

### Dear Reader,

While preparing this second sustainable development report, we took into account the feedback received from our most attentive readers. I would like to take this opportunity to thank them.

As our first report was favourably received, we retained the same key features:

- ✓ We included a description of the context in which the company is evolving and of key sustainable development issues affecting it;
- ✓ We used the same structure, in order to be in line with the five focuses of EDF Luminus' corporate social responsibility policy: actions related to ethical, commercial, financial, environmental and social issues.

With very few exceptions, we retained the indicators published in the 2012 report so that we could once again comment on developments over a period of three years, whether stable, positive or negative.

As in last year's report, we tried to remain objective and accessible in all our declarations and to present our results in a transparent, clear, honest and balanced manner. The internal and external testimonials and statements included in this 2013 report contributed to this intent.

Among the improvements introduced as a result of the feedback received, we developed the "governance" section of the report, as well as the dialogue with stakeholders. We are also publishing, for the first time, the carbon footprint for all of our activities in the hope that doing so will provide a better understanding of the real issues in the sector.

Please do not hesitate to ask any new questions or make any comments or suggestions for improvement by emailing us at: csr@edfluminus.be.

### Pascale-Marie Barriquand

Senior Advisor
Corporate Social Responsibility
FDF Luminus

#### Declaration rules

EDF Luminus is not a member of Euronext Brussels and is not legally required to comply with the rules and standards that apply to listed companies. EDF Luminus, however, is required to comply with all laws and regulations introduced by local, regional and federal legislators and regulatory bodies such as VREG, CREG, CWaPE and Brugel. As a subsidiary of the EDF Group listed on the Paris stock exchange, EDF Luminus is subjected to certain obligations imposed by the Autorité des Marchés Financiers (AMF – Financial Markets Authority), with particular regard to access to information. An electronic version of this report is therefore available to all at www.edfluminus.be.

### Period covered by the report

Unless otherwise indicated, the items included in this Sustainable Development Report relate to the period January 1, 2013, to December 31, 2013.

### Measuring instruments used for the report

We enlist data measurement experts to guarantee perfect transparency with regard to the scope and limits of our reports and to standardise the calculations made in order to obtain reliable and credible data. Our goal is to faithfully represent the achievements and performance levels of the company. The annual accounts of EDF Luminus are certified by KPMG Company Auditors and Boes & Co Company Auditors, and submitted to the National Bank of Belgium.

The GHG emissions inventory presented in this report has been realized by Climact, a recognized Energy & Climate Change consulting firm (www.climact.com), in accordance with the GHG Protocol international standard.

In addition, within the framework of article 225 of the Grenelle II law of 12 July 2010 establishing new publication and verification obligations for French listed companies, the EDF statutory auditors verify the consolidated CSR information presented in the EDF management report. This includes information originating from EDF Luminus. Accordingly, in 2013, the Deloitte firm conducted two audits: one at the Ringvaart power plant, and the other at the EDF Luminus head office in Brussels.

#### Cover photo

Construction of a 3.4 MW wind turbine at the Evonik site, close to the Tijsman West tunnel in Antwerp. Due to its favourable location on the banks of the West Scheldt estuary, this wind turbine will produce approximately 8,000,000 kWh of renewable electricity per year, which is 17% above average. The installation of this wind turbine avoids the emission of 3,450 tonnes of  $CO_2$  per year, equivalent to the emissions of 1,495 cars or 575 homes.

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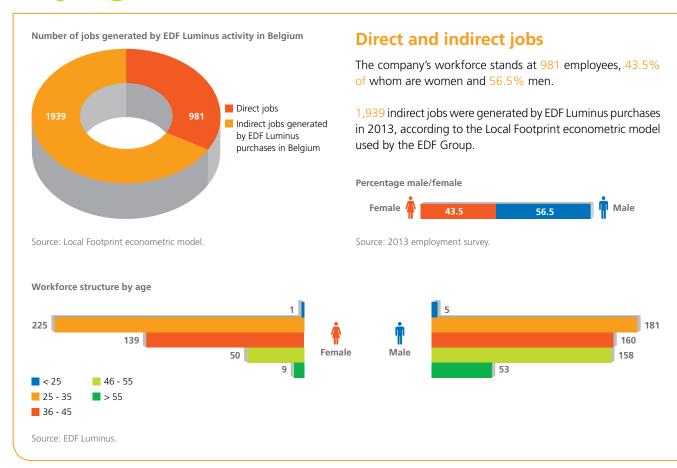


Construction of the wind turbine at the Marlux site.

