



ENGIE S.A.

FINANCIAL STATEMENTS ANALYSIS

Solvay Business School

MBA PROGRAMME

FINANCIAL STATEMENTS ANALYSIS COURSE

PROFESSOR: **PETER TAYLOR**



CONTENTS

EXECUTIVE SUMMARY

- 1.1 CONTEXT AND AIMS OF THE ANALYSIS
- 1.2 METHODOLOGY
- 1.3 DATA AND DOCUMENTS USED

BUSINESS STRATEGY ANALYSIS

- 2.1. ANALYSE OF THE INDUSTRY
 - 2.1.1 GENERAL CONTEXT: IDENTIFY KEY PROFIT DRIVERS AND BUSINESS RISKS 6
 - 2.1.2 TOWARDS A NEW WORLD ORDER 6
 - 2.1.3 CHANGE IN THE ENERGY MAP- SUPPLY AND DEMAND 7
 - 2.1.4 PRICE VOLATILITY 8
 - 2.1.5 CURRENCY AND US DOLLAR STRENGTH 8
 - 2.1.6 REGULATION 8
 - 2.1.7 RENEWABLE ENERGY SOURCES 9
 - 2.1.8 DISTRIBUTED GENERATION- THE ACTIVE ROLE OF CONSUMER – GAME CHANGER 10
 - 2.1.9 RISKS 10
- 2.2 GLOBAL PROJECTIONS
- 2.3 INDUSTRY STRUCTURE AND PROFITABILITY - FIVE FORCES VS. VALUE CHAIN
- 2.4 FIRM'S STRATEGY
 - 2.4.1 PRESENTATION OF THE BUSINESS: 14
 - 2.4.3 ORGANISATION AND ACTIVITY BREAKDOWN 17
 - 2.4.4 STRATEGY 19

ACCOUNTING ANALYSIS

- 3.1 ACCOUNTING AND REPORTING CONTEXT- GENERAL APPROACH
- 3.2 REPORTS AND MEDIA:
 - 3.2.1 REGISTRATION DOCUMENTS: 22
 - 3.2.2 CONTENT OF ANNUAL FINANCIAL REPORT: 23
- 3.3 CREATIVE ACCOUNTING
 - 3.3.1 UTILITY INDUSTRY – GUIDELINES IN CREATIVE ACCOUNTING 23
 - REGULATORY CONSIDERATION* 23
 - MANAGEMENT COMPENSATION* 23
 - COMPETITIVE AND CAPITAL MARKET CONSIDERATION* 24
 - 3.3.2 ENGIE – USE OF ESTIMATES AND JUDGEMENTS 24
 - CAPITALISE VERSUS EXPENSE* 24
 - FAIR VALUE* 25
 - REVENUES RECOGNITION* 26
 - TAX CONSIDERATIONS* 26

FINANCIAL STATEMENT ANALYSIS

- OBJECTIVES
- ANALYTICAL TOOLS
 - 4.1 FINANCIAL RATIOS 38
 - ANALYSIS OF GROWTH* 38
 - PROFITABILITY* 40
 - EFFICIENCY* 45
 - WORKING CAPITAL (MISSING UNDERLYING BUSINESS DETAILS!)* 46
 - COMPETITIVITY* 47
 - INTEREST COVERAGE* 47
 - 4.2 COMMON SIZE STATEMENTS 50
 - 4.3. LIQUIDITY RATIOS 52
 - 4.4 CASH FLOW ANALYSIS 52
 - 4.5 SHAREHOLDERS AND MARKET VALUATION 54

BIBLIOGRAPHY

FINANCIAL STATEMENTS ANALYSIS ENGIE



EXECUTIVE SUMMARY

1.1 CONTEXT AND AIMS OF THE ANALYSIS

ENGIE former GDF Suez develops activities related and complementary to the gas and electricity industry value chain: from production or purchase, transport, storage, distribution and related infrastructure, management and energy services.

In 2014, Engie produced 2,73% of the consumed power in the OECD countries. In 2014, its business portfolio represented 12.6% of the OECD country's consumption. ENGIE supplied 2.2% of the whole world energy need.

In a process of global energy industry and market reconfiguration, Engie experiences structural changes to cope better with geopolitical, economic, and climate new challenges. Since the 2008 financial crisis, the dynamic of these external factors have led to new strategies based on risk mitigation and seriously impacted the financial statements of the company.

The present paper tries to assess the changes in company's strategy, through an analysis of the income statement, balance sheet, cash flow and equity statements. It tries to assess the adaptive, resilient and flexible capacity of the company to reply to the increasing vulnerabilities of the international energy market.

In the context of growing European and global concerns about climate change and secure energy sources, energy transition towards cleaner renewable and sustainable sources of energy production plays a major role. Therefore, this analysis tries to grasp insights about the business sustainability of adopting a new paradigm of energy mix in respect to the use of sources in which Engie is traditionally involved such as gas, coal and nuclear power production.

Therefore the paper will focus on company's politics, recent major acquisitions and impairment, new portfolio of businesses, disinvestments and other major to recover or keep the financial health of the company.

1.2 METHODOLOGY

The paper uses the methodology described in the financial statement analysis course of professor Peter Taylor. It is organised in four important sections: (I) business strategy to tries to grasp a broad picture of the strategy and position of the company analysis, (II) accounting analysis which will assess the accounting system, identifies at what extends the assumption and managerial decisions influence the results, to work out in third chapter (III) financial analysis and eventually to provide in the last section (IV) conclusions.

The business strategy analysis will first concentrate on the specific context of the industry, and the challenging and complex environment influencing the strategy of the firm and can be ultimately linked with actions, and figures in ENGIE financial statement. Key issues identified are: new global energy map and new global players, geopolitics and change in demand and supply, price volatility, regulations, renewable energy and CO2 policies, changes in relation between consumer and producer, growing structural risks for traditional energy utility business.

Second it organises previous information through Porter's five forces methodology, in order to grasp insights about the competitive advantages, related to activities across the value chain. This classification can better explain the vision and the strategic approach of Engie for the years to come. In the third part, a presentation of the company and its structure will make the link between the competitive advantage analysis and the alignment with its strategy.

The accounting analysis will try to understand important managerial decisions the company is making and how actions are translated through the accounting flexible tools into the balance sheet and reflected into the income statement. The section informs about the reporting methodology of the company and provides a list of accounting rules applied, the main policies of the company and their impact. It starts by highlighting key issues in the utility industry and further on explains how Engie makes use of it. The paper identifies the "capitalise versus expenses" policy of the company and the write-down, depreciation methods, amortisation of intangibles, capitalisation of exploration costs and finance costs. It explains how inventory are accounted and provides with information about lease and provisions management. Considering the massive impairments Engie has experienced, the paper focusses on the fair value measurements. Ultimately, it identifies revenue recognition and tax considerations issues.

Financial analysis will start by listing the objectives. It uses financial ratios, common size statements and liquidity analysis to evaluate the evolution of the company from 2008 to 2015 and to benchmark it against its competitors. Three competitors were chosen on the criteria of portfolio similarity and revenue. Financial ratios are organised by analysis of growth, profitability, efficiency working capital competitively, gearing or leverage.

The conclusion stresses the existence of an underlying strategy that complements company's official statements. It summarises the strength and weakness of the financial analysis results and emphasises on the company's potential to cope with a long-lasting vulnerable and volatile environment.

1.3 DATA AND DOCUMENTS USED

For the first chapter, the paper uses AIE, World Energy, and all cited official international data, described in the bibliography. A special interest was given to BP Annual Report, which provide 2014 information. However some lack in clarity on some data was observed and double checked with other documents.

The strategy of the firm section uses GDF SUEZ REGISTRATION DOCUMENT 2014 and compares information with previous data, in order to remove subjective information that might appear in the annual report.

For the financial analysis chapter, the paper uses GDF SUEZ REGISTRATION DOCUMENT 2014, containing all financial figures and notes. Some aspects were also cross-checked with Reuters financial analysis data. For 2008 information Annual Report from 2010 was used.

BUSINESS STRATEGY ANALYSIS

2.1.ANALYSE OF THE INDUSTRY

2.1.1 GENERAL CONTEXT: IDENTIFY KEY PROFIT DRIVERS AND BUSINESS RISKS

In the middle of a disruptive process¹, with a general decreasing tendency in revenues and profits margins² there is no doubt that utility (energy) industry is engaged in a structural reconfiguration³ that, it might be assumed, has less to do with its historical benchmarks. High market volatility is driven by a new macro-economic dynamic and uncertainty, emergence of new types of economical exchange, changes in policies and regulations, by geopolitical turmoil, and the increasing institutionalisation of climate change mitigation measures. Currently, estimates and scenarios of development have difficulties to cope with unpredictable events and their random systemic impact.

2.1.2 TOWARDS A NEW WORLD ORDER

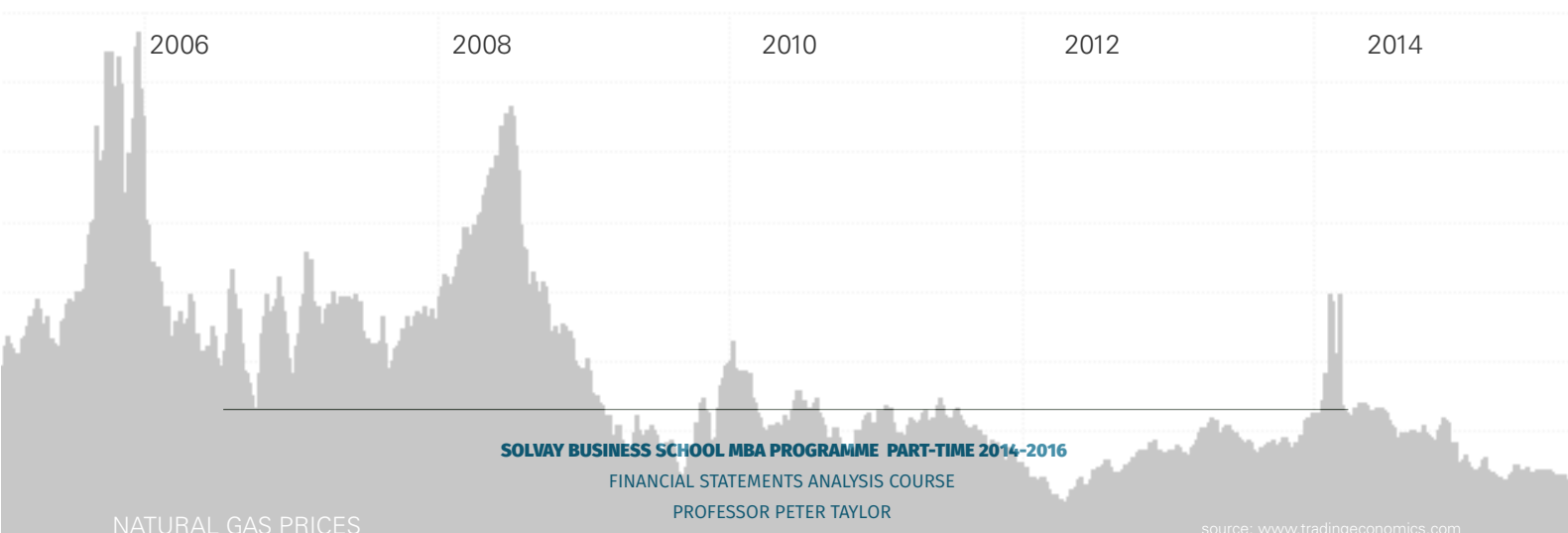
According to international analysis and statistics such as IEA (International Energy Agency) and World Energy Council, it seems that there is an **official paradigm shift statement**⁴. Since 2008, the idea of a temporary crisis situation looking to re-establish the ante-crises status quo. is widely accepted. Today, what used to be identified as tendencies, becomes the emergence of a new global context with no perspective of going back. In such a context, energy utility business has to reposition, redistribute resources according to new market opportunities, adapt and change their business model.

¹ "2015 Utilities Trends."

² See financial analysis chapter 4 page

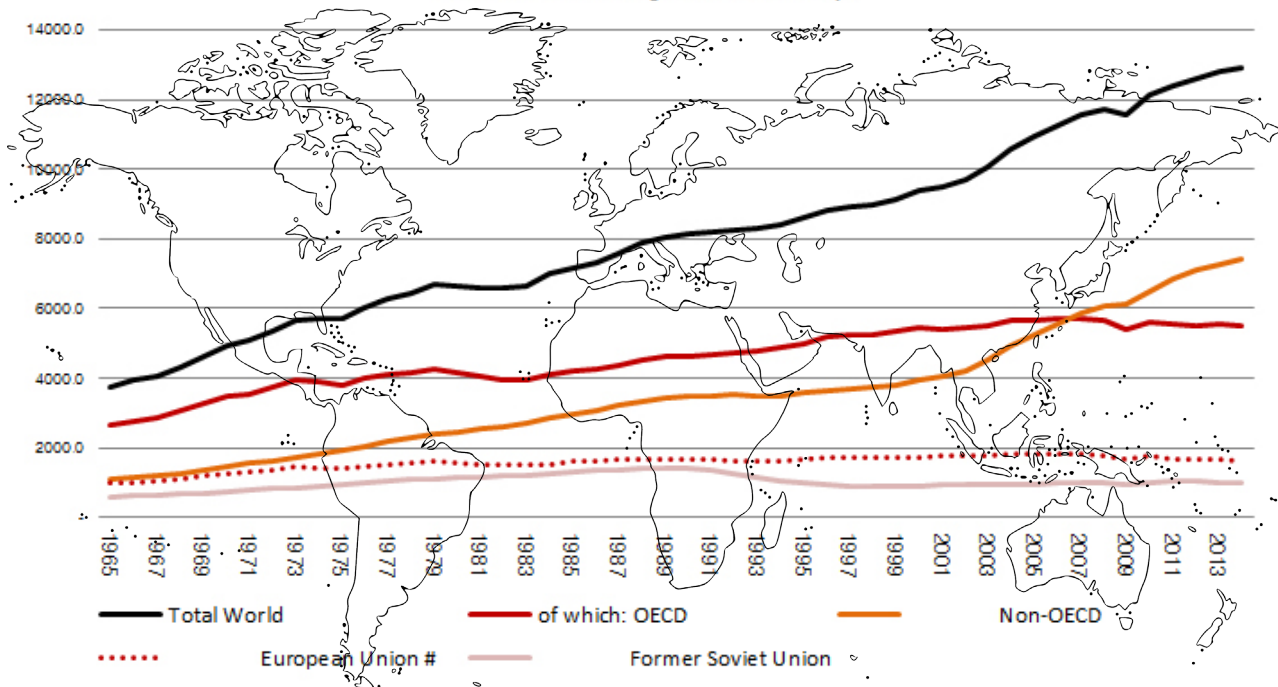
³ "World-Energy-Issues-Monitor-2014.pdf."

⁴ Very clear when comparing 2015 World Energy Issues Monitor with its 2014 version



Primary Energy: Consumption

In this review, primary energy comprises commercially traded fuels including modern renewables used to generate electricity.



2.1.3 CHANGE IN THE ENERGY MAP- SUPPLY AND DEMAND

Starting from 2007, the global energy demand has no longer been centered in the OECD countries⁵. Today, the market share of Non-OECD countries represents 57.5% of total consumptions in 2014. The shift seems to be consolidated and irreversible, despite China's slow decreasing demand. For the first time in a decade, China had a growth in energy demand of only 2.6% compared with its 10 years average 6.62% and of Asia Region 4.2%⁶.

According to BP Statistical Review of World Energy 2015, the world energy demand registered a growth of only 0.9%, in 2014, compared to 2.9% in 2013 and to 2.1% average over last 10 years. In Europe, the consumption declined by -3.9% in 2014 (lowest level since 1985), in Japan by -3.0%, whereas US recorded a growth of 1.1%.

There is also a clear change in the global distribution of supply. After 40 years, oil and gas production moved outside OPEC countries⁷, with ascension of US becoming the global leader in non-conventional shale gas and oil production. For 10 years, the US have built economies of scale in hydraulic fracturing industry; have considerably reduced imports and created perspectives to "become the 'swing' producer in setting the price of oil on global markets"⁸.

Disconnected from the demand curve, the energy supply increased with record figures over the last 10 years for commodities such as oil and gas⁹. This rising difference between supply and demand is framed in the new "price war"¹⁰ of OPEC countries-the former biggest oil explorer. OPEC tries to defend its position and market share and to counter the US competition in an attempt to bring the shale oil industry to unprofitable margins.

In generation segment, a change in map of asset supply is announced by the consolidated ability of China to provide technology at competitive costs.

⁵ Organisation for Economic Co-operation and Development (OECD) Australia, Austria, Belgium Canada Chile Czech Republic, Denmark Estonia, Finland, France Germany Greece, Hungary, Iceland Ireland Italy Japan, Korea, Luxembourg, Mexico, The Netherlands, New Zealand, Norway, Poland, Portugal Slovak Republic, Slovenia, Spain Sweden Switzerland Turkey United Kingdom United States

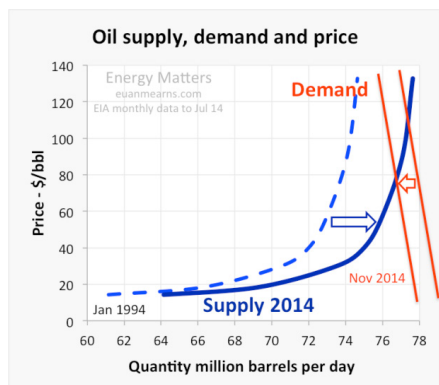
⁶ "BP Statistical Review of World Energy 2015 - Bp-Statistical-Review-of-World-Energy-2015-Full-Report.pdf"

⁷ "2015-World-Energy-Issues-Monitor.pdf"

⁸ "Shale Technology – the New 'Swing' Producer That Sets Global Oil Prices?"

⁹ "BP Statistical Review of World Energy 2015 - Bp-Statistical-Review-of-World-Energy-2015-Full-Report.pdf"

¹⁰ "2015-World-Energy-Issues-Monitor.pdf"



<http://oilprice.com/Energy/Crude-Oil/The-2014-Oil-Price-Crash-Explained.html>



source: web?

2.1.4 PRICE VOLATILITY

The discrepancy between demand and supply has brought the price of oil at its lowest level in the last five years, lower than 70\$, which used to be considered the "threshold for high end cost producers US and Canada"¹¹. Indirectly, this war affects other oil exporters and has a great impact on the utility industry, on public such as governments or private entities already affected by eroded margins from the last decade trends of market liberalisation.

In 2014, the change in energy map in the upstream value chain seriously impacted the electricity generation sector. Although the global demand in gas has slightly grown (0.9%)¹², European gas industry had decreased by 9.8%¹³ (mothballing of thermal gas power plants) merely because of low demand and competitive prices in green subsidised energy segment. Due to high fluctuations, gas contracts are also highly affected by the differences between spot and long term prices. Similarly and coped with Fukushima disaster, the change in nuclear energy approach puts the future of this industry under a question mark, and pressures the actual fleet, especially in Europe, while the nuclear expansion is very aggressive in Asia, mainly in China and Korea.

2.1.5 CURRENCY AND US DOLLAR STRENGTH

The strengthening of the US dollar has also a big impact on export and import prices. "Most of internationally traded commodities are priced in US dollars. All else being equal, an appreciation in the US dollar should therefore result in a fall in the unit price of these commodities."¹⁴

2.1.6 REGULATION

Few decades ago, energy used to be dominated by public monopolies, vertically integrated¹⁵ and strictly regulated¹⁶.

Although the world and especially markets where ENGIE operates are in different phase of energy market liberalisation, price and supply contract regulations and tax policies are very strong. It is difficult to have a global conclusion as far as countries are in different stage of opening their market and regulations also differ from country to country. However, this is a major driver for large business entities such as ENGIE, with high impact on energy competition that will be summarised in the company presentation section.

¹¹ Ibid.

¹² "BP Statistical Review of World Energy 2015 - Bp-Statistical-Review-of-World-Energy-2015-Full-Report.pdf."

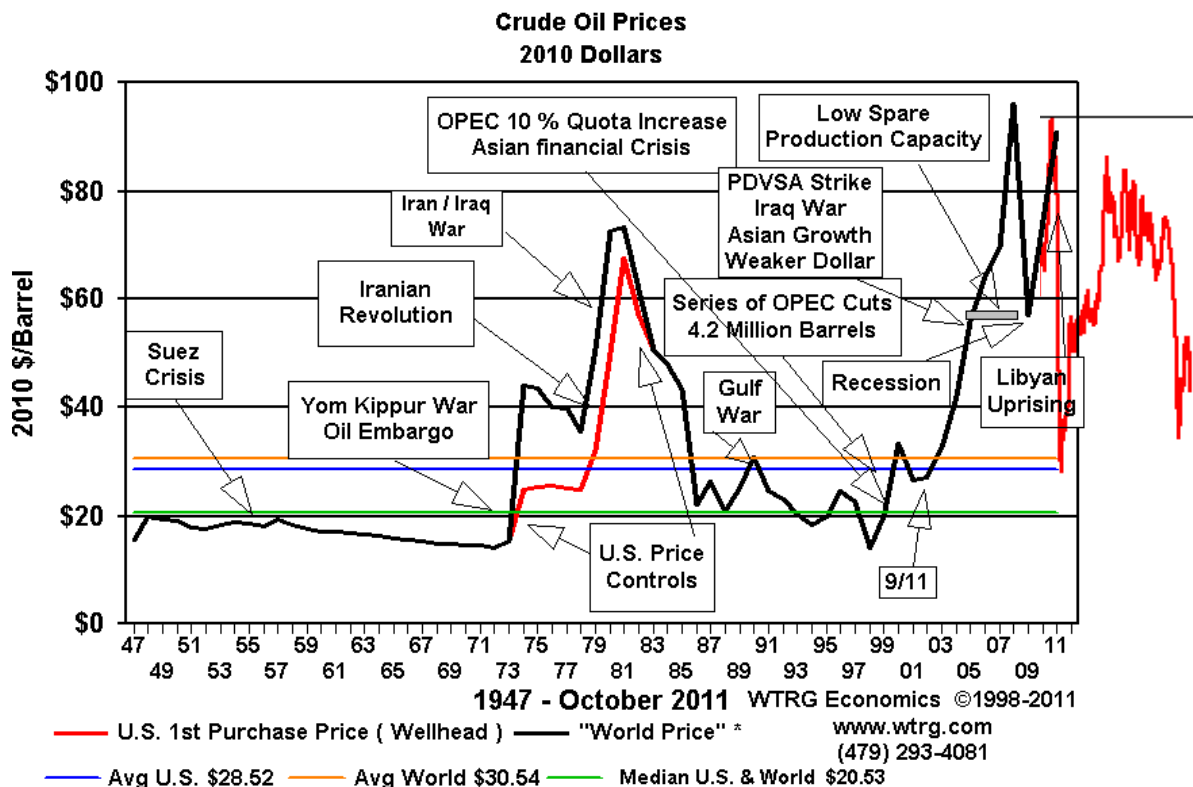
¹³ Ibid.

¹⁴ "Commodities: Key Themes For 2015 | Global | | BMI Research."

¹⁵ "Traditionally, electricity sectors developed and operated within strictly regulated frameworks in which vertically integrated utilities have handled most or all activities – from generation to transport to distribution. Moreover, it has been a centrally planned activity, wherein needs are assessed and fulfilled by electricity system planners and all associated costs are passed on to consumers."

¹⁶ "LessonsNet.pdf."

oil price fluctuations



source: wtrg.com

2015

2.1.7 RENEWABLE ENERGY SOURCES

Increase energy production from renewable sources is one of the main objectives to achieve a secure and sustainable energy mix as defined in the European Energy Security Strategy¹⁷. Renewable sources are on the agenda of the US government and start to play an important role in the Chinese future development. There are high expectations regarding global climate deal, clear regulations for climate framework, CO₂ regulations and clear subsidy policies.

In 2014, the segment represents 6%¹⁸ of the world consumption and includes hydropower, wind and solar¹⁹ (11% of European energy production, and biomass. From 2013 to 2014, the production of solar energy has grown by 28,8% at the global level. Hydropower often considered separately²⁰, due to its heavy impact on ecosystems and lately rigidity in climate change mitigation, when thresholds are exceeded²¹.

Besides expansion in Europe and US, renewal energy trends penetrate Middle East and Africa with perspective of increasing supply in the future.

Last decade, Europe growth in renewable energy industry was impacted by green certificates policies. Subsidies for energy production from renewable sources were supported by governments through green certificates and fees on CO₂ production of polluting industries. Since 2012, the subsidy policies have collapsed across Europe and investments slow down. However, "green energy" is a strong feature in European political agenda and businesses are willing to consolidate their role, to achieve economy of scale and push forward optimisation design.

¹⁷ "European-Energy-Security-Strategy.pdf"

¹⁸ "BP Statistical Review of World Energy 2015 - Bp-Statistical-Review-of-World-Energy-2015-Full-Report.pdf"

¹⁹ "keyworld2014.pdf"

²⁰ "Why Hydroelectric Power Isn't Considered Renewable."

²¹ Zevenbergen, Urban Flood Management.

High value is expected from COP21, otherwise known as “Paris 2015”, November 30th to December 11th, 2015, a crucial conference, as it needs to achieve a new international agreement on the climate, applicable to all countries, with the aim of keeping global warming below 2°C²².

