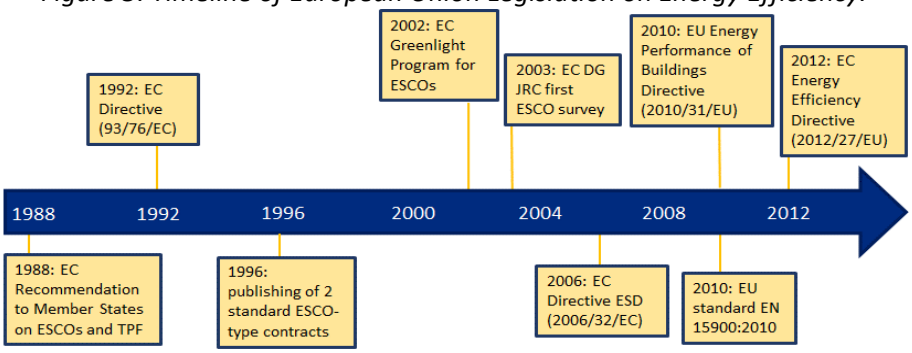
Together with other articles, the Energy Efficiency Directive has carried in place a set of actions required in all Member States that has increased awareness, the information supply, the transparency and trust with a common objective of boosting the ESCO industry.

Under article 5 in fact the requirements of the "*renovation of 3%/year of the total floor area of heated and cooled buildings owned and occupied by the central government"* seems to help the development of ESCO services. The public sector involvement to this extent seems to be a strong driver in boosting ESCO programs. Article 7 as well is mandating "*energy efficiency obligations for energy companies that need to be settled by each Member States. Establishing a target at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of 1.5% of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume as an average of the most recent three-year period prior to 1 January 2o13"*.[11] Also relevant are article 19 and 20 on the removal of barriers on energy efficiency and maximizing the benefits of multiple financing schemes respectively.

Figure 2 below displays the timeline evolution of the main pieces of legislation implemented by the European Commission on the energy efficiency field.

[10] EU Directive on Energy Efficiency, 2012/27/EU.
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:en:PDF
[11] Ibídem, article 7.

Figure 5: Timeline of European Union Legislation on Energy Efficiency.



Source: own elaboration.

3. The European ESCOs Market

ESCO companies can be either public or private companies and generally do not earn any extra profit form ESCO projects. ESCOs business is driven by regulation at European and Member State level on energy efficiency obligations and services. These services can attract new customers and may increase the loyalty and transparency towards current customers.

ESCOs can be a small engineering or construction company or a utility that is interested in opening up its business to energy efficiency programs. This two kind of companies have been growing in the last 5 years together with the growing of the ESCO market.

Also the public sector has seen a growth in Europe. Countries like Croatia and Switzerland have seen the participation of public ESCO across the energy efficiency market. Also in Russia and Ukraine public ESCOs have started to have a role.

ESCO projects may also be undertaken by community of residents and local businesses:

- The MOZES that is operating in the region of Nottingham
- Denmark has some municipality that are autonomously organized with energy efficiency programs[12].
- The city of Gyor in Hungary is actually planning to turn its ESCO project into a community lead district renovation to facilitate the development of energy efficiency projects

If on the one hand the differentiation of company's category as playing actors are boosting the ESCO markets and project implementation, on the other hand, the increased contracts clarity and flexibility have become a reality across the ESCO markets. Clarity introduced by a higher level of standardization of existing contracts and the possibility to negotiate on some of the standard contracts is a trend that is empowering the development of ESCO projects.

Also, a mix of other motivations is helping the ESCO market to grow. It is very similar to some of the certification and standardization procedure required for some product to certify the quality or the origin of that product and help to position that product in the market. Hence, an ESCO project can be signed between the provider and the client not only for, respectively, raise in profits or saving energy costs. The focus with ESCO project have been shifted and became a matter of interest for other additional motivations, as state in the JRC ESCO Market Report 2013:

- *on the client side:*
    - *improvement of image (since energy efficiency and climate change have a positive connotation);*
    - *general renovation, which is then combined with the energy system revamping;*
    - *improvement of comfort.*

[12] Greening Public Buildings: ESCO-Contracting in Danish Municipalities. Article, energies - ISSN 1996-1073 - www.mdpi.com/journal/energies

- *on the ESCO side (especially in case of energy producers, distributors, equipment installers, etc.)*
    - *Trigger loyalty of the customers and thus improving the position of core products;*
    - *Attract more customers;*
    - *Comply with regulations*[13].

The *Table 3* below shows the ESCO market size between 2010 and 2013 as a result of the survey carried out by the JRC in 2014. It displays also the number of ESCOs up to 2013 and a changing trend country by country of the EU-28 plus two other European countries as Norway and Switzerland.

Table 3: Numbers of ESCOs, Market Size and Potential and Changes in the ESCOs Industry since 2010 up to 2013 as Resulted by the JRC ESCO Market Survey (2013).

	Number of ESCOs		Market size		Market potential	Change since 2010
	In 2010	**In 2013**	**In 2010**	**In 2013**		
European Union Countries (28)						
Austria	Over 50	Over 50	n. a.	€15 - 20 m	n. a.	Stable
Belgium	10 - 15	10 - 15	n. a.	€5 m	€500 million – several billions	Slow growth
Bulgaria	few	7 - 12	€6 million	€33 million	€500 - 900 million	Unchanged
Croatia	2	10	€10 million	€100 million	n. a.	Slow growth
Cyprus	0	0	n. a.	0	n. a.	Unchanged
Czech Republic	8 - 10	20	€2 - 4 million	€10-20 million	€100 - 500 million	Slow growth
Denmark	10	15 - 20	€8 - 25 million	€140-150 million	€1 billion	Slow growth
Estonia	2	2 - 3	n. a.	n.a.	€100 million	Unchanged
Finland	8	5 - 8	€4 million	€10 million	€200 million	Unchanged
France	100	350	€4 - 5 billion	€75- 100 m for EPC3.2 b/y for all	€250 – 500 m for EPC and €5 billion for other	Strong growth
Germany	250 - 500	500 - 550	€1.7 - 2.4 b / a	€3.4 billion (€150 M is EPC)	€20 - 30 billion	Slow growth
Greece	2	5	n. a.	0	€5 million	Slow growth

[13] JRC Science and Policy Reports, ESCO Market Report 2013.