2.1.8 DISTRIBUTED GENERATION-THE ACTIVE ROLE OF CONSUMER-GAME CHANGER

Geopolitical changes are coupled or accelerated by the increasing digitalisation of the human life and activities. The new consumer-centric and potential producer profile is likely to influence the industry. Smart grids, decentralised systems, put traditional businesses in difficulties. Those are looking forward to creating new types of services to support and integrate this new model, before digital analytical established business take over. (e.g. Google has already developed application in this perspective)

For the European Union, the Energy Package published on February 25th, 2015 stated that: “vision is of an Energy Union with citizens at its core, where citizens take ownership of the energy transition, benefit from new technologies to reduce their bills, participate actively in the market, and where vulnerable consumers are protected.”²³

2.1.9 RISKS

An increase and change in risk, impacts the willing to invest in an industry with high volatile prices and under the threat of a “recessionary downside spiral”²⁴. Political risk plays a major role in this situation, such as in the Russia-Ukraine conflict, the destabilisation of Middle East, terrorism, (including cyber terrorism), the informal oil market in Syria and Irak. The dependence and security of supply are the main issues of the world agenda. Renewal energy secure supply is also an issue as back up infrastructure is necessary to sustain the consistency of the system, to avoid incidents such as the Germany blackout on the 4th November 2006²⁵.

Climate change plays a risks for the industry as a warmer climate in some areas reduced consumption with high impact on the balance sheet.

2.1.10 CONCLUSION

Measures that used to characterise the industry can easily become obsolete in an environment where businesses seem to focus more on fast adaptation and new risk management policies. This included long term oriented approach necessary to insure the survival in the future with short term actions. Volatility and growing uncertainty become a defining factor when assessing future development scenarios of traditional utility businesses.

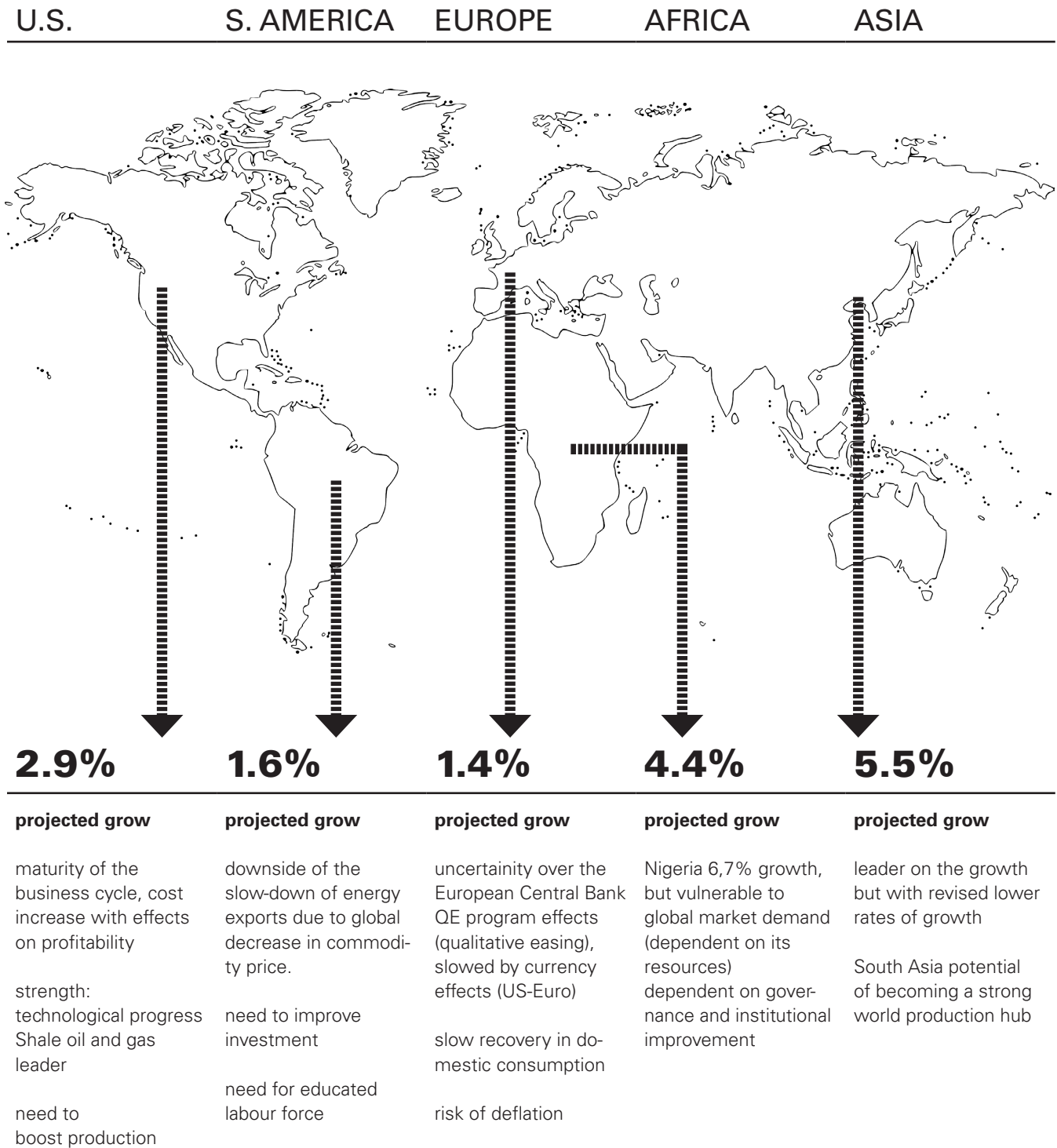
22 “What Is COP21/CMP11? | COP21 - United Nations Conference on Climate Change.”

23 “Untitled - Energyunion_en.pdf.”

24 “2015-World-Energy-Issues-Monitor.pdf.”

25 Drum et al., “Germany Faces A Growing Risk Of Disastrous Power Blackouts.”

2.2 GLOBAL PROJECTIONS



source: <https://www.conference-board.org/data/globaloutlook/>

2.3 INDUSTRY STRUCTURE AND PROFITABILITY - FIVE FORCES VS. VALUE CHAIN

In a business that covers all the value chain, the five forces approach has its limitation. Activities upstream and downstream power generation are industries on their own, with their specificities. There is no clear border between them. Moreover, Engie has clear objectives to enlarge its portfolio and create synergies as much as possible with activities gravitating around the value chain. The aim is to increase the dynamism and interaction to develop new business models.

Hereby, a schematic approach of the five forces is applied to the different segments of the utility industry, in the actual context.

five forces

DEGREE OF ACTUAL AND POTENTIAL COMPETITION

HIGH RIVALRY AMONG EXISTING FIRMS

Industry growth merely through acquisition.
High competition for market share, need economy of scale to reduce variable costs

High Scale/learning economies
High fixed costs and high switching costs
Perspective to enter new market still low despite international ambition (universal access to electricity by 2030)

Keep and extend share with the cost of price and profit margins
Big exit barriers for most generation less in wind and solar
Big scale/learning economies
High fixed costs

Natural monopolies transmission (energy network operators)
There are regulation to avoid concentration and the re-establishment of monopolies especially in Europe

Excess capacity especially in nowadays context
There is an attempt for bigger differentiation – portfolio and new services and products
Low Switching cost

LOW THREAT OF NEW ENTRANTS

High barriers to entry
High fix costs (less in renewable wind and solar generation but constrained by access to distribution)

Lower costs in household access but difficult to achieve economy of scales.
Liberalised public companies were first mover and became the world business players. These companies already achieved economy of scales and ben-

efited from the upfront capital for new investments

Natural monopolies transmission (energy network operators)
Distribution access – more and more accessible. Due to structural unbundling
Lower upfront capital requirement costs in trading; marketing, energy providers, retailers

Relationships high brand equity with high cost (often in acquisition of former national entities the name remain the same- eg. Tractebel)
High Legal barriers regulation to build assets

HIGH THREAT OF SUBSTITUTE PRODUCTS

Relative price and performance
High threat of substitutes
Oil, coal, gas, nuclear, re-generable (hydro wind solar biomass). Each has different costs, fixed costs of asset'

generation, different regulation, different system of subsidies and taxes

Energy power has no substitute but the sources of generation, has.
Buyers' willingness to switch

Lately, distribution can be substitute by autarchic power generation disconnected from the grid

Consumer-producer threat

Internet of things can substitute services such as monitoring, etc., proposed by distributors

value chain

BARGAINING POWER IN INPUT AND OUTPUT MARKETS

MEDIUM BARGAINING POWER OF BUYERS

Low number of buyer but
Switching costs are high (depending on
technology and patents)

HIGH BARGAINING POWER OF SUPPLIERS

Limited number of suppliers might be
integrated in the value chain for share
profits (GDF Suez provides gas for the
functioning of their assets, it trades the
energy produces)

There is no differentiation There is no
importance of product "ENERGY" for
quality. It is an utility.
Volume per buyer differentiates market.
Commercial and industrial buyers have

There is not enough differentiation
Importance of product for cost and
quality
Switching costs are big for generation
sector because it uses patterns.
High volume per supplier

big power whereas small started to
have power quit the provider and to
create smart grids (decentralised power
plant at the private or community level)
The industry is becoming more
competitive

No power for suppliers, transmission is
a monopoly and essential for generation
business

Natural monopolies transmission
(energy network operators)

Low number of suppliers

Low number of buyers . Depends on
market liberalisation and regulation
There is no differentiation
Volume per buyer differentiates market.

High number of small buyers
Switching costs are low

High number of suppliers, low bargain
power which has an impact upstream
the value chain

FUEL / ENERGY
SOURCE

GENERATION

TRANSMISSION

DISTRIBUTION

CUSTOMER ENERGY
SERVICES



2.4 FIRM'S STRATEGY

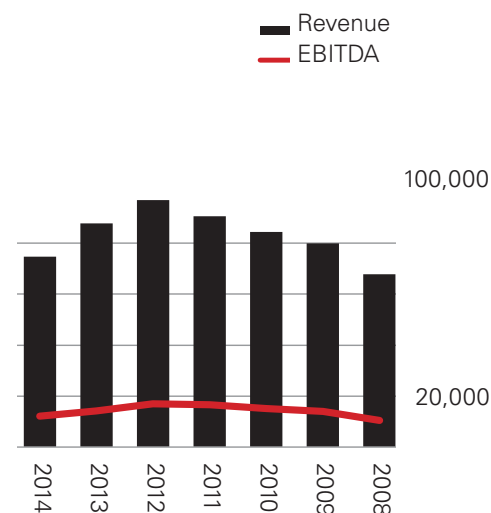
2.4.1 PRESENTATION OF THE BUSINESS:

ENGIE former GDF Suez is a global utility industry player, activating across entire energy value chain. The company purchases, explores/produces, operates, distributes and manages infrastructure for natural gas and electricity generated from thermal power generation and renewable sources. Besides, ENGIE offers energy management and environmental services. It provides also water and waste water management services and is involved in the desalination industry. In 2014, Engie produced 2.73% of the demanded power in the OECD countries. In 2014, its supply business portfolio represented 12.6% of the OECD countries demand. ENGIE supplied 2.2% of the whole world energy need. The company structure such as today is defined by the merger between GDF Suez and Gas de France in 2008.

Engie operates in over 60 countries. Its activities in stable markets are counterbalanced by intensive activities in emerging countries with higher growth prospects. According to the registration document from 2014²⁶, the company policy foresees an equilibrated and varied portfolio of activities and a mix contracting policy from long term, safe recurring revenues²⁷ to higher short term revenue through contracts "exposed to market uncertainties".

In a troubled context (see chapter Analyse of the industry), but also due to specific related problems of the company itself, the revenue of the Engie has been continuously decreasing, since 2012. Engie registered a drop of 15% in revenues from €87,898 million to €74,686 million. In 2014 EBITDA performed with 18% less than the previous year. Not only growth, but also profitability margins have been declining drastically. Net income of €2,441M increased compared to 2012 (€1543M), but was still very low in respect with previous years. Cash flow figures are €2,400M lower than in 2013. And net debt has lowered with €1,289M in 2014 compared with the previous year.

evolution of EBIT
impairment 2013

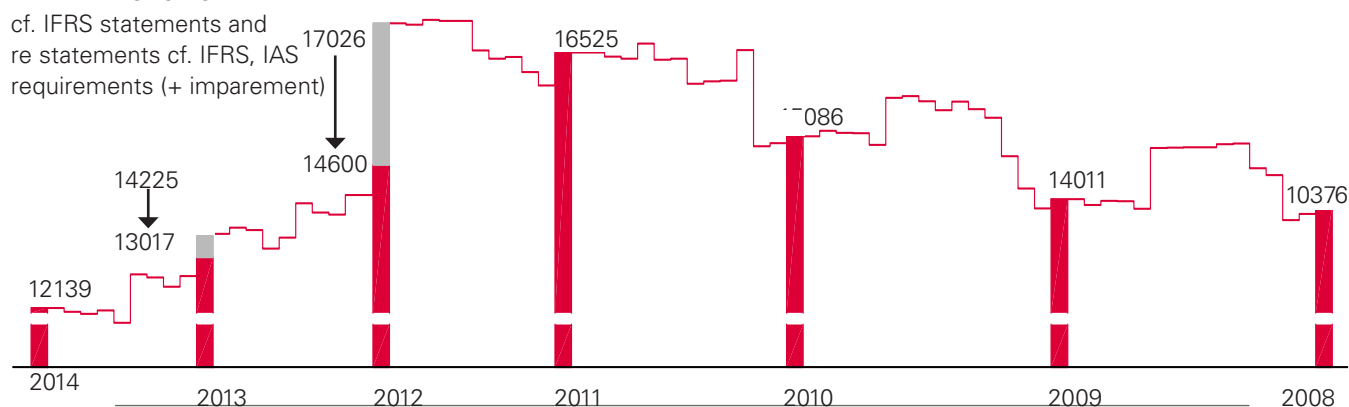


²⁶ "Registration Document 2014 • GDF SUEZ."

²⁷ PPA-type contracts: an agreement between a purchaser (an entity in the public or private sector) and a power producer, with conditions for purchasing power produced over a long period to ensure regular revenue for the producer that will cover its investment costs. etc.);

EBITDA EVOLUTION

cf. IFRS statements and re statements cf. IFRS, IAS requirements (+ impairment)



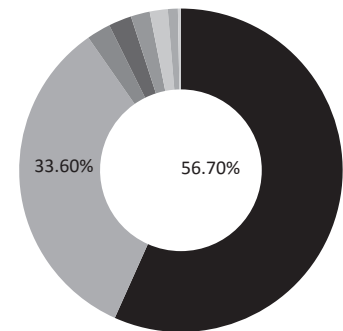
The company is in a process of structural re-definition of its business model. This started in 2013 with major changes such as impairment of €14,900 million carry out property, plant and equipment and intangible assets, goodwill and continues in 2015 with major changes at the organisational level to align their new strategy.

2.4.2 HISTORY:

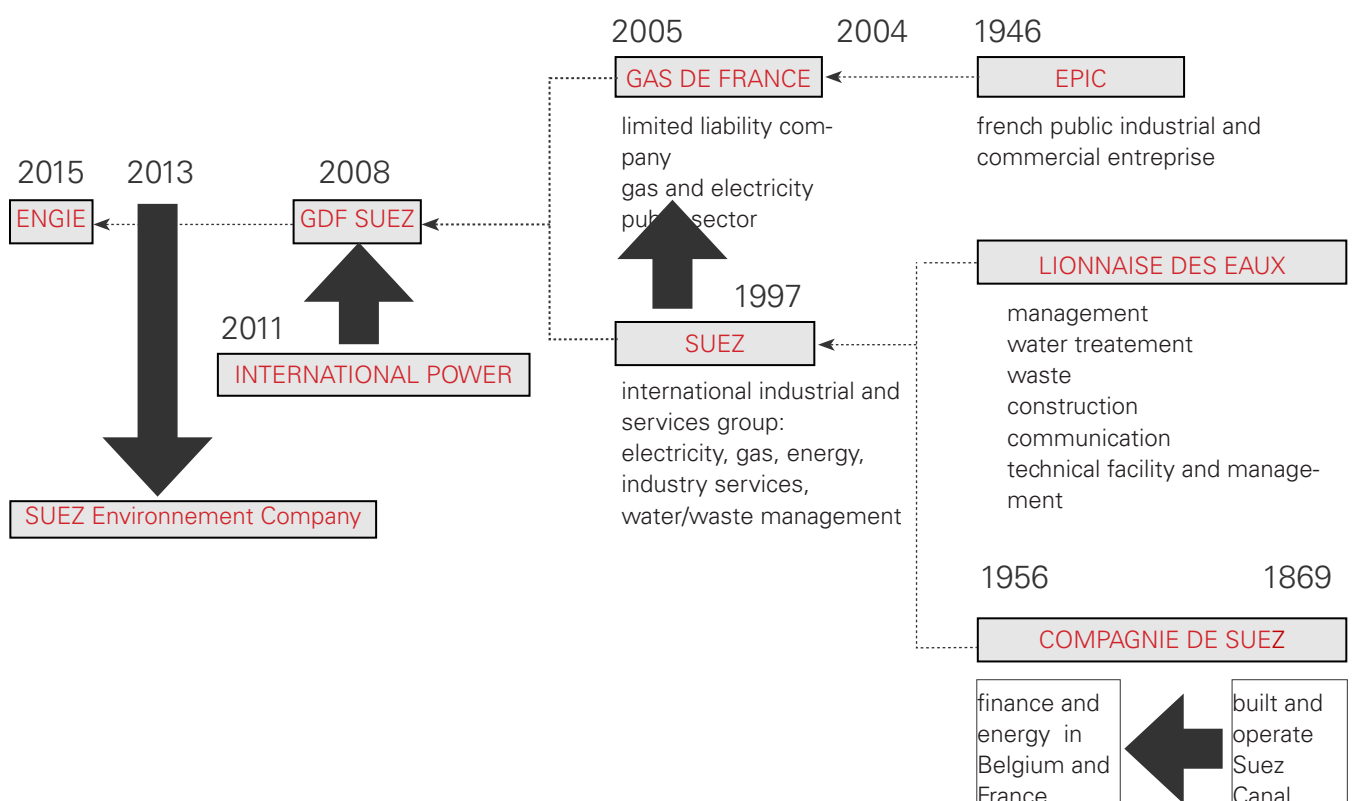
Engie is a former state owned company, which origins go back in the 19th century. After successive mergers and acquisitions, the company becomes GDF Suez in 2008 through the merger of Gas de France and Compagnie de Suez. Starting from 2005, the company have been integrated in the liberalisation/ privatisation process of the European electricity market.

Listed on the Euronext exchanges in Brussels and Paris, today, the company has 56.7% public capital, 33.6% shares are held by the French government, 2.9% held together by the French "Caisse des Dépôts et Consignations (CDC)" and the "Caisse Nationale de 'Prévoyance"; 2.3 % by employees shareholding, etc., China Investment Corporation held 30% of the total Exploration & Production activities.

Its evolution explains the structure and the business portfolio and gives a measure on how international strength was consolidated. It also gives an idea about the adaptive capacity of the company experienced with massive merger and integration process. Simultaneously, the scale of the business highlights vulnerabilities that will be pointed out further in the study through the strategy and the financial analysis.



Public	56.70%
French State	33.60%
Bruxelles Lamber Group	2.40%
Employee shareholders	2.30%
CDC Group	1.90%
Treasury shares	1.80%
CNP Assurance Group	1.00%
Sofina	0.30%



ACTIVITIES

ENERGY MANAGEMENT TRADING (EMT)

GROUP ASSETS OPTIMISATION 2014 PP mothballed 134 MW
COMPETITIVE SOURCING: sold 1041 MW

optimise value creation related to risk,
negotiate natural gas procurement
provide gas & el. + energy price risk management services

LARGEST DIVERSIFY PORTFOLIO

electricity, gas, coal, oil products, biomass, CO₂, environmental products

PRESENCE IN KEY MARKETS

support external counter parties (trading)
EUROPE SINGAPORE

GAS & POWER SUPPLY

large industrial customer

RENEWABLE ENERGY (RES)

direct assets & projects linked to renewable (hydro, wind, solar) 10 photovoltaic projects FR
develop, construction, operation, partnership win offshore wind tender FR
maintainance 396MW
increase profitability of installed capacity
control cost for develop & acquisition,
procurement operation maintainance
share experience and local integration

GENERATION METIER

ASSETS: nuclear and thermal power (incl. biomass) lifetime extent: Tihange 1, Doel 1 and Doel 2 (10 years)

develop and maintain powerplants coordinate teams stoppage: Doel 1 3 4 and Tihange 2

REVIEW CONTINUOUSLY ASSETS:

adapt to market conditions, optimise (OE, flexible), closure, mothballing 40% NuGeneration LTD UK- reactor West Cumbria

MONITOR projects and power plants under construction, Support for business development **BE investments vs. Nuclear contribution/ tax burden**

MAXIMISE SYNERGY (countries, pooling process, know how) Technological stream - coal, gas, nuclear

MKT SALES M&S

supply gas & electricity & associated services GDF DolceVita: 2 million B2C customers
residential corporate & local authorities CONGAZ: 63000 customers
gas storage and distribution (Ro and Hu) new brand
commercial and customer activities small business FR GDF SUEZ PRO
prepare offers/ drives forward innovative projects
optimise the value of customer portfolio (countries, pooling process, know how)
Technological stream - coal, gas, nuclear

BUSINES LINES

ENERGY INTERNATIONAL

S America electricity production
N. America LNG gasification
UK & Turkey gas distribution
South Asia seawater desalinisation
Middle East and Africa international retail sales outside Europe

Revenues 13,977 14,393 -2.9%

EBITDA 3,716 4,029 -7.8%

ENERGY EUROPE

electricity production gas, nuclear, coal, regenerable: 39684MW and 364MW
under construction
energy management
elec. / natural gas sales
distribution/ storage

Revenues 35,158 42,713 -17.7%

EBITDA 2,020 2,877 -29.8%

INFRASTRUCTURE

France: network and infrastructure
transmission of natural gas
gasification of LNG
storage of natural gas
distribution of natural gas

Revenues 6,812 6,775 +0.5%

EBITDA 3,274 3,334 -1.8%

GLOBAL GAS AND LNG

exploration and production (gas and oil) assets, secure access to resources, engineering and services
LNG transportation and storage, commercialisation, marketing, innovation

Revenues 9,551 8,404 +13.6%

EBITDA 2,225 2,028 +9.7%

ENERGY SERVICES

customers: industrial tertiary and local authorities
sustainable energy and environmental efficiency
Engineering, installation, maintainance

Revenues 15,673 14,678 +6.8%

EBITDA 1,127 1,041 +8.2%

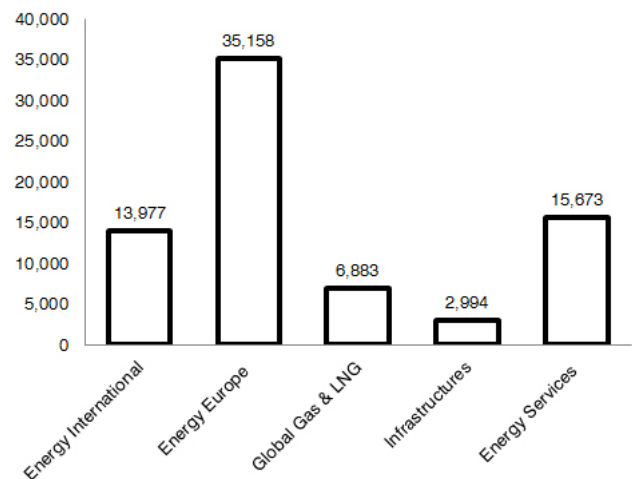
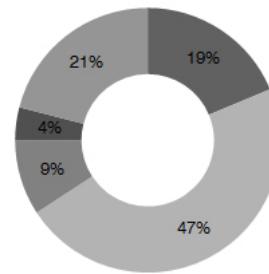
REAL ESTATE, PLANT AND EQUIPMENT

2.4.3 ORGANISATION AND ACTIVITY BREAKDOWN

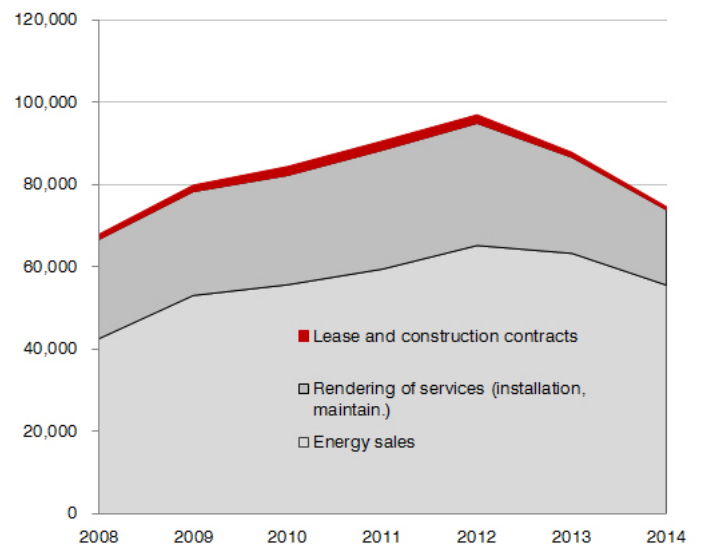


REVENUE POSITION

■ Energy International ■ Energy Europe
■ Global Gas & LNG ■ Infrastructures
■ Energy Services



Service revenue evolution (cummulative)



ACTIVITIES

Engie is organised in four segments: energy and trading, generation (production) marketing and sales and renewable energy. The latter is a newer strategic component of the company business development. Its activity is not yet clearly explained in the financial statements.

The major activity of the group is electricity generation, which includes a diversified fleet and its natural gas portfolio.

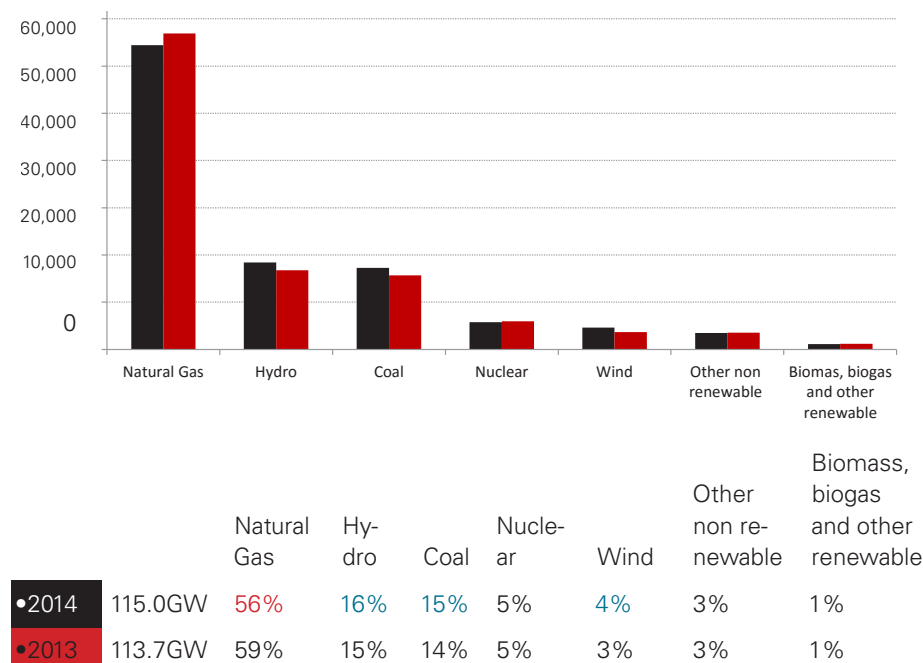
1. The total (group) installed capacity of electricity production as of December 2014 was 115GW (1.14% more than in 2013), of which 71% net ownership of Engie. The group capacity breakdown by energy source used in generation is as follows: 56% natural gas, 16% hydro, 15% coal, 5% nuclear, 4% wind, 3% other non-renewable and 1% biomass, biogas and other renewable energy. In 2014, there is a decrease in electricity production generated by gas of 3.79%, whereas the hydro coal and wind generation slowly increased.

Engie announced 10,5GW under construction, from which 3,15 GW would be renewal energies.

The assets related to these activities are subject to an operational efficiency process. The company focuses to shift towards low carbon power generation fleet.

Activities related to natural gas includes diversified portfolio of long term contracts in EU (10 countries). Engie is also a spot market company²⁸ that allows it to "rationalise supply control cost by adjusting purchasing to match its needs"

²⁸ A commodities or securities market in which goods are sold for cash and delivered immediately. Contracts bought and sold on these markets are immediately effective.(source Investopedia)



Bellow, a scheme of the position of the firm, according to the annual report.

COMPETITIVE POSITION

EU STRONG COMPETITION	EU DIFFERENT REGULATION	EU NATURAL MONOPOLIES	WORLDWIDE PRIVATE PLAYER
electricity generation marketing, gas & mkt	prices for residential customers	transmission and distribu- tion (domestic regulators control)	long term contracts on tender basis
GAS	GAS INFRASTRUCTURE	ENERGY SERVICES	ELECTRICITY
1 Seller Natural gas EU	#2 transmission	B2B	leader IPP indep. pw producer
1 Importer LNG EU	#1 distribution	1 gas marketing FR, NL, BE, IT	1 producer-developer Gulf States
4 Importer LNG W	#1 storage capacity (useful stor- age)	heating networks GE, H,AU SP	1 IPP Thailand
imp. player exploration/ production EU	#2 operator owner of LNG termi- nal	1 gas marketing UK	2 IPP Peru
position in every upstream activity	#3 Turkey gas distribution	facility mgmt UK	3 IPP Chile
			3 purchaser & supplier EU
			leader gas marketing FR
			2 producer-supplier FR
			2 hydropower operator FR
			leader windpower
			FR
			1 producer-supplier Electrabel BE
			gas and electricity

2.4.4 STRATEGY

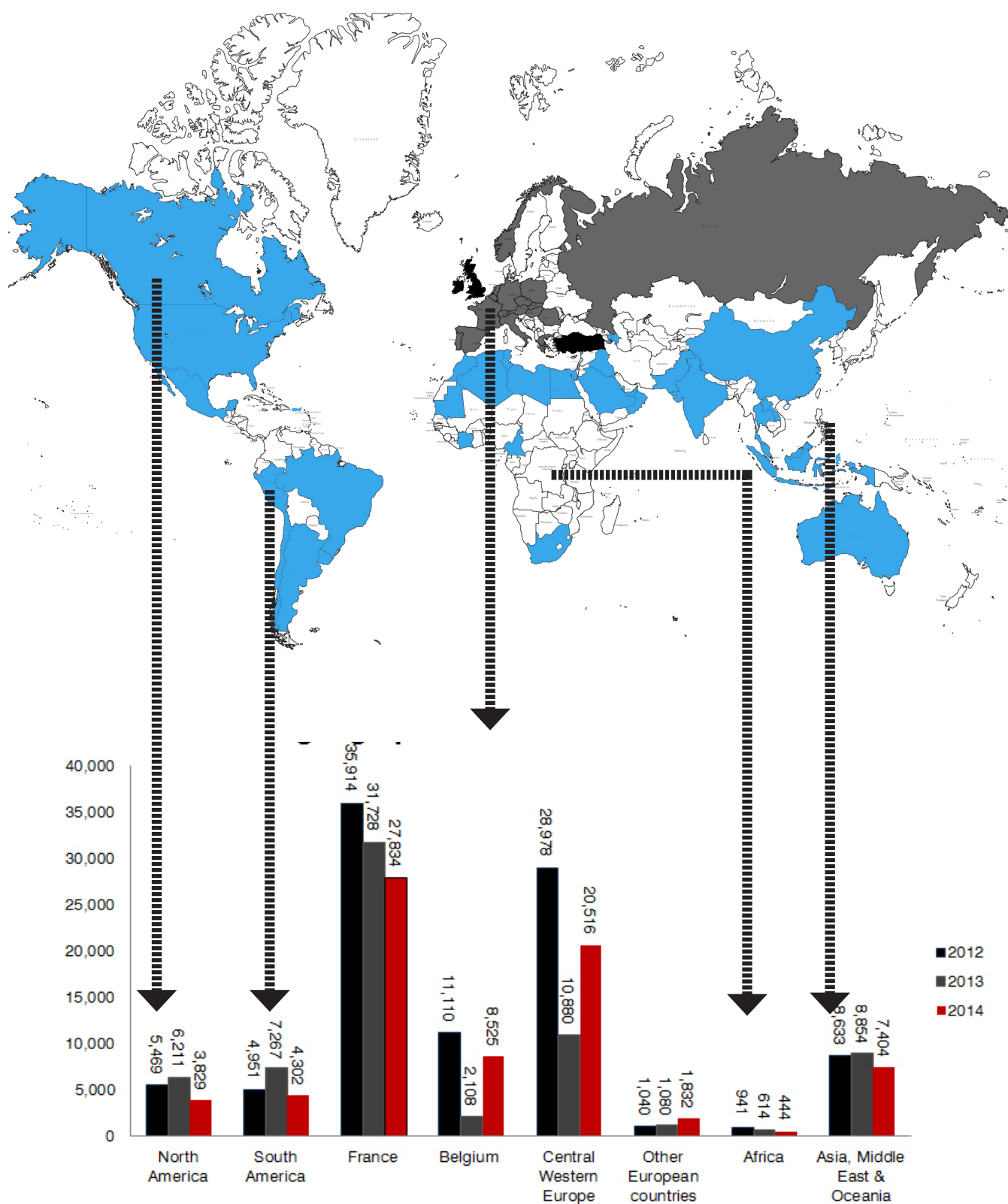
It is not a surprise that Engie had to make adjustments in its objectives and strategy. The whole industry is in a process of transformation. Some general measures, such as «financial restructuring; technology shifts such as the rise of distributed generation; the need to respond to new regulations, most notably [...] latest effort to regulate carbon emissions; and the evolution of the customer interface” are already on the agenda of utility business players”

In this context, Engie aims to maximise new opportunities for higher return, while mitigating higher risk these actions will imply. The company’s intention is to synchronise these efforts with a consistent risk management approach that is also required to insure shareholders. It has to be noted, that the utility industry used to attract investors with a risk adverse profile-investors looking for safety returns. Therefore a change in the business model also requires a sensitivity towards shareholders .

In order to reply to the slowdown in electricity demand, the decreasing price of oil and gas and a high competitive market with unbalanced subsidy policies, Engie’s first choice is to use its financial leverage and invest massively in renewable energy in Europe.

Portfolio–spin offs, split in separate entities in the value chain, assets sales, bond like investment, give more flexibility and resilience to the business as a whole and avoid a leverage effect of vulnerable and riskier areas of activities. Engie already separated from Suez Environment. “Individually, a carved-out company may produce higher sustained returns than it did as an integrated utility”

According to the annual report, the main issue Engie experiences is the crisis of thermal power generation in Europe due to economic slowdown, development of renewable energy and low prices of coal, with effects on decreased consumption, respectively capacity surplus and low prices on long-term perspective. Its forecast for 2040 based on existent studies, relies on a +93% increase in primary energy consumption outside OECD, in emerging countries, and a 1,6% annual demand growth at global level. In Europe, the company relies on 14% - 35% contribution of renewable energy to the energy mix to be achieved by 2040. Engie integrates a de-centralised approach: recognising the need to increase the company role in the development of energy services with emphasise on local level management growing role;



STRATEGY

LEADER IN ENERGY TRANSITION IN EUROPE

- renewal energy thermal and electric central, distribution
- energy efficiency services
- new business + digital
- customer approach/ partner for customer: B2B B2C, B2P

GAS SUPPLY PORTFOLIO

- optimise portfolio
- renegotiate contracts

POWER GENERATION

- optimise thermal PP
- MAGRITTE group lobby

RENEWABLE ENERGY

- in countries with mature technology
- hydropower, onshore wind PP, biomass

INFRASTRUCTURE

- adapt to the change in demand
- prepare infrastructure for gas biomass

BENCHMARK ENERGY PLAYER IN FAST GROWING MARKETS

- leverage on strong position
- independent power generation + LNG
- cover all value chain
- international energy services

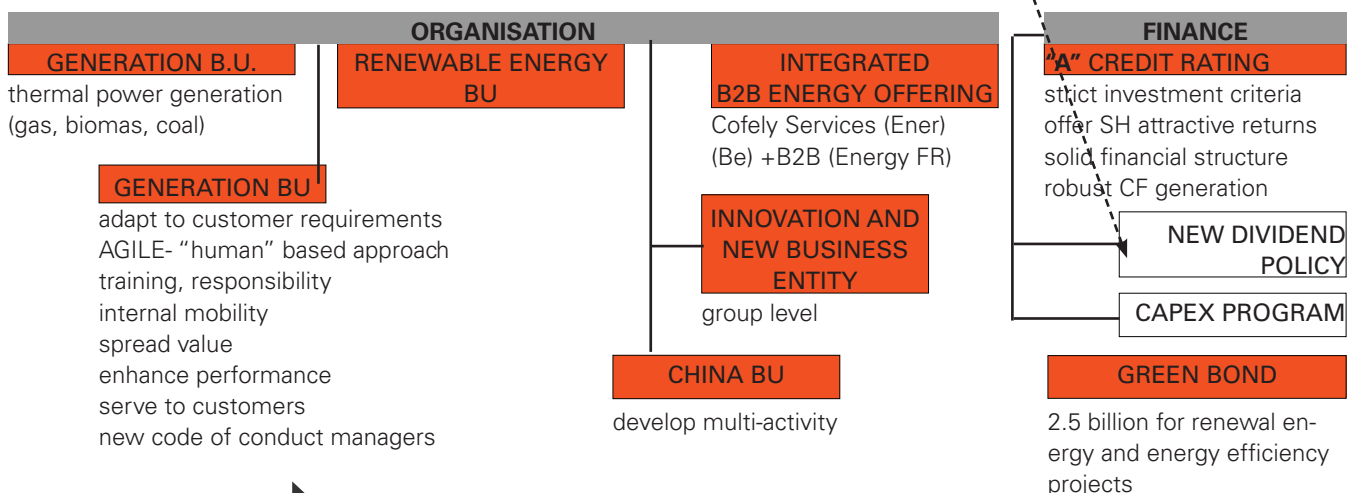
INDEPENDENT POWER GENERATION

- strengthen existent position
- new attractive markets opportunities in renewable energy
- energy and gas value chain
- descentralise generation and infrastructure

INTEGRATE ACTIVITIES FOR THE GAS CHAIN

- upstream activities to secure access to resources for group downstream markets
- infrastructure oportunites
- know how in down stream

IMPLEMENTATION



IMPROVE PERFORMANCE

PERFORM 2015 (2013)

group transformation adapt difficult environment in Eu
€4.50M invested in 2013
+€0.90 impact on IS 2014

LEAN MGMT MAINTAINING CAPEX

+€0.40 impact on CF 2014

OP REVIEW PURCHASING

gas turbines Power Plants
spread outside EU
new governance

SHARED SERVICES

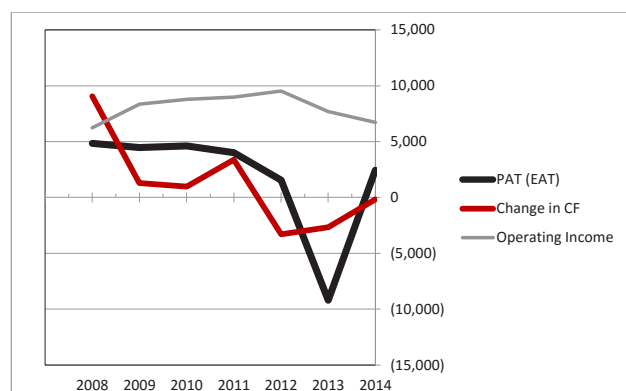
division harmonisation
simplify working methods
IT, standardisation IT
Streamlining

ACCOUNTING ANALYSIS

3.1 ACCOUNTING AND REPORTING CONTEXT- GENERAL APPROACH

Engie former GDF Suez is a listed company in Paris and Brussels, due to report its financial results using International Financial Reporting Standards (IFRS).

For the years 2013 and 2014, the group used accrual accounting in conformity with European Regulation (EC) 1606/2002 and International Accounting Standard (IFRS) July 19, 2013 and all the necessary procedures and endorsement foreseen by these standards. In the framework of the flexibility allowed by the standards, amendments and interpretations are applied on



*Accrual accounting, versus cash flow statement
Engie facts from 2008 and 2015*

Excluding the impairment in 2013, it can be observed the difference between volatile cash flows curve and accrual more constant evolution. It explain also the impairment decision (after a decreasing CF curve).

different time horizon -some were already integrated others delayed. It is assumed that these choices helped to smooth the transition between Engie's annual results, in the present unfriendly business context of the utility sector.

Since 2008, when Gaz de France and Companies Suez have merged and consolidated their annual report, several accounting rules have changed. In order to make available accurate comparative data, several restatement of previous were operated²⁹:

- In 2010, the company restated data from 2009 to comply to IAS27 for changes in cash flow presentation related to change in a parent's ownership.
- In 2013, the company restated data from 2012, due to the compulsory retrospective application of IAS19
- In 2014, the company restated financial statement of 2013, due to the application of the consolidation standards with important impact on the Income statement – revenues, net income and EBITDA. Engie added to the reporting a third "pro forma" statement which applies 2014 standards related to the equity method, but with extra interpretations, not required for the retrospective application. The "pro forma" version has the advantage of approaching figures from 2014 and 2013 and lowers the market impact of decreasing revenues, margins, and other financial indicators.

The present paper uses all financial available date from 2008 onwards. It uses annual reports and restated figures. Due to regulations that limit the retrospective applications to only one year, there are inconsistencies in the comparative analysis. However this is the most accurate data that reflects the existent situation, the strategy of the firm to cope with the industry context. It gives also an idea about the strengths and vulnerabilities and their use in achieving future outcomes.

The process of harmonisation of data from annual reports and competitors financial statements was double checked with external sources such as FinancialTimes, Reuters, and Bloomberg financial analysis. The decision to extend the analysis to seven years and to use data from 2008 onwards is justified by two reasons: 2008 is the beginning of the financial and economic crises and the year of the important merger between Gas de France and the Companies de Suez.

3.2 REPORTS AND MEDIA:

3.2.1 REGISTRATION DOCUMENTS:

In February each year Engie (GDF SUEZ) releases Annual Results Full Year 2014 and the Management report /annual consolidated financial statements 2014. Other documents available in 2014:

²⁹ "Annual Report Engie 2010.pdf."

In Septembre 30, 2014, Q3 GDF SUEZ - Financial information
 June 30, 2014 GDF SUEZ - H1 2014 result
 Results at March 31, 2014, Q1 GDF SUEZ - Financial information

3.2.2 CONTENT OF ANNUAL FINANCIAL REPORT:

MANAGEMENT REPORT I. Revenues and earnings trends I Business trends I Other income statement items I Changes in net debt I Other items in the statement of financial position I Pro forma financial statements including the SUEZ Environnement company group as an associate I Parent company financial statements I Outlook
 CONSOLIDATED FINANCIAL STATEMENTS I Income statement 2 Statement of comprehensive income Statement of financial position Statement of changes in equity Statement of cash flows
 NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Engie uses other media such as conference calls to announce half year and yearly earnings. Figures are presented by CEO, CFO and COO and are subject to questions from analysts. Press releases accompany all the reports. Results are audio casted. Some additional financial information might be given through the year, concerning specific branch confronted with financial events, restructuring, etc., Pro-forma and restatement are also integrated systematically in Engie's reporting policies.

3.2 CREATIVE ACCOUNTING

3.3.1 UTILITY INDUSTRY – GUIDELINES IN CREATIVE ACCOUNTING

From the industry perspective, there are some general considerations that help to identify managerial decisions within in Engie's accounting structure and figures.

REGULATORY CONSIDERATION

As describe in the industry analysis chapter, energy industry is a high regulated business with prices often kept under control. According to the paper *The Ethics of Creative Accounting*³⁰, in utility industry, "If such companies report high profits then the regulator is likely to respond by curbing prices. These companies, therefore, have an interest in choosing accounting methods that tend to reduce their reported profits." For example, In Belgium, the accounting of the company is submitted to the control of the energy regulator³¹: Commission de régulation de l'énergie (CRE).

MANAGEMENT COMPENSATION

The quantitative performance criteria represents 70%. Half of it is based on recurring net income, group share per share. The other half requires free cash flow, ROCE and net debt performances. The qualitative performance criteria of 30% focus on "ROCE monitoring/ business R&D policy, managing CAPEX and general and administrative expenses business lines, and the creation of major "Group-wide programs".

A higher ROCE indicates more efficient use of capital, and therefore a higher numerator (EBIT/ operating profit) or smaller denominator (Capital Employed, see calculation provided by Engie at of this chapter) implies interpretation and managerial decision on capitalising versus expense, provisions, etc. Neither the formula, nor the assumptions behind the ROCE calculation are disclosed by Engie. However, it can be stressed that EBIT is not impacted by impairment in the income statement, and explains why performance criteria were met even in 2013.

In the utility generation business, provisions represents an important figure on the balance sheet. In a difficult industry decision: "If the profit is below the minimum level directors will choose accounting methods that maximise provisions made so that in future years these provisions can be written back to boost profit." For example in 2014, the amount written back of tax provision of the parent company was €2 million³².

³⁰ "ETHICS.PDF - 6475312.pdf."

³¹ "140515RapportCRE-AuditTRVgaz-GDFSUEZ-2014.pdf."

³² "Registration Document 2014 • GDF SUEZ," 344.

The compensation policy assesses the Total Shareholder Return (TSR: stock market performance reinvested dividend) compare to TSR of companies included in the Eurostoxx Utilities index. Although criteria were fulfilled, the CEO renounced at 70% of the amount due. Compensations for the Group's members of the Executive Committee and the Board of Directors have decreased by 28% from 46 to 33 Million Euros from 2013 to 2014. The biggest change was registered in Shared-based payments;

COMPETITIVE AND CAPITAL MARKET CONSIDERATION

The European official concept of energy mix brings in the light the difficulties to mix different technologies and energy sources at a competitive price. As mentioned some of the segments such as renewable or coal power generation are strong subsidised. This impacts diversified companies which have to cope with unbalanced subsidy system of some of their products in the balance sheet³³. Similarly, in this troubled environment, there is a tremendous need to adopt, to insure markets and be able to attract capital.

3.3.2 ENGIE – USE OF ESTIMATES AND JUDGEMENTS

According to the Annual Report, the company makes use of new tools to deal with crises context and the high volatility. ENGIE has integrated risk assessment tools, annual impairment tests, continuous monitoring of measures.

In the annual report, Engie discloses five key areas subject to accounting estimations:

- Measurement of the fair value
- Measurement of the recoverable amount of goodwill and other intangible assets, property, plant and equipment.
- Measurement of provisions- nuclear waste processing, storage, dismantling obligations, etc.,
- Revenue recognition – not yet metered
- Measurement of recognised tax loss carry-forwards

Hereby a list of non-exhausting measures identified through the analysis of the balance sheet and income statement.

CAPITALISE VERSUS EXPENSE

The utility business is based on capital intense activities. With a low or negative organic growth, the business is characterised by acquisitions. Therefore afferent transaction implies decision related to expense of the inherent costs. In order to keep the profit balanced, transactions are taken to the balance sheet as assets and systematically written down over the time.

In 2014, the balance sheet was impacted by the use of equity method, and changes in scope of consolidation.

Write-down/ depreciation:

Tangible and intangible assets as well as components (equipment maintenance and overhaul costs) are subject to depreciation and amortisation policies by **straight-line method**, with different useful life related to the type of assets. However "**Accelerated depreciation**, classified in the balance sheet under tax-driven provisions, is recognized whenever the useful lives for tax purposes are shorter than those used for accounting purposes, or whenever the depreciation method for accounting and tax purposes differs"³⁴.

Intangibles

Engie has 7,569M euros intangible assets registered on the balance sheet from which 674M intangibles with infinite life that "are not amortized but an impairment test has to be performed annually"³⁵. Intangible contains concessions rights, capacity entitlements, licences, brands and customer portfolio. **R&D Research** costs are expensed as incurred. Development costs are capitalized when the asset recognition criteria set out in IAS 38 are met. Capitalized development costs are amortized

³³ 2 and Pm, "Energy Live News – Energy Made Easy – Nuclear and Fossil Fuels Blamed for 'creative Accounting.'"

³⁴ "Registration Document 2014 • GDF SUEZ," 335.

³⁵ "Registration Document 2014 • GDF SUEZ."

over the useful life of the intangible asset recognized.”³⁶.

Engie takes the decision to **capitalize a part of the exploration costs** for 162M Euros. This appears in Balance Sheet under “Other assets”.

Finance costs: Capitalized borrowing costs reduce the amount of cost net debt and ultimately Financial Cost with 154M Euros in 2014.

Inventory The cost of inventories is determined based on the **first-in, first-out (FIFO)** method or the **weighted average cost** formula. The consumption of this nuclear fuel inventory is recorded based on estimates of the quantity of electricity produced per unit of fuel. FIFO is closely to the market value of the inventory; when prices such as gas and oil are going down it reports lower income than the weighted average cost and LIFO system. The weighted average cost formula had an advantage in internal transaction, where buyer and seller are under the same accounting system: it smooths the gaps between the cost of sales and revenue in a volatile market.

Leases are submitted to the application of IAS 17 to determine whether they constitute operating leases or finance leases. Financial lease, related to plants property is a liability, recognized under borrowings. Payments made under “operating leases” are recognized as an expense on a **straight-line basis** over the lease term. “In any capital-intensive industry leasing can be an attractive method of acquiring assets for tax or financing reasons”³⁷.

Provisions, registered in the Noncurrent Liabilities, accounts for policies regarding the estimation of 6233 M euro pension and other post-employment benefits. However, the majority of the provision integrates operating needs such as “back end of the nuclear fuel cycle (processing & storage), site rehabilitation, litigation, claims and tax risks, etc., “Nuclear activities have a strong impact on provisions: they are difficult to evaluate and involve a great amount of uncertainty”³⁸. For the dismantling of nuclear power plants, Engie has an external arrangement with a third party to insure the sustainability of the finance. Concerning the “contingent liabilities”, the annual report mentions briefly the potential “changes in the fair value”, due to the “changes in scope of consolidation.” Furthermore, KPGM stresses that “Most companies did not recognise a provision in respect of emission obligations”³⁹.

FAIR VALUE

The company was affected by the mass impairment measures held in 2013. Impairment tests are realised every year on each sector of activities. The evaluation of recoverable value related to the carrying amount is based on macroeconomic assumptions and price forecasts (scenarios for decrease of price/MWh).

The methodology for the tests are based of cash flow projections by using discount rates, hydrocarbon price trends, exchange rate, estimates reserves, supply and demand.

Due to massive mothballing of thermal power plants, decrease in prices and demand, the impairment was used to adjust the current assets value. Impairment losses count for 14770M euros, on assets (EUR 9.1 billion) and on goodwill (EUR 5.8 billion). It had a tremendous impact on EBIT -6093 and on Net Income after taxes (EAT or PAT) of -8,783 in the condition of a very low portion of tax – only third of the amount of the previous year (-745M Euros vs. -2049M Euros in 2012). In a volatile market, open to any changes and reversal tendency in the future, the impairment might be considered (Peter Taylor FSA course) temporary conservatism “over-adjusting for impairment with potential reversing adjustments – effectively creating “hidden reserves” or facilitating earnings management. “ This might insure creditors, hold the credit ratings objectives. Note that impairment regards mainly European thermal power plants and gas reservoirs, which were 1) merely mothballed and not dismantled and 2) adjusted to the temporary decrease in the commodities price. In 2014, Engie discloses that different impairment scenarios for the European business would reveal recoverable value falling below the carrying value. Recoverable value of the goodwill determined by reference to a value-in-use is calculated based on cash flow projections.