Hungary	30	10	n. a.	n.a.	n. a.	Strong decrease
Ireland	15	30	n. a.	n.a.	n. a.	Strong growth
Italy	100 - 150	50 - 100	€275 M in 2008; €387 M in 2009	€500 million	€1 - 10 billion	Slow growth
Latvia	5	8	€1 - 1.5 million	€2 - 3 million / y by of the 7 ESCOs	€100 million - €10 billion	Unchanged
Lithuania	6	3 - 5	n. a.	n.a.	n. a.	Unchanged
Luxembourg	3 - 4	3 - 6	0	0	€5 - 6 million	Unchanged
Malta	0	0	0	n.a.	n. a.	Unchanged
Netherlands	50	50	n. a.	n.a.	€30 million / y	Slow growth
Poland	3 - 10	30 - 50	€5 - 10 M/year	€10 - 25 million	€25 - 75 million / y	Slow growth
Portugal	10 - 12	100	€10 - 30 million	n.a.	€100- 200 million	Slow growth
Romania	14	15 - 20	€50 million	n.a.	n. a.	Slow growth
Slovakia	5	6-8		n.a.	n. a.	Slow growth
Slovenia	2 - 3	5 - 6	n. a.	€3 million	€15 million	Slow growth
Spain	15	20 - 60	€100million	€300 - 400 million /y	€1.5 – 2.5 billion	Slow growth
Sweden	8		€60 - 80 million	€60 - 80 million	€300 million / y	Slow growth
United Kingdom	20	30 - 50	€400 million	n. a.	n. a.	Balanced grow.
Other European Countries						
Norway	5	10	€25 million	n. a.	n. a.	Slow growth
Switzerland	7 - 10	6	€170 - 350 M / year	n. a.	n. a.	Slow growth

Source: JRC Science and Policy Reports, ESCO Market Report 2013.

From the Table 3 above, that reports the 28 EU countries plus Norway and Switzerland ESCOs markets developments, sizes and potentials, only 8 countries show an unchanged development

status from 2010[14]. While all the other countries record either a slow or strong/stable growth. Hence, from the qualitative point of view, it is possible to observe that in 22 out of 30 European countries, the ESCO market keep on growing steadily.

From the same table above, is also possible to observe how the ESCO market has changed in size and number of companies that are active in the market or has been registered in the different national agencies/associations in 2010 - 2013. Not always the companies number is representative of market trend. For instance, in some cases, the number of companies decrease while the market size significantly increases (i.e. Italy). The explanation can be found in the way the market is developing through possible mergers between companies or simply the possibility that some companies exit the market and other, that are bigger and have better knowledges, are able to better deploy energy efficiency programs and make the turnover market grow. However, in the above table, the market size is generally calculated as all costs like energy supply costs, investments, operation and maintenance and taking into account all the country projects. The potential investments, instead, are computed as the amount of constructions, installations, operations, maintenance, monitoring and verification, as well as the supply of energy. It is not possible to make a comparison exercise between countries because the results reported in the table are the outcome of the JRC survey where every single country was reporting values using a different methodology[15].

Given the above table figures, ESCO market has grown in almost all the reported countries, while few of them remained stable or decreased in size. A part from few cases, the ESCO market has grown in size as well as in strength. As all the regulated markets, a growing trend is driven by regulatory measures in favor to energy efficiency actions supported by new financial solutions. However, the interest towards cost saving across the energy sector have made possible to record growth in countries where so far the regulatory framework has not been particularly favorable towards ESCO programs.

3.1. Country Focus: The Spanish ESCO Market

The Spanish ESCO market is growing in both size and strength and in both in the public sector, with local and community authorities, and in the private sector. In Spain, this trend has been driven by market factors, like the increase in energy prices, but also by the growing interest by customers of energy efficiency programs and national or local programs.

It is not clear how many companies are present in the Spanish ESCO market. The agency in charge to register the ESCO kind of companies is the IDEA (Instituto para la Diversificación y Ahorro de la Energía)[16] which accounts around 800 companies although not all of them are able to provide all the ESCO contracts such as ESC, ESPC or EPC programs. Thus, according to what IDAE reports, ESCO companies range between 20 and 60 in total as of 2013 and most of them are national or local companies.

[14] The development status reported in this table represents a qualitative evaluation performed by national experts based on the number of active companies, the market volumes and potentials registered in the countries.
[15] Regarding the market sizes, sources include different aspect of the value chain and/or compute them in several possible ways.
[16] www.idae.es

A group of associations is also present in Spain with the aim of boost the market programs, the client awareness and help to develop ESCO contracts for public and private clents respectively. These associations are:

- AMI (Association of Companies of Integral maintenance and Energy Services)
- ANESE (National Association of ESCO)
- A3E (Association of Energy Efficiency Companies)

Also the Industry Minister in Spain (the MINETUR) is active in underpin the ESCO market with activities like the Energy Efficiency Directive transposition which also involve the participation of the above agencies and associations with an active role. Finally, the Minister of Development has a working group who's the aim is to create and renovate strategies for energy efficiency activities and programs.

As described above, the ESCO market size computed as the sum of energy supply costs, investments, maintenance and projects development in Spain is estimated to range between €400 and €500 million annually. While the industry potential investment may likely range the €1.5 and 6 billion including also monitoring, installation and verification activities, as well as the energy supply.