³⁶ “Registration Document 2014 • GDF SUEZ.”

³⁷ “Layout 1 - the-Application-of-Ifrs-Power-and-Utility.pdf.”

³⁸ “Layout 1 - the-Application-of-Ifrs-Power-and-Utility.pdf.”

³⁹ “Layout 1 - Eumcommoditiestradingriskmanagementglossary.pdf.”

Goodwill The important amount of goodwill proves the intensive acquisition strategy. As mentioned, goodwill is also submitted to yearly impairment tests and measures and can't be amortised. However, we note that in the recession European context impairment might abruptly reduce the book value.

REVENUES RECOGNITION

Revenues from sales are categorised by energy sales, rendering of services, lease and construction contracts. Details on recognition methodology are provided on the detailed balance sheet below. The need for a calculation procedure is due to regulated prices: "meter readings do not necessarily coincide with the reporting periods"⁴⁰. Long-term projects in generation sector are interesting because they have the flexibility to recognize proportions of the project revenues during the life of the project.

Trading with CO₂ from power generation CO₂ emission and Green Certificates (CG) are registered in "Inventories at CO₂ emission allowances, green certificates and certificates of energy efficiency commitment", net." As part of its CO₂ brokerage activities, Engie purchases of CO₂ emissions amount 131 million tons of CO₂ greenhouse gas emissions from thermal power plant generation. No other information is disclosed.

Derivatives: Nearly all utility companies used derivatives in risk management activities⁴¹. Derivatives offer hedging instruments to clients and to the company itself and refer to risks such as interest (debt), commodity prices, and investment.

TAX CONSIDERATIONS

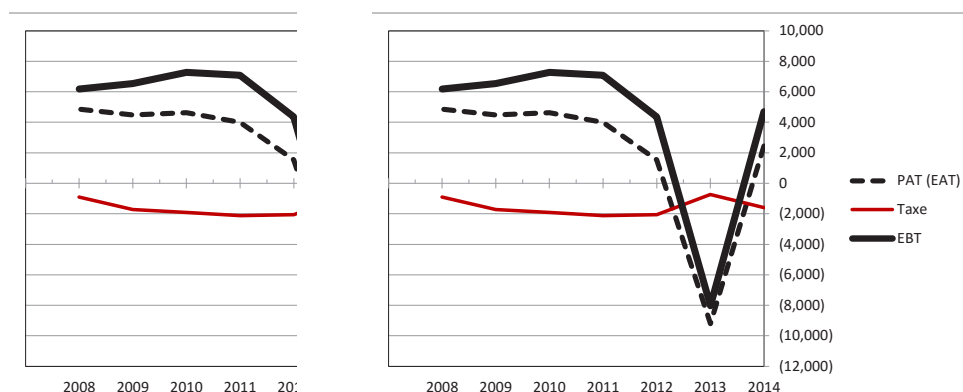
Deferred tax Future tax liabilities results from temporary differences between the treatment of income and expenses for tax and accounting purposes. It helps solving the differences between tax depreciation and accounting depreciation. It has the important role to smooth the net income after taxes (EAT) after using other tools upstream in the income statement such as estimation and judgements for revenue recognition, depreciation, etc.,)

Below an illustration of 2008-2014 accrual smoothness - the *operating income* evolution, EAT evolution exceptionally affected by the impairment versus the volatile cash flow evolution.

In accordance with IAS 12, deferred taxes are recognized according to the liability method on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and their tax bases, using tax rates that have been enacted or substantively enacted by the reporting date.

40 "Layout 1 - the-Application-of-Ifrs-Power-and-Utility.pdf."

41 "Layout 1 - the-Application-of-Ifrs-Power-and-Utility.pdf."



INDIVIDUAL ASSIGNMENT - STUDENT CAPELLE TEODORA

ENGIE (ENGI:EN Paris) Eur millions		31-12-14	
Balance Sheet 31 December		2014	2013
Current Assets			
Cash & Equivalents		8,546	8,706
Short Term Investments			
Assets classified as held for sale		0	922
Cash and Short Term Investments		8,546	9,628
Accounts Receivable - Trade, Net		21,558	21,057
Loans and receivables at amortised cost		925	1,470
Total Receivables, Net		22,483	22,527
Inventories of natural gas, net		2,269	2,489
CO2 emission allowances, green certificates and certificates of energy efficiency commitment, net		411	322
Inventories of commodities other than gas and other inventories, net		2,210	2,162
Total Inventory		4,890	4,973
Capitalized exploration costs for the year		162	194
..... (not disclosed)			
Other Asset		10,049	8,157
Derivatives hedging borrowings		165	157
Derivatives hedging commodities		7,653	3,648
Derivatives hedging other items (related to interest rate)		68	28
Derivative instruments		7,886	3,833
Financial assets qualifying as at fair value through income		795	732
Financial assets designated as at fair value through income (excluding margin calls)		13	
Margin calls on derivatives hedging borrowings - assets		643	269
Financial Assets, at fair value through income		1,451	1,001
Total Current Assets		55,305	50,119
Fixed Assets			
land		944	1,202
buildings		4,460	3,988
plant and equipment		92,831	90,110
vehicles		390	373
dismantling costs		2,141	1,926
assets in production		7,626	8,619
other		1,053	991
Property/Plant/Equipment, Total - Gross		109,445	107,209
Accumulated Depreciation, Total		(45,414)	(44,098)
Property/Plant/Equipment, Total - Net		64,031	63,111
Energy - Central Western Europe		8,181	8,312
Distribution		4,009	4,009
Global Gas & LNG		2,207	2,087
Energy - North America		1,389	1,231
Energy Services - International		1,016	625
Energy - United Kingdom - Turkey		630	563
Transmission France		614	614
Storage		543	543
Other (individually less than €500 million)		2,633	2,416
Goodwill, Net		21,222	20,420
Intangible rights arising on concession contracts			
Capacity entitlements from power stations			
Licenses Gas de France, brand,			
Exploration-production licenses			
Customer portfolio			
Intangibles, Net		7,569	7,042
Available for sales securities		2,893	3,015
Investments in associates		5,191	4,522
Investments in joint ventures		1,864	2,277
Investments in entities accounted for using the equity		7,055	6,799
Long Term Investments		9,948	9,814
Loans granted to affiliated companies		664	558
Other receivables at amortized cost		762	791
Amounts receivable under finance leases		620	20
Amounts receivable under finance leases		913	529
Loans and receivables at amortise costs (N.R. -LT)		2,960	1,898
Derivatives hedging borrowings		978	637
Cash flow hedges		207	152
Other derivative instruments		509	728
Derivatives hedging commodities		716	880
Derivatives hedging other items (related to interest rate)		1,038	833
Derivative instruments		2,732	2,350
..... (not disclosed)			
Other Assets		557	685
Other Long Term Assets, Total		3,289	3,035
Deferred tax assets		980	491
Total Fixed Assets		109,999	105,811
Total Assets		165,304	155,930

reasonable estimate of the fair value.

Impairment losses are recorded based on the estimated risk of non-recovery.

derivatives to offer hedging instruments to clients and to hedge its own positions.

money market funds held for trading, included in the calculation of NET

part of exploration production activity

IMPAIRMENT test macroeconomic & price forecasts discount rates, hydrocarbon price trends, exchange rate, estimates reserves, LNG supply and demand.

regulated nature of the businesses

recoverable value would remain above the carrying amount

Software, Technical losses, Intangible assets in progress

manage exposure to market risks arisen from portfolio management; and trading and related to price (fluctuation) and volume

impact of fluctuations in commodity prices (Brent crude) .

The Group decides whether or not to recognize impairment on a case-by-case basis. Uses of commodities derivatives to mitigate risk

mainly comprise tax

currency derivatives and interest rate derivatives

includes concession infrastructures outside the scope of IFRIC 12

vulnerability impairment tests several scenarios recoverable value falling below the carrying value.

due to equity method , 2014 added from acquisitions: +375M GTT +213M Ecova -134M Walloon

recoverable value of the goodwill determined by reference to a value-in-use that is calculated based on cash flow projections

€674 million intangible with infinit life not amortised

2014 influenced by Changes in the scope of consolidation

currency derivatives and interest rate derivative risk arising from investing activities

mainly comprise tax and employee-related liabilities. (Account for)

Current Liabilities			NET DEBT	
Bond issues	1,705	1,775	27,747	LT
Bank borrowings	1,116	937	9,107	ST
Commercial paper	5,219	5,621	(80)	
Drawdowns on credit facilities	48	31	510	
Liabilities under finance leases	92	103	356	
Other borrowings	458	89	47	
Bank overdrafts and current accounts	469	574	633	
Impact of measurement at amortized cost	510	572	226	
Impact of fair value hedges	47	44	175	
Margin calls on derivatives hedging borrowings - liabilities	633	569	(808)	
Short-term debt borrowings	10,297	10,315	(643)	
Derivatives hedging borrowings	175	162	(8,546)	
Derivatives hedging commodities	5,619	3,702	(978)	
Derivatives hedging other items(2)	101	178	(165)	
Derivative instruments	5,895	4,042	27,510	
Trade payables	17,957	15,596		
Payable on fixed assets	842	802		
Other Payables (Trade and other payable)	18,799	16,398		
Total Short-term debt	34,991	30,755		
Provisions - Accrued Expenses	2,137	2,032		
Other Current liabilities, Total	14,370	13,521		
Liab dr. Assoc. with Assets classified as held for sale		434		
Total Current Liabilities	51,498	46,741		
Non-current Liabilities				
Bond issues	21,155	21,400		
Bank borrowings	4,977	5,600		
Drawdowns on credit facilities	640	662		
Liabilities under finance leases	423	395		
Other borrowings	552	507		
Impact of measurement at amortized cost	(80)	(96)		
Impact of fair value hedges	356	106		
Long Term Debt (borrowings)	28,023	28,576		
Derivatives hedging borrowings	226	339		
Derivatives hedging commodities	945	1,008		
Derivatives hedging other items(2)	1,849	715		
Derivative instruments	3,020	2,062		
Capital Lease Obligations	286	213		
Total Long Term Debt	31,329	30,851		
Post employment and other LT benefits	6,233			
Back end of the nuclear fuel cycle (processing & storage)				
Dismantling of plant and equipment				
Site rehabilitation				
Litigation, claims and tax risks				
Other contingencies				
Provisions	16,402	14,066		
Other Liabilities, Total	1,078	1,147		
Deferred tax liabilities	9,039	9,466		
Total Non-current Liabilities	57,848	55,530		
Total Liabilities	109,346	102,271		
Shareholders' Equity				
Common Stock, Total (share capital)	2,435	2,413		
Additional Paid-In Capital	32,506	32,207		
Retained Earnings (Accumulated Deficit)	15,351	15,814		
Treasury Stock - Common	(957)	(1,109)		
Minority Interest	6,432	5,689		
Unrealized Gain (Loss)	0	0		
Other Equity, Total (translation adjustments)	192	(1,353)		
Total Equity	55,959	53,659		
Total Equity without minority interest	49,527	47,971		
Total Liabilities & Shareholders' Equity	165,305	155,930		

financial lease assets held under finance leases are recorded as property, plant and equipment

embedded derivative is separated from its host contract
derivative is measured at fair value, while debt is subsequently recorded at amortized cost using the effective interest method,

impact of fluctuations in commodity prices (Brent crude) .

Under IFRS, the minority interest (non-controlling interest) is reported in the Equity section of the consolidated balance sheet. Under US GAAP, minority interest can be reported in the liabilities section

use a mix of fixed rates, floating rates and capped floating rates uses hedging instruments, particularly interest rate swaps and options interest rate options (caps) protecting it from a rise in short-term interest rates for the euro.

Multi-employer plans Other pension schemes benefits granted to current and former EGI sector employees, of the gas and electricity sector in Belgium collective agreements

2014 influenced by Changes in the scope of consolidation

repurchase program

net 8,059 8,976

		lease revenues for €692m (€729m in 2013)			
		percentage of completion			
		c revenues from construction €361m			
Recognised on delivery, significant risks and rewards of ownership transferred to the buyer	ENGIE (ENGI:EN Paris)	Eur millions			
	Income Statement	31 December	2,014	2,013	
	Energy sales		55,605	63,321	-12.19%
	Rendering of services (installation, maintain.)		18,308	23,379	-21.69%
	Lease and construction contracts		773	1,198	-35.48%
	Total Revenue		74,686	87,898	
	Purchases (Cost of Revenue, Total)		(44,155)	(50,396)	
	Gross Profit		30,531	37,502	
	Short term benefits		(9,303)	(11,017)	
	Stock option plan		0	(9)	
	Employee share issues		(11)	0	
	Share Appreciation Rights (cert. countries)		0	(1)	
	Bonus/ performance plan		(10)	(83)	
	Other Group plans		(1)	0	
	Shared-based payments		(22)	(93)	
	Current service cost		(301)	(365)	
	Net interest expense		(153)	(171)	
	Actuarial gains and losses		(27)	(11)	
	Plan amendments		14	(2)	
	Gains or losses on pension plan curtailments, terminations and settlements		5	5	
	Non-recurring items		(7)	(9)	
	Costs related to defined benefit plans		(315)	(382)	
	Costs related to defined contribution plans		(135)	(123)	
	Personnel costs (Selling/General/Admin.) Expenses, Total		(9,779)	(12,261)	
	Research & Development		0	0	
	Depreciation and amortization		(4,720)	(5,733)	
	Net change in write downs of inventories, trade receivable and other assets		(249)	(319)	
	Net change in provision		172	(374)	
	Depreciation, amortization and provisions		(4,797)	(6,426)	
	Other operating expenses		(10,999)	(13,853)	
	Other operating income		1,764	2,077	
	Unusual (Expense) Income		0	0	
	Total Operating (Expense)		(67,966)	(80,859)	
	Current Operating Income (EBIT)		6,720	7,039	
	Share in net income of associates		196	493	
	Share in net income of joint ventures		246	77	
	Share in net income of entities accounted for using the equity method		441	570	
	Current operating income after share in net income of entities accounted for using the equity method		7,161	7,609	
	Mark-to-market on commodity contracts other than trading instruments		(298)	(226)	
	Goodwill impairment		(82)	(5,689)	
	Property, plant and equipment & intang		(868)	(8,999)	
	Financial asstes		(87)	(82)	
	Impairment losses (Impairment of property, plant and equipment, intangible assets and financial assets)		(1,037)	(14,770)	
	Restructuring costs		(167)	(302)	
	Group in Gaztransport & Technigaz (GTT)				
	Walloon distribution network operator				
	NGT BV in the Netherlands.				
	Changes in scope of consolidation		562	405	
	Other non-recurring items		353	544	
	Income/ (loss) from operating activities		6,574	(6,740)	

Interest expense on gross debt and hedges	(1,204)	(1,659)
Foreign exchange gains/losses on borrowings and hedges		(21)
Ineffective portion of derivatives qualified as fair value hedges assets at fair value through income	(21)	
Gains and losses on cash and cash equivalents and financial		
Capitalized borrowing costs	154	155
Cost of net debt	(1,071)	(1,525)
Income from debt restruct transact and unwinding derivative financial instrument	(460)	(256)
Other	(932)	(663)
Financial Expense, Net Non-Operating	(2,463)	(2,444)
Interest expense on gross debt and hedges		
Foreign exchange gains/losses on borrowings and	21	
Ineffective portion of derivatives qualified as fair value	111	2
Gains and losses on cash and cash equivalents and		125
Capitalized borrowing costs		
Cost of net debt	132	127
Income from debt restruct transact and unwinding derivative financial instrument	239	103
Other	215	268
Financial Income - Non-Operating	586	498
Net financial loss Interest Income(Exp), Net Non-Operating	(1,877)	(1,946)
Gain (Loss) on Sale of Assets	0	0
Other, Net	0	0
Net Income Before Taxes	4,697	(8,686)
Current income taxes	(1,918)	(2,245)
Tax loss carry-forwards and tax credits	439	(43)
Pension obligations	(12)	11
Non-deductible provisions	60	183
Difference between the carrying amount of PP&E and intangible assets and their tax bases	(261)	291
Measurement of financial instruments at fair value	229	(27)
Other	(64)	179
TOTAL Deferred tax liabilities:	391	594
Difference between the carrying amount of PP&E	159	817
Tax driven provisions	19	(10)
Measurement of financial instruments at fair value	(264)	(8)
Other	25	109
TOTAL Deferred tax liabilities:	-61	908
Deferred taxes	330	1,501
Income Tax Expense	(928)	2,258
Share in net income of associates	NA	NA
Net Income After Taxes	3,769	(6,428)
GDF SUEZ E&P International Group	80	108
GRTgaz Group	91	70
E-CL Group (BEI, Chile)	14	9

attributable to acquisition, construction, production

(939.0) #####

ordinary shares outstanding at the beginning of the year, adjusted by the number of ordinary shares bought back or issued during the year.

COMPANY CALCULATIONS

EBITDA

From 2012, a new formula of calculating EBITDA. The paper uses a simplified method to calculate EBITDA in order to be able to compare ratios with competitors.

CAPITAL EXPENDED

Capital expenditure is calculated as followed:

CAPITAL EXPENDED cf. ENGIE

Notes capital expenditure vs. Capital invested

Capital Expended

(calculation of ENGIE)

Total assets

Property, plant and equipment and intangible assets, net
Goodwill
(-) Goodwill arising on the Gaz de France - SUEZ merger(2)
(-) Goodwill arising on the International Power combination(2)
IFRIC 4 and IFRIC 12 receivables
Investments in entities accounted for using the equity method
(-) Goodwill arising on the International Power combination(2)
(+) Trade and other receivables, net
(-) Margin calls(2) (3)
(+) Inventories
(+) Other current and non-current assets
(+) Deferred tax
(+) Cancellation of deferred tax on other recyclable items(2)
(-) Provisions
(+) Actuarial gains and losses in shareholders' equity (net of deferred tax)(2)
(-) Trade and other payables
(+) Margin calls(2) (3)
(-) Other liabilities

LT + ST

long-term provision
are assimilate
with long term debt

!!! They exclude all
investment arising from

It's only a
time
difference
between
taxable
income
and the
book
income

!!! they removed capital lease obligation
(286) and other non current liabilities 1068
but also other long term liabilities

71,601	71,601	
21,222	21,222	
(8,216)		
(2,502)		
1,779	1,779	
7,055	7,055	
(152)		
21,558	21,558	
(1,257)	(1,257)	
4,891	4,891	
10,606	10,606	
(8,060)		
(188)	(188)	
(18,539)	(2,137)	16402
2,168	2,168	
(18,799)	(18,799)	
1,309	1,309	
(15,735)	1,365	(1,365)
68,741	121,173	

FINANCIAL STATEMENT ANALYSIS

OBJECTIVES

The paper would like to assess the impact of the new strategy of the company, in a high volatile and distress environment. The aim is to evaluate the effect of the restructuring policies and the investment in the energy mix concept including renewable source for energy, on the company's financial statements. Secondly, the idea is to evaluate their performance and position related to competitors.

Key issues from FSA course:

Identify the source(s) of competitive advantage. What must be done to maintain, or could be maintained?

Why not a competitive advantage and how can be created?

The present analysis focuses on the evaluation of ENGIE as a portfolio of activities along the value chain. Although, the paper mentions the structure of the revenues by business units and activities, it will assess the ability of the business as a whole and use group figures and ratios.

Note: Insufficient information about business units do not allow the breakdown of analysis. Difficulties in assessing the consistent information rose from the inconsistency of some calculation presented by Engie in different documents:

Some figures are not disclosed, or they are disclosed as quantitative information in calculations. Those figures are not registered in the balance or income statement.

To assess EBITDA calculation, one might be easily consult previous annual report to understand the logic behind, rather than looking for explanation in the latest.

In the annual report DEBT/ EBITDA is calculated using submitted 2013 report, although the information was restated cf. equity method and other ratios use restated numbers.

In Analyst Pack FY 2013 Results (not subject to regulations) from February 27, 2014, CAPEX is calculated using PRO FORMA versions. WCR is calculated once by IFRS methodology but also by the company's approach.

Although disclosed, the calculation of CAPEX from 2014 uses figures impossible to commutate from the Balance sheet. Not enough details are provided in the notes.

Derivatives are adding important noise.

The paper used Reuters, Financial Time and Yahoo for compiling figures for competitors chosen for benchmarking. However, the first part of the Income statement of EDF, ENEL and E.ON had to be restated in order to eliminate extraordinary costs from the EBIT. There are possible errors (some will be mentioned in the paper) as far as every company choose different assumption for personal and administration cost, depreciation and impairments spin-offs, mark-to-market adjustments, etc.

INDIVIDUAL ASSIGNMENT - STUDENT CAPELLE TEODORA

ENGIE (ENGI:EN Paris)		Eur millions						
Income Statement	31 December	2014	2013	2012	2011	2010	2009	2008
Revenue		74,686	87,898	97,038	90,673	84,478	79,908	67,923
Other Revenue, Total		0	0	0	0	0		
Total Revenue		74,686	87,898	97,038	90,673	84,478	79,908	67,923
Purchases (Cost of Revenue, Total)		(44,155)	(50,396)	(52,177)	(46,695)	(44,672)	(41,406)	(35,879)
Gross Profit		30,531	37,502	44,861	43,978	39,806	38,502	32,044
Personnel costs (Selling/General/Admin.) Expenses, Total		(9,779)	(11,615)	(13,234)	(12,775)	(11,755)	(11,365)	(9,679)
Research & Development		0						
Depreciation, amortization and provisions		(4,797)	(6,426)	(7,113)	(7,115)	(5,899)	(5,183)	(3,714)
Other operating expenses		(10,999)	(13,853)	(17,188)	(17,226)	(14,381)	(13,607)	(12,429)
Other operating income		1,764	2,077	2,194	2,116	1,025		
Unusual (Expense) Income (no IFRS)		0						
Total Operating (Expense)		(67,966)	(80,213)	(87,518)	(81,695)	(75,682)	(71,561)	(61,700)
Current Operating Income (EBIT)		6,720	7,685	9,520	8,978	8,796	8,347	6,223
Share in net income of entities accounted for using the equity method		441	570					
Current operating income after share in net income of entities accounted for using the equity method		7,161	8,256	NA	NA	NA	NA	NA
Mark-to-market on commodity contracts other than trading instruments		(298)	(226)	109	(105)	(106)	(323)	564
Impairment losses (Impairment of property, plant and equipment, intangible assets and financial assets)		(1,037)	(14,770)	(2,474)	(532)	(1,468)	(472)	(812)
Restructuring costs		(167)	(302)	(342)	(189)	(206)	(179)	(254)
Changes in scope of consolidation		562	405	155	1,514	1,185	367	
Other non-recurring items		353	544	165	18	1,297	434	1,957
Income/ (loss) from operating activities		6,574	(6,093)	7,133	9,684	9,498	8,174	7,677
Financial Expense, Net Non-Operating		(2,462)	(2,444)	(3,433)	(3,383)	(2,810)	(2,638)	(2,321)
Financial Income - Non-Operating		586	498	658	778	589	1,010	827
Gain (loss) on sale assets	NA							
Net financial loss Interest Income(Exp), Net Non-Operating		(1,876)	(1,946)	(2,775)	(2,605)	(2,221)	(1,628)	(1,494)
Net Income Before Taxes (EBT)		4,698	(8,039)	4,358	7,079	7,277	6,546	6,183
Income Tax Expense		(1,588)	(745)	(2,049)	(2,119)	(1,913)	(1,719)	(912)
Share in net income of associates	NA		NA	433	462	264	403	318
Net Income After Taxes (EAT or PAT)		3,110	(8,783)	2,742	5,422	5,628	5,230	5,590
Non-controlling interests Minority Interest		669	414	1,199	1,418	1,010	753	734
Equity In Affiliates								
Net income/(loss) Group share		2,441	(9,197)	1,543	4,004	4,618	4,477	4,856
Net Income Before Extra. Items		2,441	(9,197)	1,543	4,004	4,618	4,477	4,856
Discontinued Operations								
Net Income		2,441	(9,197)	1,543	4,004	4,618	4,477	4,856

In green: figures have been modified with data from annual reports, in order to differentiate between depreciation and impairment, and to remove mark-to market, restructuring costs from the EBIT. However, it is assumed that some costs were not identified.

2014	2013	2012	2011	2010	2014	2013	2012	2011	2010	2014	2013	2012	2011	2010
72,874	71,916	72,178	65,307	65,320	111,556	119,688	132,093	112,954	92,863	63,931	69,956	82,431	77,573	71,943
										9,397	5,471			
72,874	71,916	72,178	65,307	65,320	111,556	119,688	132,093	112,954	92,863	73,328	75,427	82,431	77,573	71,943
(45,885)	(46,403)	(47,185)	(40,126)	(36,758)	(98,557)	(105,399)	(115,224)	(97,843)	(73,493)	(54,107)	(55,652)	(62,362)	(57,341)	(50,085)
26,989	25,513	24,993	25,181	28,562	12,999	14,289	16,869	15,111	19,370	19,221	19,775	20,069	20,232	21,858
(11,785)	(11,291)	(11,710)	(10,802)	(11,422)	(3,727)	(4,135)	(4,713)	(5,428)	(4,693)	(4,864)	(4,555)	(5,789)	(4,296)	(4,907)
					(49)	(71)	(44)							
(7,940)	(7,154)	(6,849)	(6,285)	(7,426)	(3,230)	(3,102)	(3,567)	(3,689)	(3,752)	(5,204)	(5,366)	(5,596)	(5,270)	(5,272)
5,668	5,358	(3,287)	(3,101)	(3,607)	-3,592	(4,527)	(4,959)	(5,210)	(5,102)	(838)	(1,387)	(2,306)	(2,185)	(2,557)
(3,593)	(3,481)	6,002	3,661	3,090	2,319	4,561	2,958	3,199	4,738	2,381	3,215	4,249	3,294	3,199
(17,650)	(62,971)	(63,029)	(56,653)	(56,123)	(106,836)	(112,673)	(125,549)	(108,971)	(82,302)	(62,632)	(63,745)	(71,804)	(65,798)	(59,622)
9,339	8,945	9,149	8,654	9,197	4,720	7,015	6,544	3,983	10,561	10,696	11,682	10,627	11,775	12,321
179	262				(273)	(210)				35	(217)			
9,518	9,207	NA	NA	NA	4,447	6,805	6,544	3,983	10,561	10,731	11,465			
203	14	(69)	(116)	15	405	725	(461)	(1,860)	2,728	(225)	(378)	(452)	288	(393)
(1,189)	(617)	(752)	(640)	(1,743)	(5,437)	(2,032)	(1,511)	(3,392)	(2,705)	(7,466)	(1,585)	(3,407)	(1,057)	(950)
(157)	(227)	(164)	(221)	(428)	(91)	(515)	(111)		(48)	47	238	38	272	280
(212)	219	(5)	775	(801)	(676)	4,983	4,461	(1,269)	10,536	3,087	9,740	6,806	11,278	11,258
8,163	8,596	8,159	8,452	6,240						(316)	(224)	(410)	(220)	(377)
(2,243)	(2,262)	(2,891)	(1,509)	(1,672)	(2,692)	(2,572)	(2,611)	(2,810)	(2,924)	(2,952)	(2,820)	(2,970)	(2,752)	(2,667)
(2,996)	(2,931)	(2,113)	(2,284)	(2,724)	882	668	1,287	317	534	103	457	456	44	(140)
2,688	2,251	702	13	(30)	107					(3,165)	(2,587)	(2,924)	(2,928)	(3,184)
(2,551)	(2,942)	(3,334)	(3,780)	(4,426)	(1,703)	(1,904)	(1,324)	(2,154)	(2,136)	(78)	7,153	3,882	8,350	8,074
5,612	5,654	4,825	4,672	1,814	(2,379)	3,079	3,137	(3,423)	8,400	850	(2,373)	(2,440)	(3,027)	(2,401)
(1,839)	(1,896)	(1,573)	(1,336)	(1,079)	(576)	(718)	(698)	1,036	(1,946)					
3,773	3,758	3,252	3,336	735	(2,955)	2,361	2,439	(2,387)	6,454	772	4,780	1,442	5,323	5,673
72	241	238	239	235	30	368	424	358	428	255	1,545	1,204	1,210	1,283
		(261)	(51)	(134)			137	512	663			88	96	14
3,701	3,517	3,275	3,148	634	(2,985)	1,993	1,878	(3,257)	5,363	517	3,235	150	4,017	4,376
					175	(98)	(37)	(14)	836					
3,701	3,517	3,275	3,148	634	(3,160)	2,091	1,915	(3,243)	4,527	517	3,235	150	4,017	4,376

figures from annual reports are different from Reuter.

change place of "Share in net income of entities accounted for using the equity method" in order to harmonise the figures

INDIVIDUAL ASSIGNMENT - STUDENT CAPELLE TEODORA

ENGIE (ENGI:EN Paris) Eur millions	31-12-14						
Balance Sheet 31 December	2014	2013	2012	2011	2010	2009	2008
Current Assets							
Cash & Equivalents	8,546	8,706	11,383	14,675	11,296	10,324	9,049
Short Term Investments							
Assets classified as held for sale		922	3,145	1,298	0		
Cash and Short Term Investments	8,546	9,628	14,528	15,973	11,296	10,324	9,049
Accounts Receivable - Trade, Net	21,558	21,057	25,034	23,135	20,501	19,749	22,729
Loans and receivables at amortised cost	925	1,470	1,630	1,311	1,032	947	1,346
Total Receivables, Net	22,483	22,527	26,664	24,446	21,533	20,696	24,076
Total Inventory	4,891	4,973	5,423	5,436	3,870	3,947	4,209
Financial Assets, at fair value through income	1,450	1,001	432	2,885	1,713	1,680	769
Derivative instruments	7,886	3,833	4,280	5,313	5,739	7,405	9,440
Other financial assets at fair value	9,336	4,834	4,712	8,198	7,452	9,085	10,209
Other Asset	10,049	8,157	9,012	9,456	6,957	5,094	4,481
Total Current Assets	55,305	50,119	60,339	63,508	51,108	49,146	52,024
Fixed Assets							
Property/Plant/Equipment, Total - Gross	109,446	107,209	130,015	127,869	111,551	98,360	88,946
Accumulated Depreciation, Total	(45,414)	(44,098)	(43,418)	(37,749)	(32,848)	(28,695)	(25,463)
Property/Plant/Equipment, Total - Net	64,032	63,111	86,597	90,120	78,703	69,665	63,483
Goodwill, Net	21,222	20,420	30,035	31,362	27,933	27,989	27,510
Intangibles, Net	7,569	7,042	13,020	13,226	12,780	11,420	10,692
Available for sales securities	2,893	3,015	3,398	3,299	3,252	3,563	3,309
Investments in entities accounted for using the equity	7,055	6,799	2,961	2,619	1,980	2,176	3,104
Long Term Investments	9,948	9,815	6,359	5,918	5,232	5,739	6,413
Loans and receivables at amortise costs (N.R. -LT)	2,960	1,898	3,541	3,813	2,794	2,426	2,304
Derivative instruments	2,733	2,351	3,108	2,912	2,532	1,927	2,893
Other Assets	557	685	962	1,173	1,440	1,696	1,272
Other Long Term Assets, Total	3,290	3,036	4,070	4,085	3,972	3,623	4,165
Deferred tax assets	980	491	1,487	1,379	1,909	1,419	618
Total Fixed Assets	110,001	105,813	145,108	149,903	133,323	122,280	115,184
Total Assets	165,306	155,932	205,447	213,410	184,431	171,426	167,208
Current Liabilities							
Short-term debt borrowings	10,297	10,316	11,962	13,213	9,059	10,117	14,641
Derivative instruments	5,895	4,043	4,092	5,185	5,738	7,170	9,472
Other Payables (Trade and other payable)	18,799	16,398	19,482	18,387	14,835	12,887	17,915
Total Short-term debt	34,991	30,757	35,536	36,785	29,632	30,174	42,028
Provisions -Accrued Expenses	2,137	2,032	2,071	1,751	1,480	1,263	2,186
Other Current liabilities, Total	14,370	13,521	16,820	16,738	13,861	12,469	7,796
Liab dr. Asoc. with Assets classified as held for sale		434	1,875	827	0		
Total Current Liabilities	51,498	46,743	56,302	56,101	44,973	43,906	52,010
Non-current Liabilities							
Long Term Debt (borrowings)	28,024	28,576	45,248	43,375	38,179	32,155	24,200
Derivative instruments	3,020	2,062	2,751	3,310	2,104	1,792	2,890
Capital Lease Obligations	286	213	343	684	780	911	859
Total Long Term Debt	31,330	30,851	48,342	47,369	41,063	34,858	27,949
Provisions	16,402	14,066	15,480	14,431	12,989	12,790	12,607
Other Liabilities, Total	1,078	1,147	2,063	2,202	2,342	2,489	1,278
Deferred tax liabilities	9,039	9,466	11,959	13,038	12,437	11,856	10,546
Total Non-current Liabilities	57,849	55,530	77,844	77,039	68,831	61,994	52,380
Total Liabilities	109,347	102,273	134,145	133,140	113,804	105,899	104,390
Shareholders' Equity							
Common Stock, Total (share capital)	0	0	59,834	62,930	62,114	60,285	57,748
Additional Paid-In Capital	2,435	2,413					
Retained Earnings (Accumulated Deficit)	32,506	32,207					
Treasury Stock - Common	15,351	15,814					
Minority Interest	(957)	(1,109)					
Unrealized Gain (Loss)	6,432	5,689	11,468	17,340	8,513	5,242	5,071
Other Equity, Total (translation adjustments)	0	0					
Total Equity	192	(1,353)					
Total Equity without minority interest	55,959	53,659	71,302	80,270	70,627	65,527	62,818
Total Liabilities & Shareholders' Equity	165,306	155,932	205,447	213,410	184,431	171,426	167,208

EDF Eur millions Balance Sheet Current Assets 31 December						EON Eur millions Balance Sheet Current Assets 31 December						ENEL Eur millions Balance Sheet Current Assets 31 December					
2014	2013	2012	2011	2010		2014	2013	2012	2011	2010		2014	2013	2012	2011	2010	
4,701	5,096	5,874	5,743	4,829		5,003	7,175	6,597	6,931	7,840		13,088	7,873	9,726	7,015	5,164	
20,752	16,038	14,384	16,980	16,788		1,376	1,654	2,125	1,789	1,674							
												3,807	5,344	7,650	10,466	11,922	
25,453	21,134	20,258	22,723	21,617		6,379	8,829	8,722	8,720	9,514		16,895	13,217	17,376	17,481	17,086	
23,176	21,892	22,497	20,908	19,524		24,311	21,074	24,835	18,065	15,819		12,022	11,378	11,555	11,570	12,395	
9,393	8,968	10,292	10,147	9,331		1,745	1,030	918	18,329	14,351		3,903	3,856	1,603	1,251	1,697	
32,569	30,860	32,789	31,055	28,855		26,056	22,104	25,753	36,394	30,170		15,925	15,234	13,158	12,821	14,092	
14,747	14,204	14,213	13,581	12,685		3,356	4,147	4,735	4,828	4,064		3,334	3,555	3,290	3,148	2,803	
			621	513								527	673			216	
	634	825				6,834	1,670	5,710	709	2,476		5,500	2,690	4,505	2,136	1,960	
72,769	66,832	68,085	67,980	63,670		42,625	36,750	44,920	50,651	46,224		42,181	35,369	38,329	35,586	36,157	
	222,123	221,851	207,458	198,613		96,758	106,965	113,026	117,999	123,498		163,743	171,347		166,648	161,419	
	(101,606)	(99,925)	(96,496)	(92,445)		(55,485)	(56,882)	(59,086)	(62,130)	(62,628)		(89,385)	(89,736)		(84,793)	(83,325)	
127,500	120,807	122,242	111,968	107,200		41,273	50,083	53,940	55,869	60,870		74,358	81,611	82,189	81,855	78,094	
9,694	9,081	10,412	11,648	12,028		11,812	12,666	13,309	14,083	14,588		14,027	14,967	15,809	18,342	18,470	
8,884	7,860	7,625	4,702	4,616		4,882	6,648	6,931	7,372	8,070		15,343	16,707	19,950	19,444	21,111	
44,468	26,405	23,658	32,505	50,920		11,363	12,062	10,497	13,137	12,447		4,598	7,421	6,736	7,655	6,033	
2,024	15,564	12,804				7,563	6,796	7,206	6,608	8,201		885	817			1,062	
	2,608	4,370	5,258	3,159	2,125												
2,608	4,370	5,258	3,159	2,125													
195,178	184,087	181,999	163,982	176,889		83,065	95,580	97,365	102,221	106,657		124,453	128,496	133,502	134,298	132,405	
267,947	250,919	250,084	231,962	240,559		125,690	132,330	142,285	152,872	152,881		166,634	163,865	171,831	169,884	168,562	
14,184	11,024	14,041	8,045	7,784		3,883	4,673	3,620	5,885	3,611		5,239	4,784	5,128	13,340	4,671	
												3,252	2,484	3,968	4,799	8,209	
14,864	14,157	14,643	13,681	12,805		2,185	2,485		4,871	5,016		13,419	12,363	13,089	12,931	12,373	
29,048	25,181	28,684	21,726	20,589		6,068	7,158	3,620	10,756	8,627		21,910	19,631	22,185	31,070	25,253	
										1,100		2,060	1,939			4,610	
28,747	30,953	29,623	29,277	29,062		29,574	25,355	32,445	35,374	29,089		16,711	14,087	14,763	9,578	4,129	
57,795	56,134	58,307	51,003	49,651		35,642	32,513	36,065	46,130	38,816		40,681	35,657	36,948	40,648	33,992	
47,274	40,224	45,891	42,354	39,669		15,784	18,051	21,766	24,029	28,880		48,655	50,905	55,733	48,703	52,440	
--	389	--	334	324													
47,274	40,613	45,891	42,688	39,993		15,784	18,051	21,766	24,029	28,880		48,655	50,905	55,733	48,703	52,440	
117,898	110,725	109,174	101,120	109,118		41,831	37,224	38,549	36,314	33,543		16,933	13,676	15,414	14,927	16,928	
4,315	4,242	5,601	4,479	4,894		5,720	7,904	6,781	6,786	7,157		9,220	10,795	11,658	11,505	11,336	
169,487	155,580	160,666	148,287	154,005		63,335	63,179	67,096	67,129	69,580		74,808	75,376	82,805	75,135	80,704	
227,282	211,714	218,973	199,290	203,656		98,977	95,692	103,161	113,259	108,396		115,489	111,033	119,753	115,783	114,696	
930	930	924	924	924		2,001	2,001	2,001	2,001	2,001		9,403	9,403	9,403	9,403	9,403	
												5,292	5,292	5,292	5,292	5,292	
32,777	32,415	24,882	27,511	30,393		29,919	37,039	36,913	37,543	42,773		22,884	23,597	21,768	23,035	21,938	
(41)	(47)	(33)	(26)	--		(2,502)	(3,484)	(3,505)	(3,530)	(3,531)							
5,419	4,998	4,854	4,189	5,586		2,128	2,915	3,862	3,876	3,932		19,639	16,891	16,303	15,589	15,877	
						0	0					(1,701)	(1,464)	(1,253)	(49)	80	
1,580	909	484	74	--		(4,833)	(1,833)	(147)	(277)	410		(4,372)	(887)	565	831	1,276	
40,665	39,205	31,111	32,672	36,903		26,713	36,638	39,124	39,613	45,585		51,145	52,832	52,078	54,101	53,866	
35,246	34,207	26,257	28,483	31,317		24,585	33,723	35,262	35,737	41,653		31,506	35,941	35,775	38,512	37,989	
267,947	250,919	250,084	231,962	240,559		125,690	132,330	142,285	152,872	153,981		166,634	163,865	171,831	169,884	168,562	

ANALYTICAL TOOLS

4.1 FINANCIAL RATIOS

4.1.1 ANALYSIS OF GROWTH

Organic growth vs. acquisition Inflation.

Compared with other industries, utility industry makes use of an important capital expenditure. In the harsh business conditions, with commodities prices going down, these are fixed costs that can't be (immediately) adjusted to the present market conditions.

Second major barriers towards market adjustments are the regulations; energy is a utility bound by public social policies. Although costs fluctuate, prices are kept under control.

In markets where Engie is present and subject to competition, acquiring new customers is often not possible; electrification rate is already very high. In this context, increasing market share by acquiring customers from competition can be done only at the cost of margins. Organic growth is limited in the traditional utility industry.

Moreover, Engie seems to loose its market share in front of renewable energy business.

Unable to sustain its organic grow and in quest of new markets in emerging economies, Engie is developing by acquisitions and changing business paradigm. From 2009 to 2013, there are important changes in the balance sheet such as growth of assets value, including goodwill and inventories. From 2013 the decline in sales and activities is reflected the adjustments of -19,5% of the value of the total assets.

Inflation rates are very low and do not influence the analysis. Inflation was recorded 1.35% in 2013 and +0.43% in 2014.

Since 2012, revenues (growth in monetary terms year on year) have been continuously decreasing.

Revenue fell by 15% (-15.43% inflation rate included) at the level group. Engie argues that the 7.2% organic decrease is justified by warmer weather in 2014 coped with lower electricity market demand in Europe.

In 2013 the revenue decreased by 9% (10.35% inflation included) from €97,038M to €87,898M. From 2008 to 2012 growth in revenue was situated around 4.5% y-o-y.

2012 compared with 2010: $4,52\% = 7,02\% - 2,50\%$ inflation

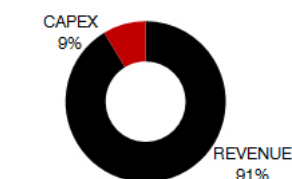
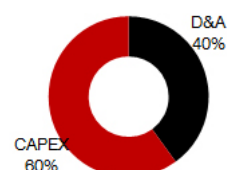
2011 compared with 2010: $4,6\% = 7,33\% - 2,72\%$ inflation),

2010 compared with 2009: $4,11\% = 5,72\% - 1,61\%$ inflation

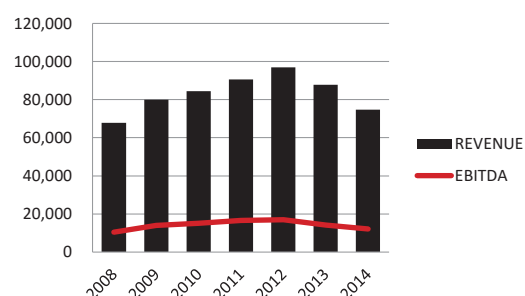
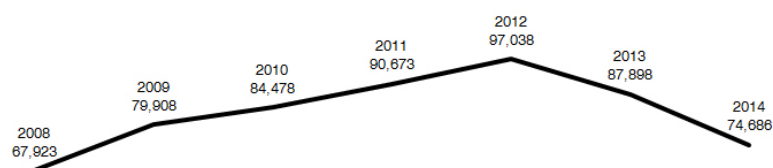
Infrastructures



TOTAL



CAPEX



Major measures to mitigate the “revenue decrease” are taken by impairments of €14770M in 2013 and €1037M in 2014. Restructuring measures are reflected in the financial statements by: losses in the income statement, disposals of assets and businesses, exits from some international markets or activities. Compared with the competition, and despite the same decrease, Engie has a more accentuated decrease in revenue slope.

Since the merger between Gas de France and Suez Company, the growth in revenue has accounted for 2.21%

Cumulative average growth rate over 5 years is negative up to -2.52% compared with +2.87% for EDF (state control company 85%), -5.60% E.ON and -2.41%

	REVENUE Change %					
	2014	2013	2012	2011	2010	2009
ENGIE	-15.03%	-9.42%	7.02%	7.33%	5.72%	17.65%
EDF	1.33%	-0.36%	10.52%	-0.02%		
EON	-6.79%	-9.39%	16.94%	21.64%		
ENEL	-8.61%	-15.13%	6.26%	7.83%		

pour ENEL.

DISCONTINUATIONS OF LINES OF BUSINESS

In 2014, Engie experienced the stoppage of several nuclear production units in Belgium Doel 3 4 (March 26, 2014) and Tihange 2 from August 5 to December 18. Engie owns 5028 MW from full capacity of 5927 MW. The stoppage accounts for 2317 MW, equivalent to 46% at full capacity and it is assumed that the loss is considerable.

CHANGE IN STRUCTURE OF REVENUE

Change in structure of the revenue was impacted by the acquisition of International Power in 2011 and by the company spin-off in 2013 in GDF Suez and Suez International.

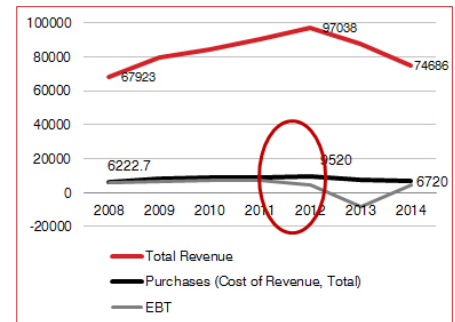
Geographical Segments

As stated in the industry and firm's strategy chapter, Europe is becoming the weakest market. Analysis on geographical segments highlight year-on-year decrease in sales in Europe.

Services

From 2008 to 2015, there is a 7,5% cumulative average growth rate of energy services, of 8,47% on lease and construction and +4.37% on energy sales. However since 2013, all the 3 segments are losing revenues. On business units, the situation gives a more clear idea about the existent situation and future potential. Energy International contributed with 18,71% to the group in 2014. It accounted a 5,77% reduction in revenues compared with the previous year. Similarly, Energy Europe (18,71% of Group) decreased by -19,14% y-o-y in 2014. With a weight of 9,22%, Global Gas has a 9,22% grow and is identified as a strategic opportunity. Infrastructure (4,01% of the group) increased 16,32%, and Energy Services (20,99% of the revenue in 2014) increased its revenue by 6,57% units.

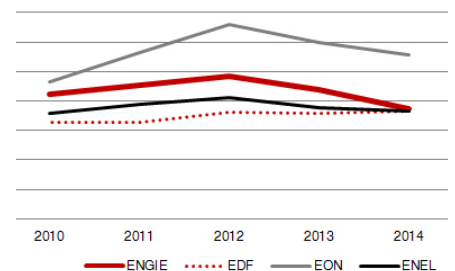
	2014	2013	2012	2011	2010	2009	2008
Energy sales	55,605	63,321	65,241	59,499	55,694	53,090	42,532
Rendering of services (installation, Lease and construction	18,308	23,379	29,750	28,953	26,620	25,258	24,132
	773	1,198	2,047	2,221	2,164	1,560	1,259



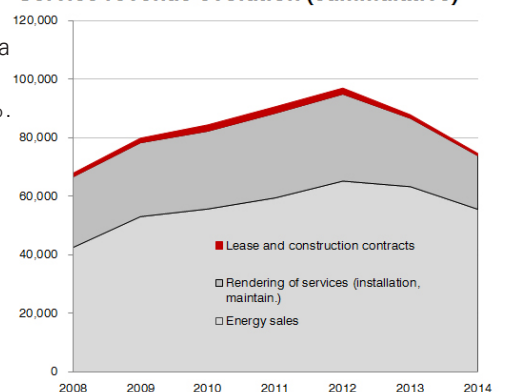
slope dynamic and decision to impair

CAGR

	5y	6y	7y
ENGIE	3.13%	1.36%	1.59%
EDF	2.9%		
E.ON	5.60%		
ENEL	-2.41%		



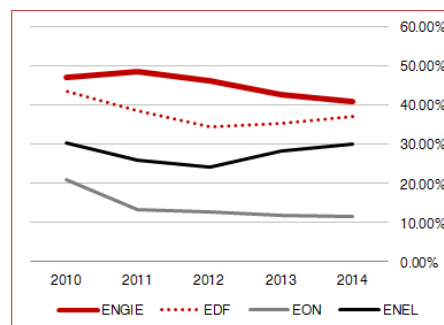
Service revenue evolution (cumulative)



4.1.2 PROFITABILITY

GROSS MARGIN

Gross margin is calculated by dividing gross profit on the total amount of sales. From 2012, decrease of sales has a steeper slope than the cost of good sold, that explains the year on year decrease in gross profit. Compared with competitors, Engie's business has a good performance in managing direct costs used for production, although analysis shows a slow decrease. Company retains 40.88% of every each dollar invested, being situated on the top of the benchmarked competitors EDF, E.ON and ENEL. However, it has to be stated that EDF has different activities breakdown with 77% of electricity generated by nuclear source, which implies higher costs. There is also an accounting issue, as far as ENEL includes in revenue other income (normally situated after gross profit) and E.ON introduce a part of administrative costs in the cost of good sold.



Gross Margin (Gross Profit /Sales)

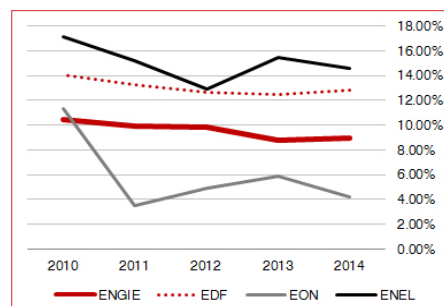
	2014	2013	2012	2011	2010	2009	2008
ENGIE	40.88%	42.67%	46.23%	48.50%	47.12%	48.18%	47.18%
EDF	37.04%	35.48%	34.63%	38.56%	43.73%		
EON	11.65%	11.94%	12.77%	13.38%	20.86%		
ENEL	30.07%	28.27%	24.35%	26.08%	30.38%		

OPERATING MARGIN

Operating Profit on sales PBIT/Sales

Operational profitability varies across the value chain and is influenced by the diversification structure. A correct benchmark should study the ratios on each sector. It is also assumed that geographical diversification play an important role, especially in administrative and personnel costs, assumed not to have always the same proportion related to sales. Engie's performance is moderate. There is a small increase from 2013 to 2014, probably due to the restructuring and performance strategy but also, effects of impairment on depreciation. The analysis used figures from Reuters, adjusted in order to remove derivative effects, impairments, currency, etc. The volatility of the curves of E.ON and ENEL shows that not all the noise was remove.

In Engie's case there is a dramatic change in slope in 2012 on operating margins, which might be due to non-operating power plants and prefigure the 2013 impairment.



Note: Less competitive ratio, might hide a corporate strategy on prices to keep market share create barriers to entry, to cope with other competitors.