3.1.1. The Spanish ESCO regulatory framework

The regulatory framework that is boosting the ESCO market in Spain has been updated and improved during the recent years. In particular:

- Legislative Royal Decree 6/2010, Article 19: ESCO definition and standard service contract.
- Law 30/2007 as modified by Legislative Decree 3/2011: smoothing contracting processes, PPCC definition and standard conditions for ESCO municipal contracts, including energy efficiency criteria in the tendering process.
- Building codes,
- Building labelling

Other measures and programs:

- National energy Efficiency strategy (Estrategia de Ahorro y Eficinecia Energetica ED) approved in 2003 to update
- Sub-program E4+ running from 200 to 2012 had a total public budge to €2.4 billion and endorsed the deployment of €2.4 billion covering demand side management measures in 6 sectors (buildings, industry, transport, agriculture, public serices and appliances
- Energy Efficiency Activation Plan for the State's General Administration Buildings through ESCOs (330 ESE Plan, 2009): planning to reduce energy consumption by 20% in 330 public

Government owned buildings by 2016. Discard and not on stream by now because the EUROSTAT accounting rules of ESCO services as part of the national deficit.

- Plan 200 ESE of 2010 for regarding energy savings in 200 public buildings. Also this program has been stopped by the Government.
- Plan for the intensification of saving and energy efficiency adopted in 2011 to intensify the ESCO programs development in Spain.

However, notwithstanding the above projects, the opinion in the Spanish ESCO industry is that energy efficiency programs have been a fiasco because of the lack of true commitment for change within the public sector and poor interest from the central Government.

3.1.2. The Spanish ESCO Projects

In Spain, normally, contracts are based on:

- Energy and services supply contracts,
- Public Private Cooperation Agreement,
- EPC,
- Chauffage, which was common before but at the present out of the market because not possible or not regulated by the current regulatory framework.

Regarding EPC, in most of the new contracts with public administration, the savings are shared with the local authority. In this case, the shared savings model is preferred to guaranteed savings. Project thus may be either public or private. Public Projects refers mainly to:

- Public lighting (LED installing and new control systems)
- Water supply renovation

Regarding the private sector, the ESCO programs are significantly growing, driven by the customers' interest to reduce energy costs. EPC model is the largely diffused contract model. CHP, boilers and renewable energy sources (RES) have been developed regularly although in from 2013 CHP and RES production have caused a decline in installation due to subsidies elimination by the Spanish Government. Private Projects refers mainly to:

- Hotels
- Corporate buildings
- Sports facilities
- Heating systems in apartment buildings,
- Big industries.

4. Industry Transaction Trend

During the last years, the ESCO industry in Europe is growing and becoming bigger. An increasing number of operators are entering the market and this sector is increasing its complexity. The boosting triggers of the ESCO market have been explained in the previous sections of this report, but one component that is worth to highlight here is that also big operators in this sector have started to implement partnership strategies or even important merger have been recorded in Europe.

This trend is in line with the so called Power & Utility (P&U) merger and acquisition (M&A) trend that in the last 2 years has recorded a growing transaction trend. This trend is well explained by a Report that is yearly published by Ernest Young (EY) called "*Capital Confidence Barometer",* where P&U executives are surveyed in order to identify transaction trend in the industry. This survey is thus compared with other industries and is analyzed together with the macroeconomic environment and the single corporate strategy. The aim is to study the sector convergences and eventual disruptions.

Hence, one of the key findings of the EY Report regarding the year 2015 was that the P&U sector was among the sectors with the highest appetite to acquire, as displayed in Table 4 below.

Table 4: Global Highest Appetite for M&A.

2015

Oil and Gas	Consumer products and retail	Power and utilities	Diversified industrial products	Life sciences
59%	59%	58%	55%	51%

Source: EY, Capital Confidence Barometer – May 2016.

M&A activity in this sector is in a strong momentum in the last years. By checking EY older edition it can be seen that this trend is rising year after year. In 2014 the P&U sector reached its top with 474 deals, with a value of US$177.1 billion, which meant a rose by 41.2% from 2013. Not surprisingly, in 2015 the momentum was even stronger, with a total P&U deal value of US$200 billion. Which now represents the six-year highest M&A deal value of the industry.[17]

To this extent, I want to highlight in this section an important merger that have been occurred this year, during January 2016. The merger has surely been driven by important macroeconomics conditions, but also synergies that may help ESCOs to grow, increase the expertise and improve the future revenues generation.

[17] Ernest Young, Capital Confidence Barometer, Power & Utilities. May 2016 and May 2015. http://www.ey.com/Publication/vwLUAssets/ey-power-and-utilities-capital-confidence-barometer-2015/$FILE/ey-power-and-utilities-capital-confidence-barometer-2015.pdf

The recorded merger has been performed by the Italian ESCO Innowatio SpA (Innowatio) and the German ESCO Clean Energy Sourcing AG (CLENS).

In this case, the merger closed in January 2016 has been the result of a longer process started in August 2015 when Innowatio purchased the 12.5% of CLENS shares. At the time, the purchase was a simple capital increase made by Innowatio that increased its equity participation in CLENS. In that occasion, the Innowatio CEO and President was elected member of the CLENS supervisory board. This move was suddenly seen as a possibility of other movements between these two companies that indeed in January 2016 Innowatio performed a 100 percent takeover.

According to the Innowatio CEO, the stock swap that has seen Innowatio buying the other 87.5% of CLENS shares, gave a kind of unique result. Hence, the merger in practice created the first European ESCO with 1.5 billion euro in revenues, 230 employees and 22TWh in energy managed[18].

Figure 6: Figurative Representation of Innowatio-CLENS merger.

Source: own elaboration.

Table 5 below, displays the main financial and operational indicators that characterized Innowatio and CLENS business during 2014.

Table 5: Innowatio and CLENS Financial Summary and Other Indicators (2014).

€ '000

Income		**Assets[19]**		**Liabilities[20]**		**Electricity Delivered (TWh)**	
Innowatio	CLENS	Innowatio	CLENS	Innowatio	CLENS	Innowatio	CLENS
1,002,567 €	520,702 €	7,977 €	3,403 €	204,525 €	102,660 €	5.3[21]	2.1

Source: Innowatio and CLENS balance sheets and financial statements.

As mentioned above, from the synergies point of view, a merger can trigger important dynamics. It is worthy to note that the above merger thus gave to the resulting company some advantages that players usually seek in performing transactions. Namely, the new European ESCO company could benefit in the future of:

[18] Innowatio post - merger press release. Bergamo (Italy) and Leipzig (Germany), 1 February 2016. http://www.innowatio.it/wp-content/uploads/2016/02/160201-PressRelease-Merger-Innowatio-CLENS.pdf
[19] Intended as a net fixed assets that includes tangible and intangible assets minus depreciation.
[20] Total liabilities.
[21] Do not include the amount of natural gas delivered during the year.

- a bigger dimension, where knowledges are shared and possibly improved;
- clients may benefit of a company that has merged forces with another in order also to provide better services;
- the European status of the new company can give new possibilities, such as market expansion and open new possibilities such as becoming an international player;
- synergies can be experienced given the difference in regulation between countries, and
- market regulators and market roles can be different between countries and provide more flexibility to the resulting company.

Finally, the above set of synergies, can help the new ESCO for further grows in countries where is already present but also abroad.

From the macroeconomic factors point of view, it is worthy to mention that some factors have an impact on the volumes of M&A in the P&U industry.

First of all, the Gross Domestic Product (GDP), which is a measure of health of a country as the total expenditures for final goods and services produced within a period of a time, as a significant impact on M&A deals. On this topic, there is a robust literature that proved how high GDP or higher GDP growth rate is positively related with the number of M&A deals. Uddin and Boateng (2011)[22] and Erel, Liao and Weisbach (2012)[23] have proven the fact that larger economic markets driven by high GDP and GDP growth rate are more willing to receive foreign investments than other countries.

A growing inflation rate instead, has a negative impact on M&A deals. The main reason is that a country with a high inflation rate can make the company to be acquired more expensive and discourage the capability of investors in buying it. Conversely, a country with a lower inflation rate makes target companies less expensive[24].

Also, interest rates are an important driver for M&A. Interest rates measures how much a company should pay to be financed. Hence, lower interest rates make the cost of financing lower but lower also the possible rates of return in the country. A likely scenario is that a company that operates in a country with low interest rates is more willing to invest abroad. In particular, in a country where the cost of financing is higher and rates of return are higher than in its own country[25].

Finally, a good and stable legal system as well as a stable government and political environment is a real concern of companies that are willing to invest in a country. These elements characterize

[22] Moshfique Uddin and Agyenim Boateng, 2011, Explaining the trends in the UK cross-border mergers & acquisitions: An analysis of macro-economic factors, International Business Review 20, 547-556.
[23] Isil Erel, Rose C. Liao and Michael S Weisbach, 2012. Determinants of cross-border mergers and acquisitions, The Journal of Finance 67, No.3.
[24] Agyenim Boateng, Xiuping Hua, Moshfique Uddin an Min Du, 2014. Home country macroeconomic factors on outward cross-border mergers and acquisitions: Evidence from the UK, Research in International Business and Finance 30, 202-216.
[25] Tolentino P.E, 2010, Home country macroeconomic factors and outward FDI of China and India. Journal International Management 16, 102-120.

the performance of the target company as well as the entire economy of the country where the target company operates. Hence, a country with a more stable legal and political system will most likely attract more investors than a political instable country.[26]

[26] Wu Changqi and Xie Ningling, 2010, Determinants of Cross-Border Merger & Acquisition. Performance of Chinese Enterprises, Procedia Social and Behavioral Sciences 2, 6896-6905.

5. Company Selection and Evaluation

With the objective of evaluating an ESCO company I focused on the companies that are active into the Spanish market. As explained in the previous chapter macroeconomics conditions can be a key driver for an investor in selecting the target company for a potential transaction activity.

In Spain the GDP growth was increasing year by year. During 2014 the GDP growth YoY was of 1.4% while in 2015 recorded a level of 3.2%. According to the European Commission Economic Outlook GDP in Spain will keep on growing by 2.6% in 2016 and 2.5% in 2015. The inflation rate will still be negative at -0.1% in 2016. Given the recent monetary policy action by the European Central Bank and the likely moves of the upcoming new Government, the inflation rate will rise up to 1.4% YoY.[27]

Table 6: European Economic Forecast for Spain[28].

Forecast for Spain	2014	2015	2016	2017
GDP growth (% YoY)	1.4	3.2	2.6	2.5
Inflation (% YoY)	-0,2	-0.6	-0.1	1.4

Source: EC Directorate General for Economic and Financial Affairs.

The new upcoming Government as a result of the recent election should also give a certain political stability to the country. All the above macroeconomic factors should positively characterize Spain in 2016 and for the next 2 years as good choice of a country in where select a target company.

5.1. Criteria to select the company

After a research among the ESCO that are active in the Spanish market, a list of possible 5 companies have been selected of a possible valuation exercise. The portfolio of ESCO in Spain is of course bigger, as explained in other sections above it accounts around 20 – 60 companies, but they are very different between them and not always provide services that are similar to each other or comparable. In order to give more sense to this exercise I have chosen a list of companies that provide almost the same set of services to its clients. The ESCOs list is displayed by Figure 7 below.

[27] http://ec.europa.eu/economy_finance/eu/countries/spain_en.htm

[28] European Economic Outlook. The Commission publishes macroeconomic forecasts for the EU and the Member States three times a year, in the spring (May), in the autumn (November) and in the winter (February). These forecasts are produced by the Directorate-General for Economic and Financial Affairs (DG ECFIN).
http://ec.europa.eu/economy_finance/eu/countries/spain_en.htm

Figure 7: List of Selected Spanish ESCOs.

Source: own elaboration on companies' website.