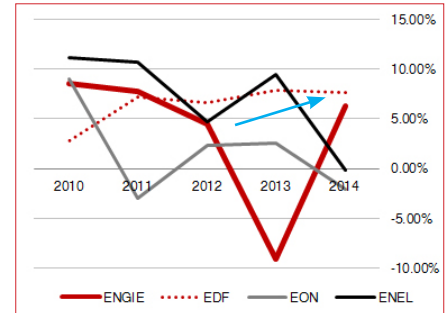
Margin at PBIT (EBIT/Sales)

	2014	2013	2012	2011	2010	2009	2008
ENGIE	9.00%	8.74%	9.81%	9.90%	10.41%	10.45%	9.16%
EDF	12.82%	12.44%	12.68%	13.25%	14.08%		
EON	4.23%	5.86%	4.95%	3.53%	11.37%		
ENEL	14.59%	15.49%	12.89%	15.18%	17.13%		

PBT/SALES

The margin at profit before taxes takes in consideration the impairment effect on the income statement. It indicates clearly the decrease from 2010 to 2011 of 9.5% on profitability (from 8.61% to 7.81%) and an accelerated deterioration of 42.5% in 2012 (from 4.49% to 2.83%). It explains the necessity of 2013 write-downs that allowed a recovery, up to 6.29%

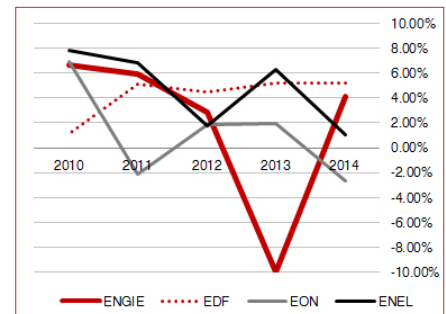
	Margin at PBT (EBT/Sales)						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	6.29%	-9.15%	4.49%	7.81%	8.61%	8.19%	9.10%
EDF	7.70%	7.86%	6.68%	7.15%	2.78%		
EON	-2.13%	2.57%	2.37%	-3.03%	9.05%		
ENEL	-0.11%	9.48%	4.71%	10.76%	11.22%		



MARGIN ATTRIBUTABLE TO SHAREHOLDERS PAT/SALES

Consequently the margin attributable has followed the same trajectory, with more dramatic changes in the ratio. The impairment with a -9.99% effect on margin attributable to shareholders had as result an increase in profitability of 144.5% from 2.83% up to 4.16%. Although fragile, Engie has still margins to cope with traditional competitors.

	Margin attributable to shareholders (PAT/Sales= Net Margin)						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	4.16%	-9.99%	2.83%	5.98%	6.66%	6.54%	8.23%
EDF	5.18%	5.23%	4.51%	5.11%	1.13%		
EON	-2.65%	1.97%	1.85%	-2.11%	6.95%		
ENEL	1.05%	6.34%	1.75%	6.86%	7.89%		



EBITDA AND EBITDA MARGINS

Ebitda is a measure that removes the noise from finance costs, taxation investment, impairments, share of exceptions losses/ gains associates & restructuring, carried by EBIT or EBT.

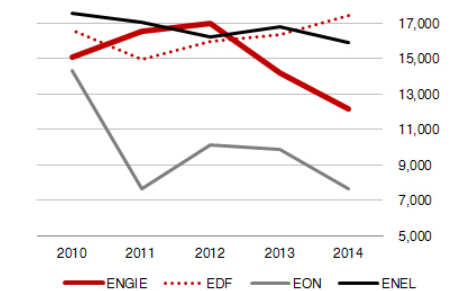
In the company calculation Engie adds EBIT+ D&A + Share based payments" and "net disbursement under concession contracts". In order to compare, the present paper implies the calculation to EBIT+ D&A.

EBITDA reveals the same business decay in terms of income, with a decrease from €14225M to €12139M compared to last year.

EBITDA margins is stabilised and less volatile, but not very performant, especially related to EDF which uses similar accounting model.

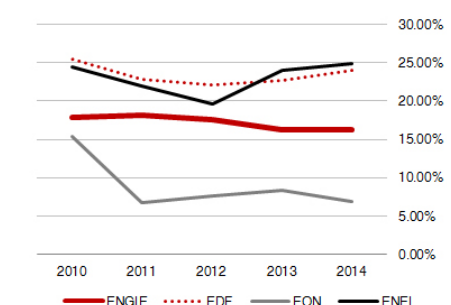
	EBITDA						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	12,139	14,225	17,026	16,525	15,086	14,011	10,376
EDF	17,458	16,361	15,998	14,939	16,623		
EON	7,677	9,907	10,111	7,672	14,313		
ENEL	15,935	16,831	16,223	17,045	17,593		

	EBITDA Margin (calculation D+A+EBIT)						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	16.25%	16.18%	17.55%	18.22%	17.86%	17.53%	15.28%
EDF	21.85%	20.78%	20.79%	22.57%	26.31%		
EON	7.16%	8.51%	7.33%	5.60%	19.01%		
ENI	12.97%	21.54%	15.05%	21.33%	22.98%		



EBITDA

EBITDA margin



NOPAT and EVA of ENGIE SA							
	2014	2013	2012	2011	2010	2009	2008
	£m	£m	£m	£m	£m	£m	£m
Profit Before Tax	4,698	(8,039)	4,358	7,079	7,277	6,546	6,183
Add back Interest Payable	2,462	2,444	3,433	3,383	2,810	2,638	2,321
EBIT	7,160	(5,595)	7,791	10,462	10,087	9,184	8,504
Taxation @	1,726	(1,349)	1,879	2,523	2,432	2,215	2,050
NOPAT	5,434	(4,246)	5,912	7,939	7,655	6,970	6,453
Capital Charge	6,699	7,717	9,120	8,774	9,379	7,356	0
Economic Value Added (EVA)	(1,266)	(11,963)	(3,207)	(834)	(1,725)	(386)	
Nopat/ invested capital	4.46%	-3.03%	3.57%	4.98%	4.49%	5.21%	
NOPAT margin	7.28%	-4.83%	6.09%	8.76%	9.06%	8.72%	9.50%
NET INCOME- Dividends	3,440	(10,289)	5,674	6,099	6,169	5,156	4,604
ROIC	2.82%	-7.33%	3.42%	3.82%	3.62%	3.86%	

NOTE 1: calculation

WACC

$$WACC = E/(E + D) \times \text{Cost of Equity} + D/(E + D) \times \text{Cost of Debt} \times (1 - \text{Tax Rate})$$

Net Debt	27,511
Equity (incl. minority interest)	55,959
Income Tax Expense	(1,588)
Net Income Before Taxes (EBT)	4,698
Tax rate	34%
net cost of net debt (annual report, pg 258)	939
net debt (annual report - removing of derivative hedge, page 187)	27,511
Cost of debt	3.41%
the risk free rate US treasury (see below german bond figurs)	2.17%
the market risk premium (cf. Krishna G. Palepu and Paul M. Healy, page 331)	5.40%
Beta (source google finance)	0.91
Cost of equity = Risk-Free Rate + Beta * (Market Rate of Return - Risk-Free Rate)	7.1%
Market risk premium= (Market Rate of Return - Risk-Free Rate)	
Debt/ (D+E) x (1-T) x cost of Debt	0.74%
Equity/(D+E) x cost of Equity	4.75%
WACC	5.49%

Note: the risk free rate (<http://www.marketwatch.com>) for german bond 0.54%

If we consider US treasury bonds <http://www.treasury.gov/> 2.17%

INVESTED CAPITAL/ CAPITAL CHARGE

	2014	2013	2012	2011	2010	2009	2008
Invested Capital	£m	£m	£m	£m	£m	£m	£m
Equity	49,527	47,971	59,834	62,930	62,114	60,285	57,748
Long Term NIBL	32,951	30,368	40,970	47,010	36,281	32,377	29,502
Long Term Debt	31,330	30,851	48,342	47,369	41,063	34,858	27,949
Short Term Debt	10,297	10,316	11,962	13,213	9,059	10,117	14,641

Closing Invested Capital	124,105	119,505	161,108	170,522	148,517	137,638	129,840
Opening Invested Capital	119,505	161,108	170,522	148,517	192,553	129,840	

Average Invested Capital	121,805	140,306	165,815	159,520	170,535	133,739	
---------------------------------	----------------	----------------	----------------	----------------	----------------	----------------	--

	2014	2013	2012	2011	2010	2009	2008
WACC (see assumption below)	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
WACC * IC	6,699	7,717	9,120	8,774	9,379	7,356	0
TAX average (remove deferred effect)	24.11%	24.11%	24.11%	24.11%	24.11%	24.11%	24.11%
Tax by year	33.80%	-9.27%	47.02%	29.93%	26.29%	26.26%	14.75%

	2014	2013	2012	2011	2010	2009	2008
Invested Capital	€m						
Total Assets	165,306	155,932	205,447	213,410	184,431	171,426	167,208
- Short term NIBL	41,201	36,427	44,340	42,888	35,914	33,788	37,369
(TCL-NP/STDebt- Borrowings)							
	124,105	119,505	161,108	170,522	148,517	137,637	129,840
	119,505	161,108	170,522	148,517	137,637	129,840	
	121,805	140,306	165,815	159,520	143,077	133,738	

NOTE 2: calculation

To double check, Reuters financial analyses were used for integrating "derivative instruments" stated on the balance sheet under current liabilities (5895M and under non-current liabilities 3020M).

Invested Capital (calculation ACA class)	2014	
Notes Payable/ Short Term Debt		Total Assets
Current Port. Of LT Debt/ Capital lease		less
Total (Short term Borrowings)	10,297	165,306
Non-current liabilities		NIB Current Liabilities
Long-Term Debt	28,024	Accounts Payable
Capital Lease Obligations	286	Payable Accrued (assets held for s
Derivative Instruments (note 2)	3020	Accrued Expenses
Total Long Term Debt	31,330	Derivative Instruments (note 2)
Deferred Income Tax	9,039	Other Current liabilities, Total
Minority Interest	6,432	
Provision	16,402	
Other liabilities Total	1,078	
Total Non-Current Liabilities	32,951	
Total Equity (without min. int.)	49,527	
INVESTED CAPITAL	124,105	INVESTED CAPITAL
		124,105

NOPAT

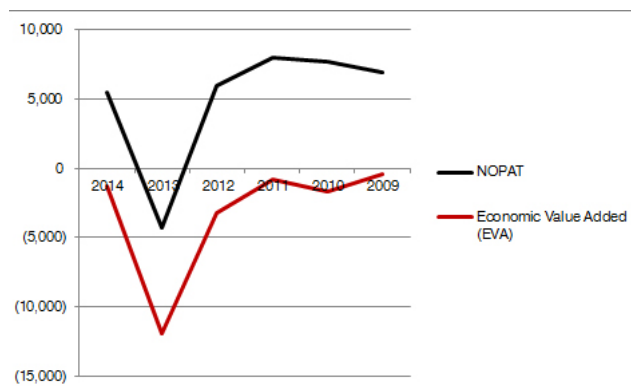
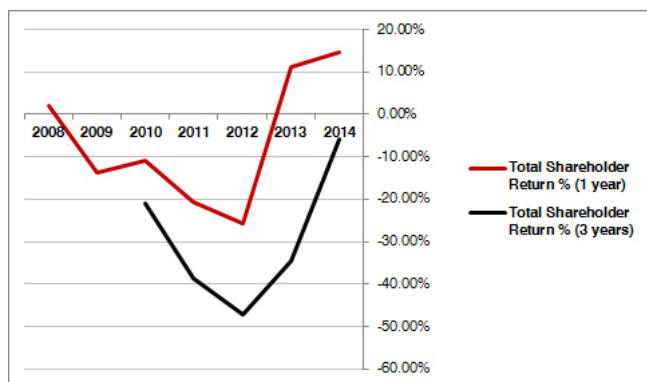
NOPAT is an alternative to net profit and operating profit by adjusting performance measures to the firm debt policy. The calculation of NOPAT is described below. In order to avoid the deferred tax effect, the calculation uses the average tax over last 5 years.

Nopat and Nopat margin (Nopat/Sale) of Engie highlights the profitability to the shareholders from an operating perspective. Figures are similar with the ratios before and reveal the impact of impairment measures in 2013 and the declining characteristic of the business nowadays.

Contrary, a rough calculation of EVA reveals that in respect to the expectations of the providers of finance and the total invested capital, management is destroying value by underperforming the capital charge of their financing. It has to be mentioned that total capital invested was calculated with ACCA course methodology, Professor Alain Southworth and David Young. "This concept states that in order for a company to earn genuine profits, not only must those profits be sufficient to cover the firm's operating costs but they must also cover the cost of the capital." In Engie's case, at least since the 2008 financial crises, we can perceive the decline in the utility business model.

The link between EVA with TSR (total shareholders' return) is highlighted below. TSR is an important measure, one of the criteria for compensation of the managers. It was impacted in 2012 by share price but lately revived after the impairment measure. The Total Shareholder Return (TSR) is calculated by taking the price of shares at the end of the year, subtracting the price of the shares at the beginning of the year and then adding in the dividends paid throughout the year. The TSR can be measured in a numerical value or as a percentage.

The TSR over 1 and 3 years are constant and correlated, with an ascendant curve.



4.1.3 EFFICIENCY

Efficiency ratios assesses the performance to transfer resources into customer transaction. The same can be applied to human resources (human ratios). Efficiency is linked to portfolio diversity, as ratios are small due to the high amount of necessary investments for plants. EDF and its nuclear fleet will be less efficient than other robust industries. EON experienced massive impairments with impact on the denominator. For Engie sales turnover (ROA) for each euro of total assets, Engie business lose 55 cents. The same, it loses 32 cents on each euro of fixed assets. but it is better placed for PPE than the benchmarked competitors.

	Sales/ TA						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	0.45	0.56	0.47	0.42	0.46	0.47	0.41
EDF	0.27	0.29	0.29	0.28	0.27		
EON	0.89	0.90	0.93	0.74	0.34		
ENEL	0.44	0.46	0.48	0.46	0.61		

	Sales /FA						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	0.68	0.83	0.67	0.60	0.63	0.65	0.59
EDF	0.37	0.39	0.40	0.40	0.37		
EON	1.34	1.25	1.36	1.10	0.87		
ENEL	0.59	0.59	0.62	0.58	0.54		

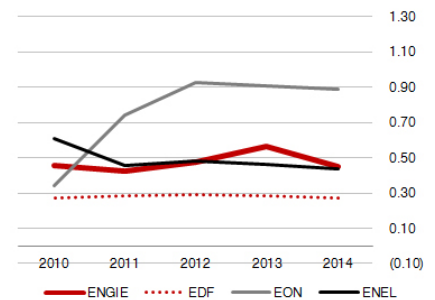
	Sales/ PPE						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	1.17	1.39	1.12	1.01	1.07	1.15	1.07
EDF	0.57	0.60	0.59	0.58	0.61		
EON	2.70	2.39	2.45	2.02	1.53		
ENEL	0.86	0.86	1.00	0.95	0.92		

Engie's human ratios shows a moderate position compared with competitors. The difference between Engie and E.ON might be explained on socio-macroeconomic differences between France and Germany on employment policies.

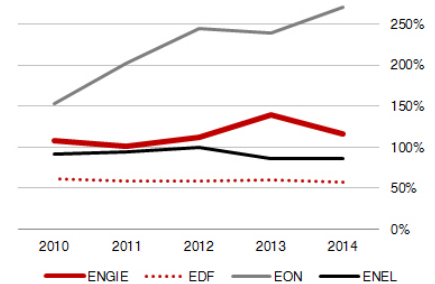
Last years workforce at Engie has decreased through several restructuring processes. The spin-off with Suez Environment has an important impact on the workforce number, reflected by higher sales per employee in 2013; profits per workforce is negatively influenced by the impairment.

	Human Ratio (Sales/ employees)						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	507,381	628,827	442,429	414,272	393,272	395,642	348,466
EDF	492,312	514,148	466,477	430,206	411,428		
EON	1,906,842	1,951,636	1,832,513	1,431,809	1,078,486		
ENEL	927,060	1,035,158	1,118,436	1,029,366	918,660		

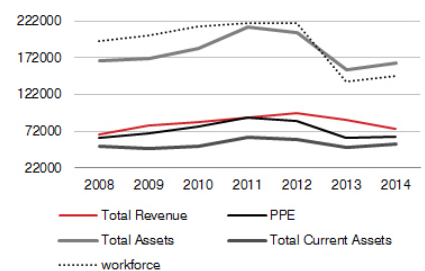
	Human Ratio (Profits/employees)						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	31,916	(57,511)	19,870	32,343	33,877	32,412	31,721
EDF	37,913	40,422	31,183	30,777	11,426		
EON	(40,665)	50,206	43,519	(43,390)	97,555		
ENEL	(1,131)	105,845	52,672	110,801	103,099		



Sales per fix assets - without considering debt (Interest expense)



Sales per PPE



ENGIE Evolution of different numerator and denominator

4.1.4 WORKING CAPITAL (MISSING UNDERLYING BUSSINESS DETAILS!)

Working capital efficiency ratios express how efficiently a firm is utilising the working capital requirements: how they deal with granting credit, taking credit and manage the inventories.

In the case of Engine it is impossible to assess correctly the performance. An analysis should focus on each activity, because it is a numerical interpretation of a qualitative measure of the WCR. The information provided in the Annual reports, etc., do not disclose neither the trade payable receivable or inventories for energy services, energy trading, electricity or gas, or the inventory for each segment

	Average AR/Sales						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	28.53%	26.22%	24.82%	24.06%	23.82%	26.58%	-
EDF	30.92%	30.86%	30.07%	30.96%	-		
EON	20.34%	19.18%	16.24%	15.00%	-		
ENEL	18.30%	16.39%	14.03%	15.45%	-		
	Days turnover				Account receivable		
	2014	2013	2012	2011	2010	2009	2008
ENGIE	104	96	91	88	87	97	-
EDF	113	113	110	113			
EON	74	70	59	55			
ENEL	67	60	51	56			
	Inventories/ COGS						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	11.17%	10.31%	10.41%	9.96%	8.75%	9.85%	-
EDF	31.55%	30.62%	29.45%	32.73%	-		
EON	3.81%	4.21%	4.15%	4.54%	-		
ENEL	6.37%	6.15%	5.16%	5.19%	-		
	Days turnover				Inventories		
	2014	2013	2012	2011	2010	2009	2008
ENGIE	41	38	38	36	32	36	-
EDF	115	112	108	119	-		
EON	14	15	15	17	-		
ENEL	23	22	19	19	-		
	Trade payable/ COGS						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	0.40	0.36	0.36	0.36	0.31		-
EDF	0.32	0.31	0.30	0.33	-		
EON	0.02	0.01	0.02	0.05	-		
ENEL	0.24	0.23	0.21	0.22	-		
	Days turnover				Trade payable		
	2014	2013	2012	2011	2010	2009	2008
ENGIE	145.48	129.93	132.45	129.84	113.25		
EDF	115.43	113.27	109.55	120.46			
EON	8.65	4.30	7.72	18.44			
ENEL	86.96	83.46	76.15	80.54			

Hereby a simulation at the group level, which can give an idea about the speed on which a company turns sales into cash from the portfolio perspective.

Trade receivable efficiency intensity: in 2014, receivable are replaced approximately 4 times per year. They have 104 days work of sale, more than three months to collect payments from its customers. There is an increase in days; either Engie has problems in collecting, or they offer generous sale conditions to boost revenue.

Inventory ratio shows that Engie sold 8,95 times its current stock of inventories per year (1 x 0,11).

With an inventory turnover over intensity of 40% Engie pays its bills at 145 days on average. It can be explained by the receivable days delay. However there is an increasing delay in payment from 113 to 145 days from 2008 to 2015.

There are differences in respect with competitors, but there is impossible with the information we got to see which is better placed. However, the account receivable turnover seems to be a potential problem for the group.

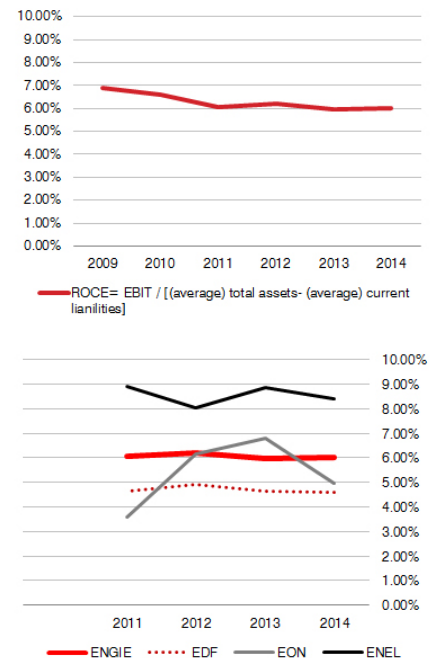
Net working assets Engie 2014: (Accounts receivable- Accounts Payable)/Cost of Goods Sold= (21588-18799)/44155=2759/44155= 0,062. This means that every extra euro of sale requires an extra investment of 0,062 of net working capital funding, far better than 0,093 euros in 2013.

4.1.5 COMPETITIVITY

ROCE

Return on capital employed plays an important role inside the company. It is a tool to assess the competitiveness and profitability of the firm and to link the results with incentives for the managerial team. The classical definition of ROCE is $ROCE = EBIT / [(average) total assets - (average) current liabilities]$. The ROCE integrates debts in its formula, although in some version EBIT is unlevered. Engie does not disclose its calculations, but uses a fine tuned formula for capital employed depicted at the end of the second chapter. In order to compare across the industry, the paper uses classical formula. Engie's ROCE has the quality to be constant and do not present high volatility. In the actual environment, this has the advantage to insure markets and investors. The figures are moderate (average of the benchmarked competitors), but coped with a "sound" debt policy it reveals a long term stability vision.

	ROCE = EBIT / [(average) total assets - (average) current liabilities]						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	6.03%	5.95%	6.21%	6.05%	6.59%	6.88%	
EDF	4.61%	4.63%	4.91%	4.65%			
EON	4.97%	6.81%	6.15%	3.61%			
ENEL	8.42%	8.88%	8.05%	8.93%			



4.1.6 INTEREST COVERAGE

It is a measure that assesses the ability of a company to cover its interest obligation by comparing earnings with the interest expense. In order to take in account only cash expense, the calculation uses EBITDA figures. A high-quality borrower should meet the criteria of a 5. Engie is slightly below, but once again it is situated on a moderate position close to 5, compared with E.ON which definitely has liquidity problems.

	INTEREST COVERAGE RATIO				EBITDA/ Interest payable			
	2014	2013	2012	2011	2010	2009	2008	
ENGIE	4.86	5.78	4.85	4.76	5.23	5.13	4.28	
EDF	5.83	5.58	7.57	6.54				
EON	2.85	3.85	3.87	2.73				
ENEL	5.25	5.60	5.46	6.19				

4.1.7 GEARING OR LEVERAGE

Gearing ratios explain the extent to which a firm relies on debt as a source of financing.

DEBT- EQUITY RATIO

One of the ratio used to assess the leverage is debt-equity ratio. Debt-Equity ratio = Total Debt/Total Equity, where Total Equity can either the book value or the market value. Total Debt = Short term + Long term Debt. In the case of Engie, market value makes the difference: it means that Engie's debt is around 81% of the market value of its equity versus 68% the book value. However the ratio is decreasing, being aligned to the strategy to keep the debt under a cap, by massive disposals, but also less investments. This mitigate risk but impact the returns on share which is expected to be moderate.

	GEARING				Debt/Equity (market value)			
	2014	2013	2012	2011	2010	2009	2008	
ENGIE	0.81	0.94	1.52	1.19	0.78	0.62	0.50	

	GEARING				Debt/Equity		
	2014	2013	2012	2011	2010	2009	2008
ENGIE	0.68	0.72	0.80	0.70	0.67	0.65	0.62
EDF	1.51	1.31	1.93	1.54	1.29		
EON	0.74	0.62	0.65	0.76	0.71		
ENEL	1.05	1.05	1.17	1.15	1.06		

There is another way of assessing the risk to the firm's equity holders, by considering the available cash. This reduce exposure and improve the ratios figures.

EQUITY MULTIPLIER

Equity multiplier it measures the book value by dividing Total Assets to the book value of Equity. In Engie's case it indicates that leverage amplifies by 2,95 the financial risk of the shareholders. Compare with the others, Engie keeps the risks very low for the shareholders. This is reflected in less investment and a more precarious face to the high volatility of the market.

TA/Equity = equity multiplier

	2014	2013	2012	2011	2010	2009	2008
ENGIE	2.95	2.91	2.88	2.66	2.61	2.62	2.66
EDF	6.59	6.40	8.04	7.10	6.52		
EON	4.71	3.61	3.64	3.86	3.35		
ENEL	3.26	3.10	3.30	3.14	3.13		

NET DEBT/ EBITDA company uses this figure to evaluate management. The ratio is under 2,5, aligned with the targets.

4.1.8 INVESTMENT RETURN

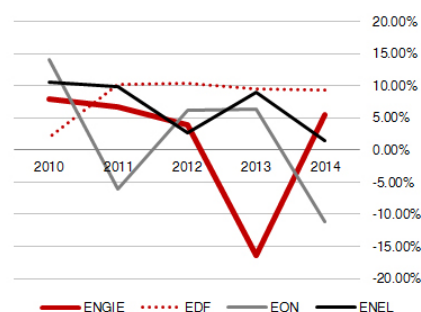
RETURN ON EQUITY

This ratio assesses the return on investment by comparing the net income with its past investment. High ROE indicates the capacity of the company to make use of investment opportunities.

Once more Engie is moderate. The impairment induce fluctuation but is not as volatile as competitors such as ENEL and EON.