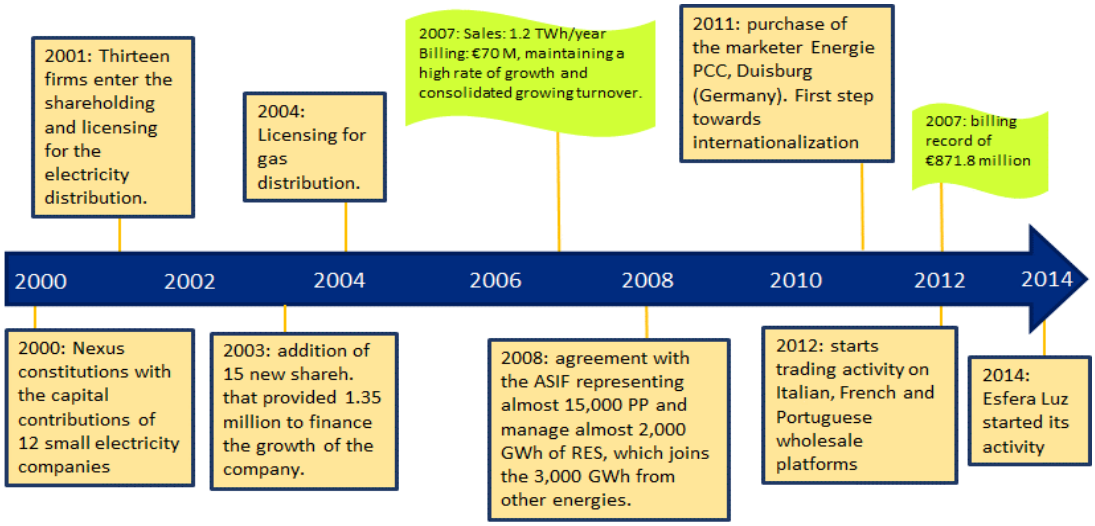
From the above list I decided to choose Nexus Energia. The reason is that, from the list, it is the only company that has very similar characteristics to Innowatio, the Italian company that performed e significant M&A this year as explained above. Hence, one of the objective of the valuation exercise can be to suggest a possible target company to Innowatio, assuming a constant willingness on perform transaction in the European ESCO market.

Another reason that made me discard the other companies from the above list, is that those ESCOs are either too small and replicate only some of the services in which Innowatio is a leader, or they are a brunch of a bigger utility. The latter is the case when traditional utilities are willing to acquire or build new capabilities beyond the traditional business strategy. In this way traditional utilities are able to stay relevant and better compete in constant changing environment.

5.1.1. Nexus Energia

Nexus Energia (Nexus) started its activity after the liberalization of the electricity market in Spain (based on the Electric Power Act 54/1997 which scheduled the beginning for the 1st January 1998). It was founded in 1997 and at the beginning, Nexus was just an electricity retailer company with no agreement or commitment with the other Spanish big electricity distribution companies. In 2001 obtained the license to distribute electricity to customers (ID R2 – 161) and later on, in 2004, Nexus obtained the license to distribute natural gas to customers (S2 – 022). Other important steps along the historical path of Nexus were two sales records: the first recorded in 2007 of about €70 million and the second recorded in 2012 with an overwhelming amount of €871.8 million after only 5 years.

Figure 8: Nexus Timeline of the Main Important Company Life Steps.



Source: Nexus website.

Nexus is a Spanish company with headquarter in Barcelona and is present in 9 cities with sales offices and representative agents. Since 2011, after the acquisition of Energie PCC, an electricity and gas provider founded in 1999, Nexus is present also in Germany with headquarter in Düsseldorf and 9 branches in different other cities.

Nowadays Nexus is a mature ESCO able to provide a wide range of services that goes from high specialized services to electricity producers to end-customers' energy efficiency services. Also, Nexus is a service provider for retailers and electricity distributors.

Services to consumers:

- Electricity provider for SMEs and big consumers, supplying electricity at the best price as a result of buying electricity from different platform with fixed price, variable price or mixed-price platform.
- Selling electricity produced only from renewables.
- Gas provider at the best price as a result of buying natural gas from different platform
- Training for electricity consumers in order to give knowledge on how to optimize electricity consumption
- Battery and electricity storage supplier
- Management of electricity metering

Services to producers:

- Bilateral contracts
- Control center
- Real time tele-meter
- Training and knowledge transfer
- Advising for the balancing market participation
- Market price protection
- Market representation
- Optimization of electricity supply into the market

Nexus as a group has around 200 employees between Spain and Germany and manages an electricity volume of 11 TWh/year.

Figure 9 below shows the sales evolution of the company between 2006 and 2014. It can be seen that sales volume almost doubled in 2011 corresponding with the acquisition of the German company Energie PCC. During the observed 9 years Nexus has recorded a compound annual growth rate (CAGR) of 61%.

Figure 9: Nexus Sales Evolution 2006 – 2014 (M€).

Source: Nexus Corporate Presentation 2015.

5.2. Business Valuation Approaches and Methods

Discounted Cash Flow is one of the most important methods used to value a company that consider the monetary value of time. A DCF is calculated by estimating the total value of all future

cash flows, and then discounting them (usually using Weighted Average Cost of Capital - WACC) to find a present value of that cash:

$$DCF = \sum_{i=0}^{n} \frac{CF_i}{(1 + r_i)^i}$$

The aim of a discounted cash flow is to estimate the total amount of cash you will receive from an investment, and if this value is higher than the cost of the investment, it is usually worth doing.

Advantages of discounted cash flow method:

- It can be applied for valuing business as a whole and also for valuing an individual investment of a company or firm.
- It is simple to understand and apply and also if needed it can be modified to deal with complex circumstances also such as taxation or different discount rates.
- It can be used by both equity shareholders because on the basis of DCF valuation they can compare two companies and take decision whether to invest or not, and also debt holders can use DCF method to take decision regarding risks involved in the company.

Disadvantages of discounted cash flow method:

- Since it is a valuation tool it is dependent heavily on the inputs used for valuation purpose, so if inputs are changed slightly there can be large change in the value of a company.
- Also since it makes use of future cash flows as an input, which we all know, are difficult to predict for any company and hence the success of DCF method is directly related to whether one can predict the future cash flows accurately or not.

Therefore, anybody who is using discounted cash flow method should also use other methods of valuation, such as multiples method, along with in order to take right decision regarding the investment in the company.

The objective of the multiples valuation method is to determine a firm's equity value based on how the market prices comparable firms or, sometimes, comparable transactions.

Most used multiples include:

- P/E - price of the company's common equity at the end of the fiscal year scaled by earnings per share for the same year;
- Enterprise value/sales - enterprise value at the end of the fiscal year scaled by total revenues;
- Enterprise value/book value - enterprise value scaled by book value of assets;
- Enterprise value/EBITDA;

- Enterprise value/EBIT - enterprise value scaled by earnings before interest and taxes;

Where enterprise value is calculated as the market capitalization plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

The simplicity is the greatest virtue of this valuation technique as multiples are easy to apply and require very basic math skills. In addition, distant revenues, EPS or EBITDA do not have to be forecasted because multiples are typically applied to projections of current year or the next year's revenues, EPS or EBITDA. A third advantage is the accessibility of multiples to investors through financial newspapers, magazines, and online platforms.

One of the disadvantages of valuing stocks using multiples is that determining the appropriate multiple to use for a given company can be highly subjective because truly comparable companies rarely exist.

Another disadvantage of this valuation method is that it assumes the market is correctly valuing the peer group. This assumption can lead to valuation errors if the entire peer group is overvalued or undervalued. For instance, a company's stock may not be undervalued even though its P/E is lower than its peers if the market is overvaluing the entire peer group.

5.3. Company Valuation

This section of this Report, has been thought to provide to a potential investor a general estimates of Nexus fair market value. The result will be an estimation that should reflect both the value of the company assets and the company equity value, as well known as the enterprise value of Nexus.

In evaluating Nexus, I have used the method called Free Cash Flow to the Firm (FCFF) because other methods as the Free Cash Flow to the Equity (FCFE) or Multiples can be misleading or not very precise. The Multiples evaluation, in this case, has not been used because of lacks of comparable companies useful to replicate the multiples meters.

As stated above, this valuation exercise will produce and enterprise value at fair market value or a value understood a going concern value. The latter refers to an ongoing operating company while the fair value refers to a price expressed in terms of cash at which a company would change property. The liquidation value here is excluded because represent the possibility of selling a company at an amount that would represent the company value if the business is terminated and the assets sold.

Thus the enterprise value that will be reported, will represent the firm value as a functioning enterprise.

Table 7: Summary Historical Income Statements (2008 – 2014).

	2008	2009	2010	2011	2012	2013	2014
Sales	**291.3**	**321.2**	**537.8**	**848.5**	**871.8**	**819.2**	**867.3**
COGS	286.0	315.4	528.0	833.1	855.9	809.4	851.5
EBITDA	**5.3**	**5.8**	**9.8**	**15.4**	**15.9**	**9.8**	**15.8**

D&A	0.2	0.3	0.4	0.7	0.7	0.7	0.7
EBIT	**5.1**	**5.6**	**9.3**	**14.7**	**15.1**	**9.2**	**15.1**
Financial charges	0.7	0.8	1.4	2.2	2.2	1.3	1.5
EBT	**4.3**	**4.8**	**8.0**	**12.6**	**12.9**	**7.8**	**13.6**
Taxes	1.1	1.2	2.0	3.1	3.2	2.0	3.4
Net income	**3.2**	**3.6**	**6.0**	**9.4**	**9.7**	**5.9**	**10.2**

Source: own elaboration on Nexus data.

Table 8: Key Performance Indicators (2013 – 2014)

	2013	2014	CAGR
Receivables + Inventories	60.7	82.9	36.5%
as % of sales	7.41%	9.55%	
Payables	81.0	99.9	23.3%
as % of COGS	10%	12%	
Equity	23.9	24.0	24.0
Overall debt	9.5	9.9	4.2%

Source: own elaboration on Nexus data.

Table 9: Key Financial Ratios.

		2013	***2014***	***AVG***
ROA		5.25%	8.8%	***7.0%***
ROE		21.02%	33.0%	***27.0%***
Capex		0.80	1.34	***1.1***
EBITDA / Financial charges		9.70	11.52	***10.6***
Capex / Sales		0.10%	0.15%	***0.1%***
COGS / Sales		98.80%	98.2%	***98.5%***
D&A / Capex		84.13%	51.4%	***67.8%***
Financial charges / EBIT		14.60%	10.2%	**12.4%**

Source: own elaboration on Nexus data.

5.3.1. Financial Statements Reconstruction and Forecasts

Based on historical data, the main drivers for the Profit and Loss account forecast and in particular the sales revenue has been the historic sales CAGR. Nexus sales revenues have been growing by 61% CAGR if we consider the timeline 2006 – 2014. In particular, in 2006, sales revenues were at a level of €19.2 million and reached a level of €867.3 million in 2014. However, along those years many things have happened and Nexus has gone through big changes that have widen its business line and made more complex its set of activities. Hence, in order to evaluate the current status of the company, for what the company is able to generate right now, I considered a shorter timeline which do not discount some of the main important facts that have occurred during Nexus lifetime. In particular,

- the agreement recorded in 2006 with the ASIF, the Spanish photovoltaic association that was significantly boosting the revenues stream of Nexus,
- the agreement signed the same year with some distribution companies which hugely impacted Nexus sales,
- the acquisition of the German company Energie PCC, which gave the chance to Nexus to penetrate the mature ESCO market in Germany.