ROE (Du Pont)

	2014	2013	2012	2011	2010	2009	2008
ENGIE	5.56%	-16.37%	3.85%	6.75%	7.97%	7.98%	8.90%
EDF	9.28%	9.59%	10.45%	10.21%	1.99%		
EON	-11.06%	6.44%	6.23%	-6.03%	14.16%		
ENEL	1.51%	9.05%	2.77%	9.84%	10.53%		



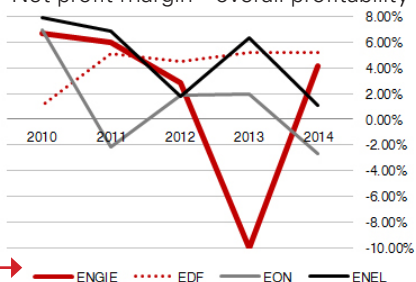
ROE

ROE (Du Pont)

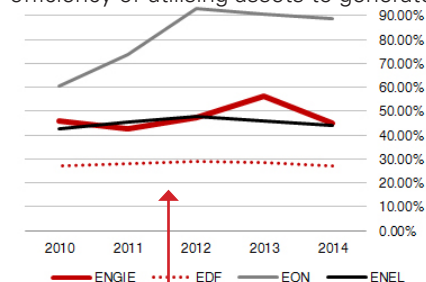
ENGIE

	2014	2013	2012	2011	2010	2009	2008
Mg PAT	4.16%	-9.99%	2.83%	5.98%	6.66%	6.54%	8.23%
TA t/o	45.18%	56.37%	47.23%	42.49%	45.80%	46.61%	40.62%
Gearing	295.41%	290.60%	288.14%	265.87%	261.13%	261.61%	266.18%
	5.56%	-16.37%	3.85%	6.75%	7.97%	7.98%	8.90%

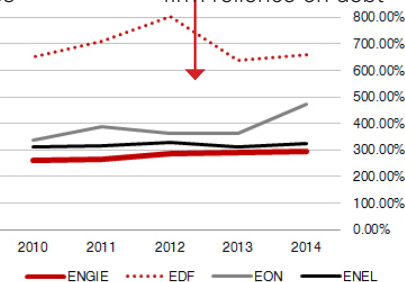
Net profit margin= overall profitability



efficiency of utilising assets to generate sales



firm reliance on debt



RETURN ON ASSETS

$(\text{Net income} + \text{Interest Expense}) / \text{Book Value of Assets}$

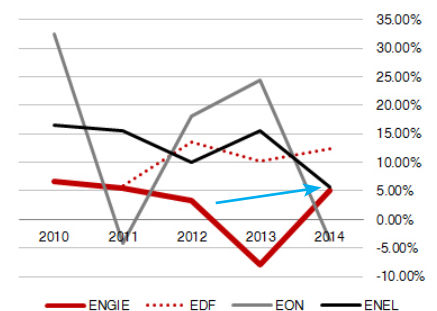
A variant of return on assets includes interest expense in the idea that the assets (denominator) are also sponsored by debt. Therefore, the ratio is less sensitive to leverage than ROE. Although impacted by the impairment, Engie has a healthier return on assets compared with the competitors.

	2014	2013	2012	2011	2010	2009	2008
ENGIE	3.37%	-4.07%	3.01%	4.13%	4.58%	4.59%	4.73%
EDF	2.53%	2.67%	2.15%	2.42%			
EON	-0.21%	3.73%	3.55%	0.28%			
ENEL	2.23%	4.64%	2.57%	4.75%			

RETURN ON CAPITAL INVESTMENT

The paper uses two calculation to assess the after tax profit generated by the business itself (excluding interest TOTAL cost) compared the capital raised from Equity. 1° ROIC= $(\text{EBIT} (1-\text{tax rate})) / (\text{Book value of Equity} + \text{Net Debt})$

The second formula, is explained in the NOPAT calculation. It takes in consideration total capital invested in the firm, and not only in recent activities (e.g. it comprise goodwill from past acquisition, etc.,). It is assumed that it is a more correct (fair) value. In both cases, Engie is not competitive in returning capital invested, but as analysis before proves, this is part of an assumed risk adverted approach to the volatility of the market.

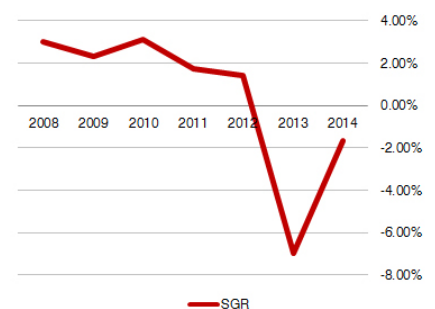


	ROIC[(EBIT(1-tax rate))/(BV+Net Debt)]						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	5.08%	-7.94%	3.23%	5.55%	6.57%	6.18%	7.07%
EDF	9.67%	12.38%	10.17%	13.51%	5.93%		
EON	-3.50%	24.32%	18.02%	-4.19%	32.44%		
ENEL	5.74%	15.46%	10.10%	15.55%	16.45%		

	ROIC (NI-Div)/Average Inv. Cap						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	2.82%	-7.33%	3.42%	3.82%	3.62%	3.86%	

4.1.9 SUSTAINABLE GROWTH RATE

ROE x (1-Div) If the company keep its moderate approach, do not apply proposed strategy more actively and the depreciation of the environment continues, there won't be any improvement in the business.



	Sustainable growth rate						
	2014	2013	2012	2011	2010	2009	2008
ROE (Du Pont)	8%	-15%	6%	9%	10%	10%	10%
Divident payout rate	1.20	0.53	0.77	0.80	0.70	0.77	0.70
SGR	-1.65%	-6.97%	1.39%	1.72%	3.13%	2.30%	2.97%
uses 1- div payout rate							

INDIVIDUAL ASSIGNMENT - STUDENT CAPELLE TEODORA

ENGIE (ENGI:EN Paris) Eur millions	31-12-14	EDF Eur millions	EON Eur millions	ENEL Eur millions
Balance Sheet 31 December 2014	Balance Sheet 31 2014	Balance Sheet 31 2014	Balance Sheet 31 2014	Balance Sheet 31 2014
Current Assets		Current Assets	Current Assets	Current Assets
Cash & Equivalents	8,546 5.17%	4,701 1.75%	5,003 3.98%	13,088 7.85%
Short Term Investments		20,752 7.74%	1,376 1.09%	
Assets classified as held for sale				3,807 2.28%
Cash and Short Term Investments	8,546 5.17%	25,453 9.50%	6,379 5.08%	16,895 10.14%
Accounts Receivable - Trade, Net	21,558 13.04%	23,176 8.65%	24,311 19.34%	12,022 7.21%
Loans and receivables at amortised cost	925 0.56%	9,393 3.51%	1,745 1.39%	3,903 2.34%
Total Receivables, Net	22,483 13.60%	32,569 12.16%	26,056 20.73%	15,925 9.56%
Total Inventory	4,891 2.96%	14,747 5.50%	3,356 2.67%	3,334 2.00%
Financial Assets, at fair value through income	1,450 0.88%			527 0.32%
Derivative instruments	7,886 4.77%			
Other financial assets at fair value	9,336 5.65%			
Other Asset	10,049 6.08%		6,834 5.44%	5,500 3.30%
Total Current Assets	55,305 33.46%	72,769 27.16%	42,625 33.91%	42,181 25.31%
Fixed Assets				
Property/Plant/Equipment, Total - Gross	109,446 66.21%		96,758 76.98%	163,743 98.27%
Accumulated Depreciation, Total	(45,414) -27.47%		(55,485) -44.14%	(89,385) -53.64%
Property/Plant/Equipment, Total - Net	64,032 38.74%	127,500 47.58%	41,273 32.84%	74,358 44.62%
Goodwill, Net	21,222 12.84%	9,694 3.62%	11,812 9.40%	14,027 8.42%
Intangibles, Net	7,569 4.58%	8,884 3.32%	4,882 3.88%	15,343 9.21%
Available for sales securities	2,893 1.75%			
Investments in entities accounted for using the equity	7,055 4.27%			
Long Term Investments	9,948 6.02%	44,468 16.60%	11,368 9.04%	4,598 2.76%
Loans and receivables at amortise costs (N.R. -LT)	2,960 1.79%	2,024 0.76%	7,563 6.02%	885 0.53%
Derivative instruments	2,733 1.65%			
Other Assets	557 0.34%	2,608 0.97%		
Other Long Term Assets, Total	3,290 1.99%	2,608 0.97%	6,172 4.91%	15,242 9.15%
Deferred tax assets	980 0.59%			
Total Fixed Assets	110,001 66.54%	195,173 72.84%	83,065 66.09%	124,453 74.69%
Total Assets	165,306 100.00%	267,947 100.00%	125,690 100.00%	166,634 100.00%
Current Liabilities				
Short-term debt borrowings	10,297 6.23%	14,184 5.29%	3,863 3.09%	5,239 3.14%
Derivative instruments	5,895 3.57%	2,024 0.76%		3,252 1.95%
Other Payables (Trade and other payable)	18,799 11.37%	14,864 5.55%	2,165 1.74%	13,419 8.05%
Total Short-term debt	34,991 21.17%	29,048 10.84%	6,068 4.83%	21,910 13.15%
Provisions Accrued Expenses	2,137 1.29%			2,060 1.24%
Other Current liabilities, Total	14,370 8.69%	28,747 10.73%	29,574 23.53%	16,711 10.03%
Liab dr. Assoc. with Assets classified as held for sale	- 0.00%			
Total Current Liabilities	51,498 31.15%	57,795 21.57%	35,642 28.36%	40,681 24.41%
Non-current Liabilities				
Long Term Debt (borrowings)	28,024 16.95%	47,274 17.64%	15,784 12.56%	48,655 29.20%
Derivative instruments	3,020 1.83%			
Capital Lease Obligations	286 0.17%			
Total Long Term Debt	31,330 18.95%	47,274 17.64%	15,784 12.56%	48,655 29.20%
Provisions	16,402 9.92%			
Other Liabilities, Total	1,078 0.65%	117,898 44.00%	41,831 33.28%	16,933 10.16%
Deferred tax liabilities	9,039 5.47%	4,315 1.61%	5,720 4.55%	9,220 5.53%
Total Non-current Liabilities	57,849 35.00%	169,487 63.25%	63,335 50.39%	74,808 44.89%
Total Liabilities	109,347 66.15%	227,282 84.82%	98,977 78.75%	115,489 69.31%
Shareholders' Equity				
Common Stock, Total (share capital)	2,435 1.47%	930 0.35%	2,001 1.59%	9,403 5.64%
Additional Paid-In Capital	32,506 19.66%			5,292 3.18%
Retained Earnings (Accumulated Deficit)	15,351 9.29%	32,777 12.23%	29,919 23.80%	22,884 13.73%
Treasury Stock - Common	(957) -0.58%	(41) -0.02%	(2,502) -1.99%	
Minority Interest	6,432 3.89%	5,419 2.02%	2,128 1.69%	19,639 11.79%
Unrealized Gain (Loss)	- 0.00%			(1,701) -1.02%
Other Equity, Total (translation adjustments)	192 0.12%	1,580 0.59%	(4,833) -3.85%	(4,372) -2.62%
Total Equity	55,959 33.85%	40,665 15.18%	26,713 21.25%	51,145 30.69%
Total Equity without minority interest	49,527 29.96%	35,246 13.15%	24,585 19.56%	31,506 18.91%
Total Liabilities & Shareholders' Equity	165,306 100.00%	267,947 100.00%	125,690 100.00%	166,634 100.00%

ENGIE (ENGI:EN Paris) Eur millions	31-12-14	EDF Eur millions	EON Eur millions	ENEL Eur millions
Balance Sheet 31 December 2014	Balance Sheet 31 2014	Balance Sheet 31 2014	Balance Sheet 31 2014	Balance Sheet 31 2014
Income Statement 31 December	Revenue 2014	Revenue 2014	Revenue 2014	Revenue 2014
Revenue	74,686 100.00%	72,874 100.00%	111,556 100.00%	63,931 87.18%
Other Revenue, Total	-			9,397
Total Revenue	74,686 100.00%	72,874 100.00%	111,556 100.00%	73,328 100.00%
Purchases (Cost of Revenue, Total)	(44,155) -59.12%	(45,885) -62.96%	(88,557) -88.35%	(54,107) -73.79%
Gross Profit	30,531 40.88%	26,989 37.04%	22,999 11.65%	19,221 26.21%
Personnel costs (Selling/General/Admin.) Expenses, Total	(9,779) -13.09%	(11,785) -16.17%	(3,727) -3.34%	(4,864) -6.63%
Research & Development			(49) -0.04%	
Depreciation, amortization and provisions	(4,797) -6.42%	(7,940) -10.90%	(3,230) -2.90%	(5,204) -7.10%
Other operating expenses	(10,999) -14.73%	5,668 7.78%	(3,592) -3.22%	(838) -1.14%
Other operating income	1,764 2.36%	(3,593) -4.93%	2,319 2.08%	2,381 3.25%
Unusual (Expense) Income (no IFRS)				
Total Operating (Expense)	(67,966) -91.00%	(17,650) -24.22%	(106,836) -95.77%	(62,632) -85.41%
Current Operating Income (EBIT)	6,720 9.00%	9,339 12.82%	4,720 4.23%	10,696 14.59%
Share in net income of entities accounted for using the eq.method	441 0.59%	179 0.25%	(273) -0.37%	35 0.05%
Current operating income after previous line	7,161 9.59%	9,518 13.06%	4,447 6.10%	10,731 14.73%
Mark-to-market on commodity contracts other than trading instruments	(298) -0.40%	203 0.28%	405 0.56%	(225) -0.31%
Impairment losses (Impairment of PPE, intangible and fin. assets)	(1,037) -1.39%	(1,189) -1.63%	(5,437) -7.46%	(7,466) -10.25%
Restructuring costs	(167) -0.22%			
Changes in scope of consolidation	562 0.75%	(157) -0.22%		
Other non-recurring items	353 0.47%	(212) -0.29%	(91) -0.12%	47 0.06%
Income/ (loss) from operating activities	6,574 8.80%	8,163 11.20%	(676) -0.61%	3,087 4.21%
Financial Expense, Net Non-Operating	(2,462) -3.30%	(2,996) -4.11%	(2,692) -2.41%	(2,952) -4.03%
Financial Income - Non-Operating	586 0.78%	2,688 3.69%	882 0.79%	103 0.14%
Gain (loss) on sale assets			107	
Net financial loss Interest Income(Exp), Net Non-Operating	(1,876) -2.51%	(2,551) -3.50%	(1,703) -1.53%	(3,165) -4.32%
Net Income Before Taxes (EBT)	4,698 6.29%	5,612 7.70%	(2,379) -2.13%	(78) -0.11%
Income Tax Expense	(1,588) -2.13%	(1,839) -2.52%	(576) -0.52%	850 1.16%
Share in net income of associates				
Net Income After Taxes (EAT or PAT)	3,110 4.16%	3,773 5.18%	(2,955) -2.65%	772 1.05%
Non-controlling interests Minority Interest	669 0.90%	72 0.10%	30 0.03%	255 0.35%
Equity In Affiliates				
Net income/(loss) Group shareNet Income Before Extra. Items	2,441 3.27%	3,701 5.08%	(2,985) -2.68%	517 0.71%
Discontinued Operations			175 0.16%	
Net Income	2,441 3.27%	3,701 5.08%	(3,160) -2.83%	517 0.71%

4.2 COMMON SIZE STATEMENTS

Common size statements displays balance sheet and income statement figures as percentages, by using a common base (in this case, total assets and revenue).

There are important remarks about the structure of the company and its profitability, especially comparing with the competition:

The main one is linked to the balance sheet structure: and the proportion between the current liabilities and non current liabilities very different from competitors and more equilibrated.

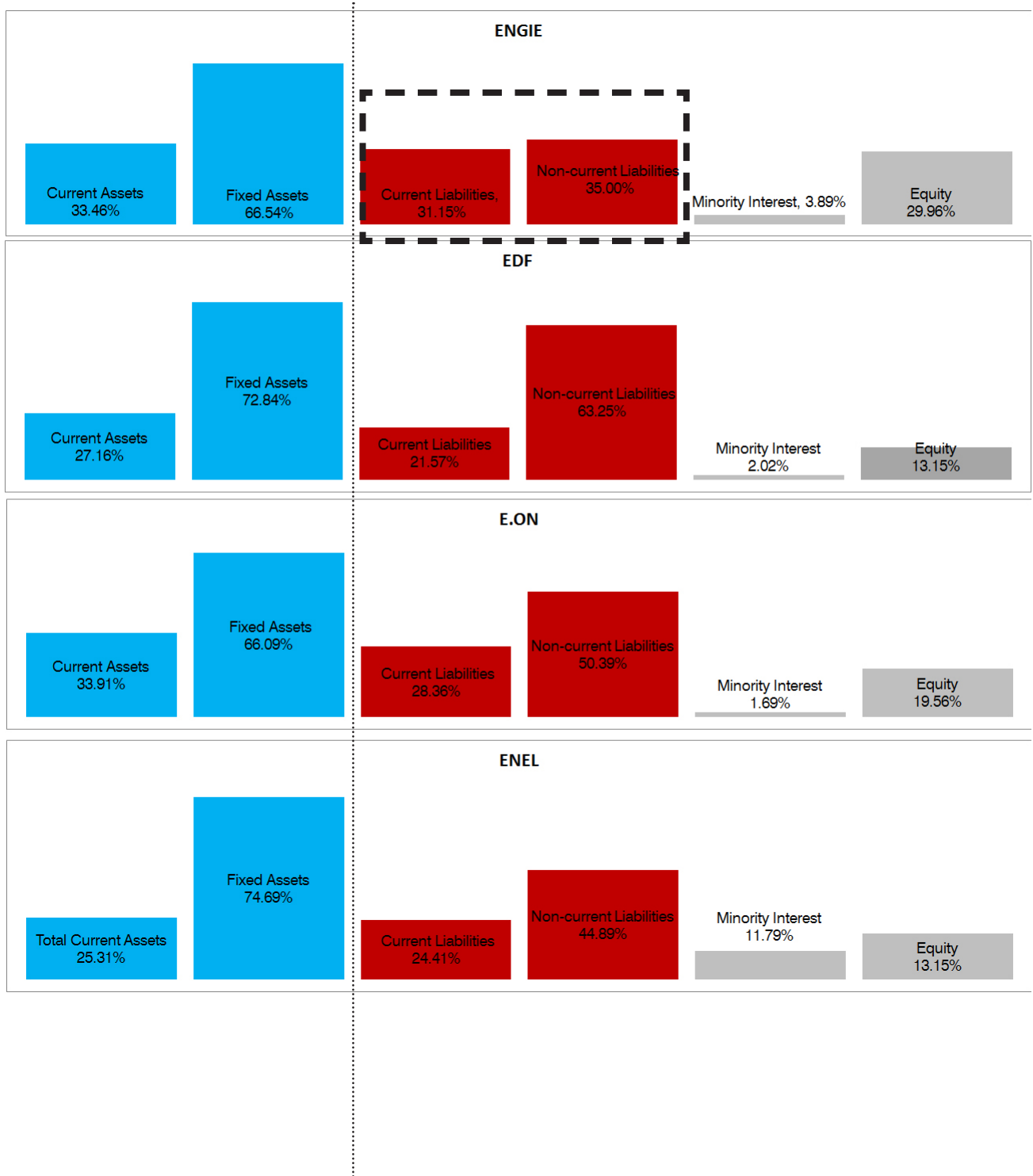
The equity represents also a higher proportion than the other companies.

Trade receivable accounts are bigger than the competitors-reveals another type of business/ contracts models or a problem of turnover.
Property and plant place a major role in the industry considerable provision 10%(nu-clear).

Additional paid in capital 19,66 includes the issue of the green bond for new renewable projects.

Long term investments are lower than the other: an explanation: green energy need less investment.

Depreciation influences by 6,42% the structure of the equity

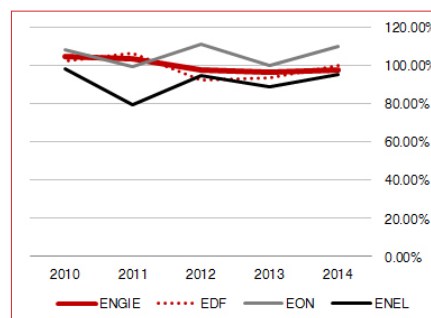


4.3. LIQUIDITY RATIOS

Liquidity ratios assess the financial solvability of a firm by comparing the current assets and current liabilities.

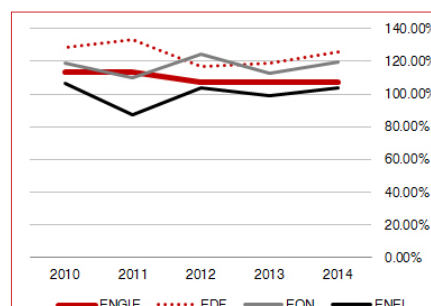
Current ratio evaluates the capacity of the working capital to meet its short-term needs, without taking in account additional possible sources. Engie keeps a constant and moderate current ratio and despite a slow decrease in 2013, it gives confidence in the capacity to pay immediate obligations.

	Current Assets/ Current Liabilities						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	107.39%	107.22%	107.17%	113.20%	113.64%	111.93%	
EDF	125.91%	119.06%	116.77%	133.29%	128.24%		
EON	119.59%	113.03%	124.55%	109.80%	119.08%		
ENEL	103.69%	99.19%	103.74%	87.55%	106.37%		



A more accurate ratio is the "quick ratio". The calculation removes the inventories from the current assets. Inventories are potentially less liquid. Indeed in the nuclear business, inventory might be more difficult to dispose than in other industries. Engie ratio is an average compared with competitors, although a little below on the 1:1.

	Quick ratio						
	2014	2013	2012	2011	2010	2009	2008
ENGIE	97.90%	96.58%	97.54%	103.51%	105.04%	102.94%	
EDF	100.39%	93.75%	92.39%	106.66%	102.69%		
EON	110.18%	100.28%	111.42%	99.33%	108.62%		
ENEL	95.10%	90.22%	91.92%	70.90%	98.12%		



4.4 CASH FLOW ANALYSIS

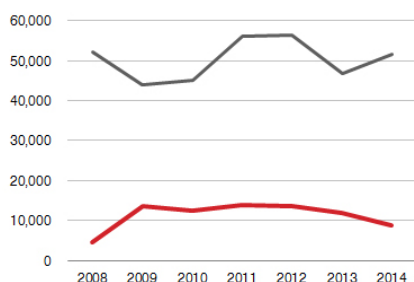
The differences in cash from year to year reflects the decreasing in revenues. Decrease with 26% on operational cash, reduce investment cash by 22,8%, and reduced it's cash financing costs by 29,2%. There is an increase in the amount due to reinburse debt.

RATIOS

Debt repayment capacity equal with total debt outstanding divided by the free cash flow.

It increases after the impairment, but lower than 2011 and 2012. Maturing obligations shows that current liabilities are covered by 17% of the operating cash flow. There is tremendous decrease in 2014.

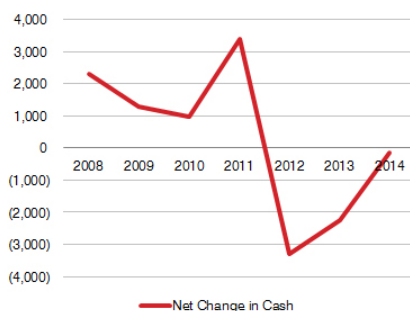
CASH FLOW	2014	2013	2012	2011	2010	2009	2008
Debt repayment capacity	13.78	8.96	16.27	14.18	15.54	11.93	(23.68)
Maturing Obligations -Operating CF/ CL	0.17	0.26	0.24	0.25	0.27	0.31	0.08
Debt repayment capacity variante	12.37	7.84	14.38	12.32	13.19	9.86	(20.18)



Evolution of cash (red) and liabilities (grey)

Cash flow statement - Engie assumptions.

ENGIE (ENGI:EN Paris) Eur millions								
Cash Flow Statement 31 December								
	2014	2013	2012	2011	2010	2009	2008	
Net Income	3,110	(8,783)	2,742	5,422	5,628	5,230	5,591	
Share in NI of entities accounted for using the eq. M	(441)	(570)	(433)	(462)	(264)	(403)	(318)	
Dividends received from ent. Accounted for eq. met	526	432	315	265	273	376	358	
Depreciation/Depletion	5,722	20,519	9,246	7,431	7,331	4,726	3,986	
Impact of changes in scope of consolidation & other non recurring items	(924)	(479)	(87)	(1,497)	(2,592)	(801)	(1,958)	
Mark-to-market on commodity contracts other than trading instruments	298	226	(109)	105	106	323	(564)	
Other Cash & Non-Cash Items	21	93	114	130	121	217	184	
Income Tax expense	1,588	745	2,049	2,119	1,913	1,719	912	
Net Interest Paid	1,876	1,946	2,775	2,605	2,221	1,628	1,494	
Cash from Operating Activities before T & WCR	11,776	14,129	16,612	16,118	14,737	13,015	9,686	
Tax Paid	(1,805)	(2,058)	(2,010)	(1,853)	(2,146)	(1,377)	(1,806)	
Changes in Working Capital	(1,221)	(91)	(995)	(426)	(258)	1,988	(3,487)	
Cash from Operations after Tax	8,750	11,980	13,607	13,839	12,333	13,626	4,393	
Capital Expenditures	(6,774)	(7,712)	(9,728)	(11,020)	(10,678)	(11,309)	(10,366)	
Disposals of property, plant and equipment, and intangible assets	241	267	185	167	405	336	128	
Loss of controlling interests in entities, net of cash and cash equiv. sold	565	468	537	1,024	412	55		
Disposals of investments in entities accounted for using the eq.method and joint op.	822	1,569	300	1,570	1,239	1,295	2,538	
Disposals of available-for-sale securities	1,064	171	93	76	847	685	110	
Interests received on non-current financial assets	29	74	54	81	39	80	130	
Dividends received on non-current financial assets	107	127	129	138	128	235	220	
Change in loans and receivables originated by the Group and other	8	(69)	(21)	60	(176)	447	(108)	
Cash from Investing Activities	(3,938)	(5,105)	(8,451)	(7,904)	(7,784)	(8,176)	(7,348)	
Total Cash Dividends Paid	(3,720)	(4,694)	(2,117)	(4,363)	(3,918)	(4,028)	(3,900)	
Repayment of borrowings and debt	(6,394)	(5,640)	(7,558)	(6,517)	(7,424)	(12,897)	(5,101)	
Change in financial assets at fair value through income	(412)	(435)	2,473	(1,146)	16	(993)	518	
Interests paid	(1,079)	(1,553)	(1,915)	(1,977)	(1,565)	(1,293)	(1,483)	
Interests received on cash and cash equivalents	100	116	185	212	141	149	261	
Cash flow on derivatives qualifying as net investment hedges and compensation payments on derivatives and on early buyback of borrowings	(873)	(184)	(721)		8,709	14,887	15,667	
Increase in borrowings	5,033	3,393	11,587	8,114	563	84	247	
Increase/decrease in capital	388	388	229	569	(491)			
Hybrid issue of perpetual subordinated notes	1,974	1,657						
Purchase and/or sale of treasury stock	136	(5)	(358)	(362)	742		(680)	
Changes of ownership interests in controlled entities	(126)	(71)	(10,125)	2,974	(455)	(191)		
Cash from Financing Activities	(4,973)	(7,028)	(8,320)	(2,496)	(3,682)	(4,282)	5,528	
Net Change in Cash	(161)	(153)	(3,164)	3,439	867	1,168	2,573	
Foreign Exchange Effects	1	(2,083)	(126)	(58)	106	107	(248)	
Net Change in Cash	(160)	(2,236)	(3,290)	3,381	973	1,275	2,325	
	(160)	(2,236)	(3,290)	3,381	973	1,275	2,325	
Shares Outstanding	Millions	2,366,768,979	2,359,111,490	2,271,233,422	2,221,040,910	2,187,521,489	2,188,876,878	1,630,148,305
# of shares at period-end	Millions	2,435,285,011	2,412,824,089	2,412,824,089	2,252,636,208	2,250,295,757	2,260,976,267	2,193,643,820
DILUTED average number of outstanding shares								
BASIC EARNINGS/(LOSS) PER SHARE (EUROS)	1.0	(3.9)	0.68	1.80	2.11	2.05		
DILUTED EARNINGS/(LOSS) PER SHARE (EUROS)	1.0	(3.9)	0.67	1.77	2.10	2.03		
Net recurring income Group share, per share								
Dividend paid	1.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Share Price at Year end	€	19.43	17.10	15.58	21.12	26.85	30.29	35.33
Average Share Price per year?	€							
Divident payout rate		(1.20)	0.53	(0.77)	(0.80)	(0.70)	(0.77)	(0.70)
Tax Rate per year		34%	-9%	47%	30%	26%	26%	15%



Net change in cash

4.5 SHAREHOLDERS AND MARKET VALUATION

P/E

Price on earnings is the value of equity to the firms earnings: ratio per share basis = Share Price/ Earnings per Share. Except the costly impairment, the price per share was aligned with competitors (with an increase in 2012). In the idea that the value of the share is directly proportionate with the earnings (although sensitive to the leverage), the present paper assesses a decrease in the P/E from 2013, aligned to increase in earnings, and affected by impairment.