Hence, the reference timeline considered for the future sales revenues calculation was the period 2010 – 2014 that has a 12.6% CAGR. This period, do not take into consideration all those big events mentioned above that likely were the responsible of some of the spikes along the Nexus sales revenues curve. The tables below display the results of the profit and loss statement, cash flow statement and balance sheet statement forecasts.

Table 10: Future Profit and Loss Account (2014 – 2019).

Data in € million						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
P&L						
Sales	**867.3**	977	1,101	1,241	1,399	1,576
COGS	851.5	963	1,085	1,222	1,378	1,552
EBITDA	**15.8**	**14.8**	**16.6**	**18.7**	**21.1**	**23.8**
D&A	0.7	0.8	0.9	1.0	1.2	1.3
EBIT	**15.1**	**13.9**	**15.7**	**17.7**	**19.9**	**22.5**
Financial charges	1.5	1.7	1.9	2.2	2.5	2.8
EBT	**13.6**	**12.2**	**13.8**	**15.5**	**17.5**	**19.7**
Taxes	3.4	3.1	3.4	3.9	4.4	4.9
Net income	**10.2**	**9.2**	**10.3**	**11.6**	**13.1**	**14.8**

Source: own elaboration on Nexus data.

Table 11: Future Cash Flow Statement.

Data in € million					
Year	**2015**	**2016**	**2017**	**2018**	**2019**
Cash Flow Statement					
Operating CF					
Sales cashed	977	1,101	1,241	1,399	1,576
COGS paid	-963	-1,085	-1,222	-1,378	-1,552
Financial charges paid	-1.7	-1.9	-2.2	-2.5	-2.8
Taxes paid	-3.1	-3.4	-3.9	-4.4	-4.9
Total operating CF	**10.0**	**11.2**	**12.7**	**14.3**	**16.1**
Change in Working Capital	4.71	2.76	3.12	3.51	3.96
CF from investments / Capex	-1.21	-1.36	-1.54	-1.73	-1.95
Change in cash	14	13	15	17	19

Source: own elaboration on Nexus data.

After estimating projected sales revenues and COGS, assumptions have been made in order to forecast working capital, debt and the capital invested by the company over the years (CAPEX).

In particular, given the fact that not much information is available regarding company debt structure, it has been assumed that debt will grow at the average growth rate of the past years. While CAPEX and working capital are growing at the same growth rate of sales, assuming in this way that the company will require new fixed assets in order to provide the capacity to support projected sales revenues.

Table 12: Future Balance Sheets.

Data in € million						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Assets						
Non-Current Assets	30.3	31.5	32.9	34.4	36.2	38.1
Cum. depreciation	0.0	-0.8	-1.7	-2.8	-4.0	-5.3
Net Non-Current Assets	30.3	30.7	31.2	31.7	32.2	32.8
Cash	10.5	24.4	37.5	52.2	68.7	87.3
Working capital	82.9	82.9	93.4	105.3	118.6	133.7
Other	10.2	10.2	10.2	10.2	10.2	10.2
Total assets	133.87	148.20	172.24	199.3	229.73	264.00
Liabilities						
Equity	24.0	33	43	55	68	83
Payables	99.9	105	118	133	150	169
Other	0.0	0	0	0	0	0
Debt	9.9	10	11	11	12	12
Equity and Liabilities	133.87	148.2	172.2	199.3	229.7	264.0

Source: own elaboration on Nexus data.

According to the FCF method and the basic principle of companies' valuation, an investment in a company is worth the net present value (NPV) of all the future cash flows. The future cash flows are intended to reflects the benefits the company will generate in the future to the owner, discounted by a discount rate that reflects the risk and the uncertainty of the industry or simply the fact that those benefits, in terms of cash flows will not be realized.

Hence, as a first, the following table displays the results in terms of future cash flows that Nexus should be able to realize in the future years up to 2019.

Table 13: Future Free Cash Flow to the Firm.

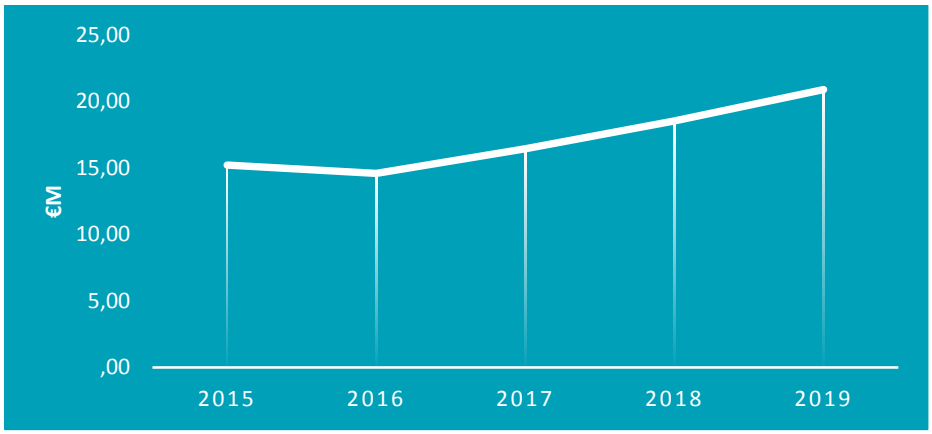
Data in € million **Year**	**2015**	**2016**	**2017**	**2018**	**2019**
FCFF					
EBIT	**13.9**	**15.7**	**17.7**	**19.9**	**22.5**
Depreciation	0.8	0.9	1.0	1.2	1.3
Ch in working capital	4.7	2.8	3.1	3.5	4.0

Taxes	-3.1	-3.4	-3.9	-4.4	-4.9
Investments	-1.21	-1.36	-1.54	-1.73	-1.95
Unlevered Cash Flows	**15.2**	**14.6**	**16.4**	**18.5**	**20.9**

Source: own elaboration on Nexus data.

As displayed by the figure below, the forecasted free cash flow will increase over the 5 forecasted years by €5.7 million, going from a level of €15.2 million to a level of €20.9 million.

Figure 10: Unlevered Cash Flow Future Trend.



Source: own elaboration on Nexus data.

As stated above the Nexus future cash flows need to be discounted by a rate of return. The weighted average cost of capital (WACC) is rate of return used to discount the future cash flows according to the FCFF methodology and represent the rate of return that the target company should pay to its shareholders to finance its current assets. In other words, a company is financed by equity and debt, hence the WACC represent the average costs of these sources of financing weighted by the use of these sources by the company. Below the WACC formula.

WACC = E / (E + D) * Cost of Equity (Ke) + D / (E + D) * Cost of Debt (Kd) * (1 - Tax Rate)

The equity value (E) it can be represented by the market capitalization of a listed company. In this case it is represented by the capital that shareholders deposited as liquid capital of the company, that for the year 2014 was €24 million.

The value of debt (D) is usually difficult to calculate at market value, therefore, I used long term debt at book value. In 2014 it was €9.9 million, which seems a very small amount but the company hugely finance itself through its suppliers, thus outstanding payables.

The cost of equity (Ke) was calculated using the Capital Asset Pricing Model (CAPM) with the formula: Ke = Risk-Free Rate of Return + Beta of Asset * (Expected Return of the Market - Risk-Free Rate of Return).

While the cost of debt (Kd) has been calculated by summing up the Risk-Free Rate of Return and a premium that should be approximately the ability of the company to be financed by banks. In this occasion, given the risk characteristic of the business it has been used a premium of 3.5%.

The Risk-Free Rate in turn, is the 10-Year Treasury yield that in this period is oscillating around 1.1% and 1.3%. I used a 1.2%.

The Beta, which is the measure of an asset volatility compared with the volatility of the market, that for the WACC calculation is used as levered, meaning taking into consideration the amount of debt the company is using to finance its assets. Thus, I researched for some unlevered Beta that are representative of Nexus business and market. For instance, the European Damodaran unlevered Beta for electrical equipment companies, Environmental & Waste services, Green & Renewables, Oil & Gas distribution, Power companies, Utilities, plus Endesa, Iberdrola, RWE and E.On. The last four to take into account the most representative utilities that operates in the Spanish and German market as Nexus does. The average of the listed Betas amount to a level of 0.642.

The Equity Risk Premium, which is the result of the expected return of the market, minus the Risk-Free Rate of Return which result to be 7.3%.

The resulting WACC and calculation is reported by the below Table 14.

Table 14: WACC calculation.

WACC Calculation		
Cost of Equity		
Risk free rate	1.2%	**A**
Equity risk premium	7.3%	**B**
Beta - Unlevered	0.64	**C**
Corporate tax rate	25.0%	**D**
Beta - Levered	0.8	**E=(1+(1-D)) *C*J**
Company risk premium	6.1%	**F=E*B**
Cost of levered equity Ke	**7.3%**	**G=F+A**
Ku	**5.9%**	
Target LR Debt / EV	29.3%	**H**
Debt/Equity	41.4%	**J=H/(1-H)**
Debt Premium over RF	2.3%	**K**
Cost of Debt	3.5%	**L=K+A**
Post-tax WACC - Discount Rate		
WACC - value used	**6.0%**	**M=(1-H)*G+H*L*(1-D)**

Source: own elaboration on Nexus data.

Table 15: Terminal Value Calculation.

Free Cash Flow in 2019	**20.9**
Growth Rate of Terminal Cash Flow	1.0%
Value of Perpetuity in year 2019	422
PV of Terminal Value	**315**

Source: own elaboration on Nexus data.

Table 16: Valuation Summary.

	€ Million	%
Sum of NPV Cash Flows	71	**18%**
PV of Terminal Value	315	**82%**
Enterprise Value	**387**	
Net debt	123	
Equity value	**274**	

Source: own elaboration on Nexus data.

As displayed by Table 16 above, the valuation enterprise value will sum up to €387 million, with the sum of the NPV of the free cash flow weighting for 18% and the present value of the calculated terminal value weighting for the 82%. The equity value that a shareholder would pay as maximum price is thus the calculated by summing up the enterprise value minus the net financial debt, plus cash available which would be €274 million.

The below table is showing a sensitivity analysis on the equity value, calculated as above, assuming that either the terminal value growth or the WACC level would change as parameters for the valuation exercise.

Table 17: Sensitivity Analysis on Equity Value.

			Growth		
WACC	**0.5%**	**1.0%**	**1.5%**	**2.0%**	**2.5%**
4.50%	383	445	529	645	820
5.00%	326	374	435	517	631
5.50%	281	318	365	425	505
6.00%	244	274	310	356	415
6.50%	213	237	267	303	348
7.00%	187	207	231	260	296
7.50%	164	182	202	225	254

Source: own elaboration on Nexus data.

6. Conclusions

Energy efficiency is generating increasing attention in Europe and is becoming more and more relevant. Several factors are incentivizing this trend, including the social awareness, the business economics and the political and legislative framework, all of them aiming at cutting the energy consumption, lowering energy costs and thus reliance on energy source by a more efficient use.

A set of European Directive have contributed to boost the ESCO industry and thus created mature markets in some countries and enacted some dynamics like companies' partnership and acquisitions as a result of companies need to enter other markets, become international and taking advantage of economies of scales.

The merger recorded last January 2016, between Innowatio and CLENS is a clear proof of and increasing trend of M&A activities in this sector. Of course, synergies between companies and macroeconomic conditions are important features that drives companies' corporate strategies toward this direction. The deal has created one of the main ESCO companies in Europe with a turnover of €1.5 billion, more than 230 employees and 22TWh of electricity managed.

A company with same characteristics that operates in both the Spanish and German market is Nexus Energia. The valuation results have conducted to a company values based on a 12.6% growth rate on sales revenues over 5 years and a total enterprise value of €387 million. The company discount rate used is the WACC at a level of 6%. Finally, an equity value of €274 million has been estimated.

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