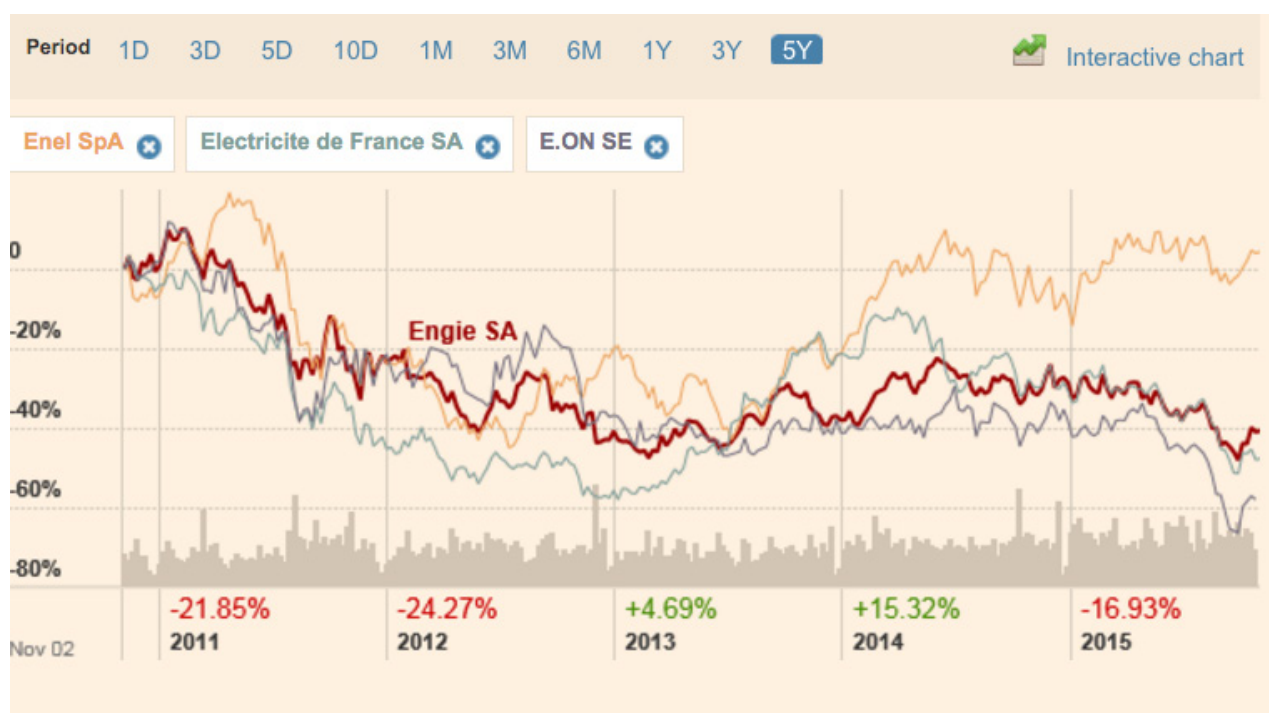
ASSET BACKING

A sensitive ratio is the market value divided by the book value. Although markets received well the impairment, the asset backing is still under 1, with poor expectation about future performances.

EBITDA/EV

Represents a measure for the rate of return on investment and it is used as an alternative to the P/E, which do not take in the leverage. No surprise, the company has a decrease in the rate of return on investment.

	2014	2013	2012	2011	2010	2009	2008
EXTERNAL RATIO SHAREHOLDERS							
Price earnings ration	18.84	(4.39)	23.25	11.93	12.79	14.92	
Earnings yield (earnings per share/share price at year end)	5.31%	-22.80%	4.30%	8.38%	7.82%	6.70%	0.00%
Dividend yield (dividend paid/share price at year end)	5.15%	8.77%	9.63%	7.10%	5.59%	4.95%	4.25%
Market Value Millions	47,318	41,247	37,580	47,576	60,420	68,474	77,490
Book Value (Equity) Millions	55,959	53,659	71,302	80,270	70,627	65,527	62,818
Asset backing	0.85	0.77	0.53	0.59	0.86	1.04	1.23
<div> <div>fair value and impairment are narrowing the gap</div> <div>crises effect</div> </div>							
EBITDA AND COMPANY VALUATION							
EV/EBITDA	11	9	9	11	11	12	17
EBITDA/EV (rate of return)	9%	11%	11%	9%	9%	8%	6%



CONCLUSION

There is an underlying strategy hidden behind numbers and disclosed intentions. Engie has a more “conservative” approach when dealing with the context compared with competitors, by applying a moderate policy on debt and some ratios, looking forward to ensuring stakeholders with less volatile figures. It is a reducing risk strategy, and it is not a surprise, considering the type of shareholders Engie has. This has a price to be paid on margins and firm’s market valuation, but it reveals a rather long term approach than an aggressive short term action. Engie manages to keep some ratios successfully constant such as ROCE and the gearing at a level that can reassure markets, and this, despite the total industry decay.

Decisions and company’s strategy, tries to consolidate every future action and to respond with consistency to the challenges it faces: it seems that Engie preferred to apply one massive strategic impairment measure, rather than to register several important devaluation measures of the balance sheet. This had a positive impact in 2013 and 2014 on the market value, but the question is if this will be enough in the deteriorating 2015 context.

However Engie is not facing a good situation and has to move forward very fast in the renewal energy sector on a high speed action, as far as subsidy policies are still vulnerable and energy demand remains very low. Moreover, other companies already declared the shift towards renewable sources energy generation, and it is assumed that this will have a strong impact on margins. In a scenario of fast recovery and success of the ECB (European Central Bank) policy, the inflation rate might also have adverse effect on a company which is forced for the moment to continuously devalue assets. There is a need to see a boost in investments, reflected on the balance sheet by the injection of additional paid in capital (from the green bond) in investments and consequent increase in profits.

Engie should not ignore the impact of definitive shut down of its nuclear units in Belgium and therefore it should move a step forward in compensating possible losses. E.ON lesson is an important one.

Despite the strategy to access international markets, Europe still represents its main source of revenue. In a long-lasting depressing context, Engie’s operational efficiency strategy won’t be enough to bring positive results. The company has huge fixed assets that can’t be changed to become more efficient in a short period of time. However, in the idea that fixed assets represents important barriers to entry, the company should leverage the future strategy based on its brick and mortar facilities. Especially in the services and e-business new developments, the company should explore straddling strategies, create complementarities in order to expend its portfolio as well as its client basis.

Shareholders might be risk averted, but their patience has a limit. It is assumed that they are expecting actions and signs of recovery of their returns.

Besides the expected 2016 and on-going reorganisation of the company, it is expected, that Engie will spin-off its activity in a decentralisation policy to increase its flexibility but also to isolate vulnerability that might affect development of new activities. E.ON already had to do this with its nuclear power branch. Although one of its core business, today nuclear becomes a non-strategic business line.

It is also likely that the company will look for an internal structural integration and change in order to cope with the new strategy of energy mix. Besides energy mix, the company should look over its industry and time, in order to find the inter/cross sectorial opportunities. This will require trades-off between activities, functions and development channels. It is expected that financial statements of the company will completely change. In the organisational change context, 2015 annual report might reflect the internal and external volatility. It might also require strong communication and strategic skills as far as trust and confidence are key issues for the market capitalisation and development. However starting with 2016, 2017, financial statements will reflect the degree of consistency of the strategy in short term and give insights on the long term engagement.

BIBLIOGRAPHY

- "4 Leverage Ratios Used In Evaluating Energy Firms." Investopedia. Accessed September 28, 2015. http://www.investopedia.com/articles/fundamental-analysis/12/4-leverage-ratios-used-in-evaluating_energy_firms.asp.
- 12, Peter Lennard June, and 2013 at 5:21 Pm. "Energy Live News – Energy Made Easy – Nuclear and Fossil Fuels Blamed for 'creative Accounting.'" Accessed October 13, 2015. <http://www.energylivenews.com/2013/06/11/nuclear-and-fossil-fuels-blamed-for-creative-accounting/>.
- "2015 Utilities Trends." Accessed October 4, 2015. <http://www.strategyand.pwc.com/perspectives/2015-utilities-trends>.
- "2015-World-Energy-Issues-Monitor.pdf." Accessed October 2, 2015. <https://www.worldenergy.org/wp-content/uploads/2015/01/2015-World-Energy-Issues-Monitor.pdf>.
- "140515RapportCRE-AuditTRVgaz-GDFSUEZ-2014.pdf." Accessed October 13, 2015. <file:///C:/Users/Teodora%20Imperatrice/Downloads/140515RapportCRE-AuditTRVgaz-GDFSUEZ-2014.pdf>.
- "Annual Report Engie 2010.pdf." Accessed October 12, 2015. <http://www.engie.com/wp-content/uploads/2012/05/bat-en.pdf>.
- "Annual Report Engie 2011.pdf." Accessed October 12, 2015. <http://www.engie.com/wp-content/uploads/2012/05/gdf-suez-2011-en2.pdf>.
- "Annual Report Engie 2012.pdf." Accessed October 12, 2015. http://www.engie.com/wp-content/uploads/2013/03/VA_Comptes_consolid%C3%A9s_et_rapport_d_activit%C3%A9_V2_20121.pdf.
- "BP Statistical Review of World Energy 2015 - Bp-Statistical-Review-of-World-Energy-2015-Full-Report.pdf." Accessed October 6, 2015. <http://www.bp.com/content/dam/bp/pdf/Energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf>.
- "CBI Warning over Renewables Subsidies - BBC News." Accessed September 22, 2015. <http://www.bbc.com/news/science-environment-34319458>.
- "Commodities: Key Themes For 2015 | Global | | BMI Research." Accessed October 8, 2015. <http://www.bmiresearch.com/news-and-views/commodities-key-themes-for-2015>.
- Drum, The Oil, 2012 May 29, 582 2, and 7. "Germany Faces A Growing Risk Of Disastrous Power Blackouts." Business Insider. Accessed October 12, 2015. <http://www.businessinsider.com/germany-faces-a-growing-risk-of-disastrous-power-blackouts-2012-5>.
- "EIA - Electricity Data." Accessed October 1, 2015. http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_1_01.
- "Electricity Production Data | World Electricity Statistics | Enerdata." Accessed September 22, 2015. <https://yearbook.enerdata.net/world-electricity-production-map-graph-and-data.html>.
- "Energy and Climate Change - World Energy Outlook Special Report - WEO2015SpecialReportonEnergyandClimateChange.pdf." Accessed September 16, 2015. <http://www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf>.
- "ETHICS.PDF - 6475312.pdf." Accessed October 13, 2015. <http://core.ac.uk/download/pdf/6475312.pdf>.
- "Fffff - Electricitytrends.pdf." Accessed September 22, 2015. <http://www.iea.org/publications/freepublications/publication/Electricitytrends.pdf>.
- "Generation and Engineering." EDF. Accessed October 27, 2015. <https://www.edf.fr/en/the-edf-group/world-s-largest-power-company/activities/generation-and-engineering>.
- "Global Economic Outlook 2015 - Key Findings | The Conference Board." Accessed October 5, 2015. <https://www.conference-board.org/data/globaloutlook/>.
- "Global Economic Outlook 2015 - Key Findings | The Conference Board." Accessed October 5, 2015. <https://www.conference-board.org/data/globaloutlook/>.
- "Historic Harmonised Inflation Europe – HICP Inflation Europe." Accessed October 22, 2015. <http://www.inflation.eu/inflation-rates/europe/historic-inflation/hicp-inflation-europe.aspx>.
- "History and Analysis -Crude Oil Prices." Accessed September 27, 2015. <http://www.wtrg.com/prices.htm>.
- "keyworld2014.pdf." Accessed October 1, 2015. <http://www.iea.org/publications/freepublications/publication/key-world2014.pdf>.
- "Layout 1 - Eumcommoditiestradingriskmanagementglossary.pdf." Accessed October 5, 2015. <https://www.pwc.com/gx/en/energy-utilities-mining/pdf/eumcommoditiestradingriskmanagementglossary.pdf>.
- "Layout 1 - the-Application-of-Ifrs-Power-and-Utility.pdf." Accessed October 21, 2015. <https://www.kpmg.com/dutchcaribbean/en/IssuesAndInsights/ArticlesAndPublications/Documents/ifrs-in-brief/links/the-application-of-ifrs-power-and-utility.pdf>.
- "Le Nucléaire Est-Il Toujours L'énergie La plus Compétitive ?" Accessed September 25, 2015. http://www.lemonde.fr/les-decodeurs/article/2015/09/04/le-nucleaire-est-il-toujours-l-energie-la-plus-competitive_4746102_4355770.html.

Long, Gideon. "Chile's 'red Gold' Loses Its Lustre." *Financial Times*, September 27, 2015. <http://www.ft.com/intl/cms/s/0/9ceb6326-4b3e-11e5-b558-8a9722977189.html?siteedition=uk#axzz3n1vjds3W>.

Loria, Kevin, 19h, 339 57, and 34. "Elon Musk Says Humanity Is Currently Running 'the Dumbest Experiment in History.'" *Tech Insider*. Accessed September 2, 2015. <http://www.techinsider.io/elon-musk-talks-fossil-fuels-with-wait-but-why-2015-8>.

"MES_2015_06_new_v3.xls - Mes.pdf." Accessed September 22, 2015. <http://www.iea.org/media/statistics/surveys/electricity/mes.pdf>.

"Net Debt Definition." *Investopedia*. Accessed October 13, 2015. <http://www.investopedia.com/terms/n/netdebt.asp>.

"Nuclear Power in Belgium | Belgian Nuclear Energy." Accessed September 23, 2015. <http://www.world-nuclear.org/info/Country-Profiles/Countries-A-F/Belgium/>.

"OPEC-Pic.png (PNG Image, 382 x 383 Pixels) - Scaled (80%)." Accessed October 6, 2015. <https://www.worldenergy.org/wp-content/uploads/2015/08/OPEC-pic.png>.

"Registration Document 2014 • GDF SUEZ." Accessed September 16, 2015. http://library.gdfsuez.com/uid_84c6c668-e5e9-4353-a6d2-ccb57c384ce6/beevirtua/beevirtua.html#app=5fe9&adf3-lang=en&ccb3-pageId=0http%3A//&9557-source=xml-Conf/init.xml.

"RE-Shaping_CP_final_18JAN2012.pdf." Accessed September 18, 2015. http://www.reshaping-res-policy.eu/downloads/RE-Shaping_CP_final_18JAN2012.pdf.

"Shale Gas – A Global Perspective - Shale-Gas-Global-Perspective.pdf." Accessed October 6, 2015. <https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/shale-gas-global-perspective.pdf>.

"Shale Technology – the New 'Swing' Producer That Sets Global Oil Prices?" Accessed October 6, 2015. <https://www.world-energy.org/news-and-media/news/shale-technology-the-new-swing-producer-that-sets-global-oil-prices/>.

Stothard, Michael. "GDF Suez Writes off €4.9bn as Value of Power Plants Falls." *Financial Times*, February 27, 2014. http://www.ft.com/intl/cms/s/6005636c-9f8c-11e3-94f3-00144feab7de,Authorised=false.html?siteedition=intl&i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2F6005636c-9f8c-11e3-94f3-00144feab7de.html%3Fsiteedition%3Dintl&i_referer=&classification=conditional_standard&iab=barrier-app#axzz3nyieYQvW.

"Untitled - Energyunion_en.pdf." Accessed October 12, 2015. http://ec.europa.eu/priorities/energy-union/docs/energyunion_en.pdf.

"Untitled - European-Energy-Security-Strategy.pdf." Accessed October 12, 2015. <http://www.eesc.europa.eu/resources/docs/european-energy-security-strategy.pdf>.

"Untitled - LessonsNet.pdf." Accessed October 6, 2015. <https://www.iea.org/publications/freepublications/publication/LessonsNet.pdf>.

"UPDATE 1-Russia's Gazprom Starts First Gas Tender to Check New Pricing Mechanism." *Reuters*, September 7, 2015. <http://www.reuters.com/article/2015/09/07/russia-gazprom-tender-idUSL5N11D0XX20150907>.

"What Is COP21/CMP11? | COP21 - United Nations Conference on Climate Change." Accessed October 12, 2015. <http://www.cop21.gouv.fr/en/cop21-cmp11/what-cop21-cmp11>.

"Why Hydroelectric Power Isn't Considered Renewable." *LinkedIn Pulse*. Accessed October 12, 2015. <https://www.linkedin.com/pulse/20140710135110-294192772-why-hydroelectric-power-isn-t-considered-renewable>.

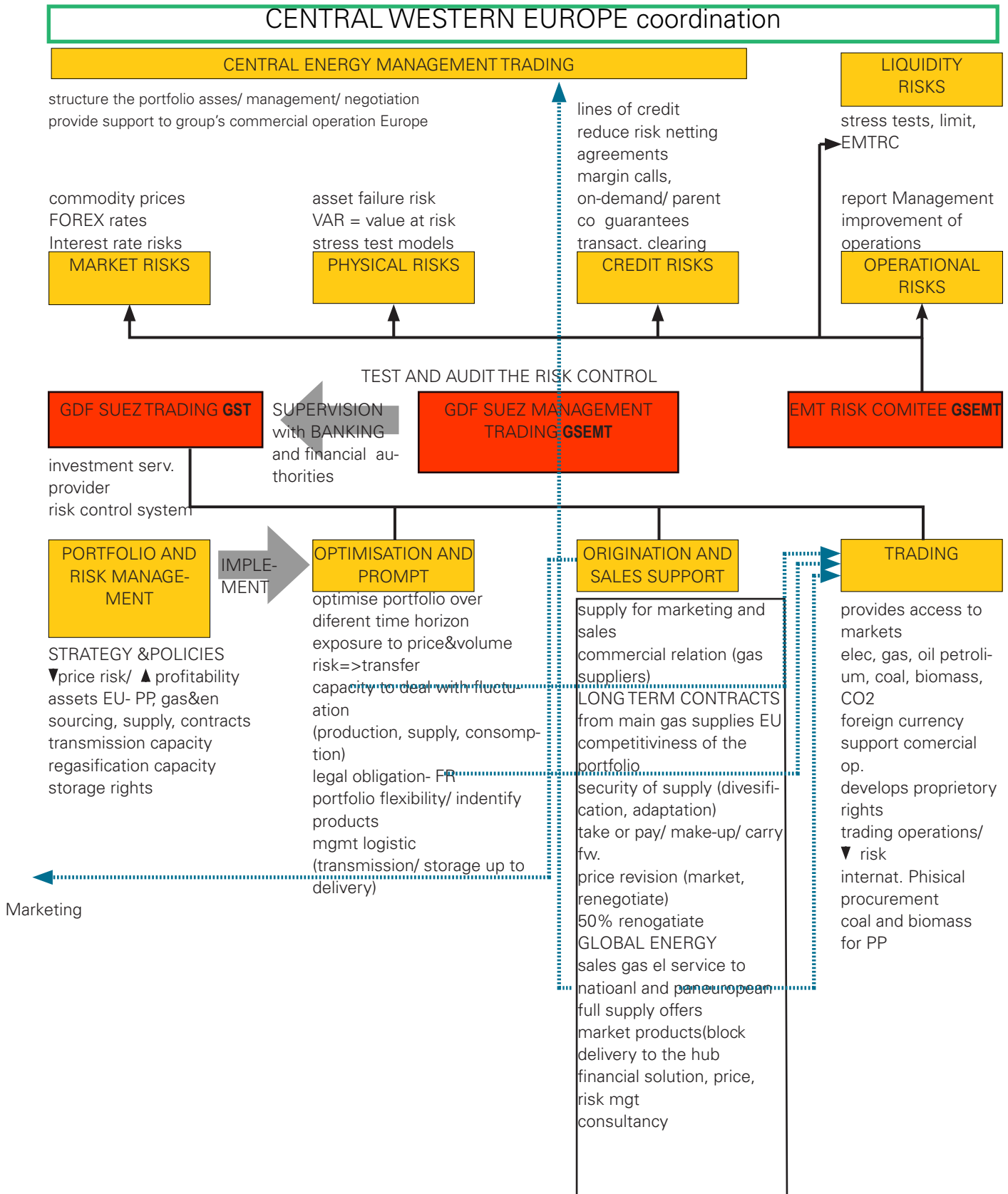
"World Business, Finance and Political News from the Financial Times– FT.com Europe." Accessed October 8, 2015. <http://www.ft.com/home/europe>.

"World-Energy-Issues-Monitor-2014.pdf." Accessed October 1, 2015. <https://www.worldenergy.org/wp-content/uploads/2014/01/World-Energy-Issues-Monitor-2014.pdf>.

"World Energy Outlook 2014, Executive Summary - WEO_2014_ES_English_WEB.pdf." Accessed September 22, 2015. https://www.iea.org/publications/freepublications/publication/WEO_2014_ES_English_WEB.pdf.

Zevenbergen, Chris. *Urban Flood Management*. Boca Raton: CRC Press, 2011.

Annexe



CENTRAL WESTERN EUROPE

	GENERATION METIER	NEW ACTIVITIES	MKT SALES M&S
FRANCE	4 combined cycle gas plants (mothballing)	+154MW partnerships	162.2 TWh NG seller intense competition on B2B 17.9TWh electricity 2.2 M customers B2C value chain/ new offers B2B
REGULATION	56% basis tariff for gas sales- established by the government Sales price of natural gas: regulated or negotiated (market) price Administrative tariff- <5GWh/year - 176 million customer 112 TWh will be eliminated 2013-2015 Rates setting procedure/ Commission of regulation - formula every year 60% market indexation the rest pegged to oil products and euro dollar exchange rate Retroactive invoices / price gaps between and residential and non-residential consumers		
BELGIUM	9462 MW 4132MW nuclear 2331MW nat gas fired thermal PP 95MW+ 376MW (mothballing)	175MW Mermeaid consortium 35% reduce op. fin. risk	162.2 TWh NG seller intense competition on B2B 17.9TWh electricity 2.2 M customers B2C value chain/ new offers B2B
REGULATION	extension lifetime (see Nuclear) sharing mechanism/ in substitution to fix nuclear contribution and tax burden Doel 1 Doel2 stopped -negotiation 407million tax/ 397 million capacity remuneration mechanism- ensure survival of thermal power generation energy standard to be created to compare prices with other countries- not yet there		
GERMANY	2653 MW	602.5MW nuclear	196MW wind onshore
GDF Suez	dr. rigt	132MW hydro	15 TWh natural gas seller 11.8TWh electricity
Energy Deutschland AG	822MW coal 451.5MW co-gener- 95MW+ 376MW (mothballing)		.1 mil B2C gas customers .1 mill B2C el. Customers
REGULATION	political discussion revision of the institutional framework) challenging context for conventional generation - coal fired plant		731MW 57%
NEDERLANDS	4394 MW	4132MW nuclear	56MW wind onshore
	2331MW nat gas fired thermal PP 119MW dismantled market difficult condition		6 TWh natural gas seller 6 TWh electricity 0.5mil GAS AND POWER
REGULATION	"sustainable grow" energy agreement => closure several coal fired plants of the plants wind - MW targets set by the government for each region		