This Sustainable Development Report is intended for all of our stakeholders: customers, staff, social and business partners, public authorities, opinion leaders, media, non-governmental organisations, etc.

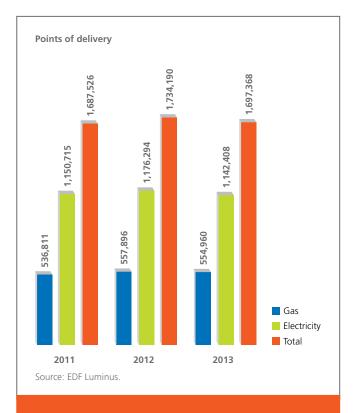
An electronic version of this report can be accessed at www.edfluminus.be.

# **Key figures 2013**



## Stable turnover, fall in net profit

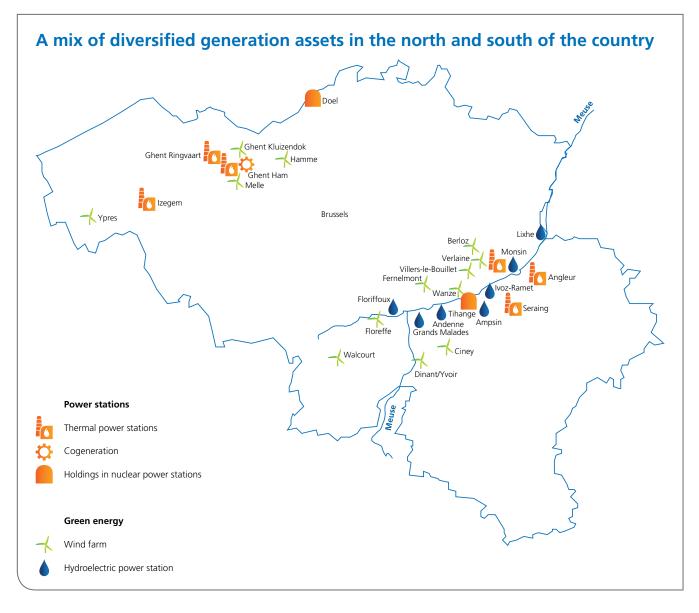
EDF Luminus recorded turnover of 3.74 billion euro in 2013, generating a net profit of 37 million euro, or 0.9% of turnover. The total amount of taxes and contributions paid by EDF Luminus in 2013 was 59.2 million euro, or 150% of its profit.



### A stable market share

EDF Luminus is the second biggest supplier of gas and electricity in Belgium.

The company, which trades on the Belgian market under the company name 'Luminus', supplies electricity and gas to **1.7 million** residential and industrial customers. This amounts to 30 TWh sold in 2013 – a **20%** share of the **electricity** market and a **17%** share of the **gas** market, **figures which remained stable in 2013**.



# The second biggest Belgian electricity generator

With an installed capacity of 1,897 MW distributed across 30 sites in Flanders and Wallonia at the end of 2013, EDF Luminus accounts for approximately 10% of the electricity generation capacity available on the Belgian market. The second biggest supplier of gas and electricity, EDF Luminus is also the second biggest Belgian generator of electricity.

At the end of December 2013, the renewable share of the installed generation base of EDF Luminus, mostly comprising wind turbines and hydroelectric power stations, amounted to 10.4%. The CO<sub>2</sub>-free share amounted to 32.4%

EDF Luminus holds a 10.2% share in four Belgian nuclear power plants, Tihange 2 and 3 and Doel 3 and 4. This qualifies EDF Luminus as a nuclear "producer", the only operator of such installations being Electrabel SA, under the terms of the Royal Decrees of December 19, 2000.

EDF Luminus power plants generated 5,447 GWh in 2013, of which 9.3% was renewable energy, split almost equally between wind (43%) and hydro (57%). The share of electricity generated without producing CO<sub>2</sub> amounted to 58.7%.

This map of EDF Luminus assets does not feature the drawing rights on the Chooz B power plant (100 MW).

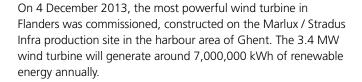
# Our sustainable development in 2013: a few key events



In 2013, EDF Luminus was recognised as a "Top Employer", a label granted by the CRF Institute to 53 Belgian companies in accordance with very strict criteria. See page 51.



A new Code of Conduct, integrating the Code of Ethics of the EDF Group, was published at the end of 2013. This new 28-page version refers to the company's five values, details the obligations with regard to the various stakeholders, and explains how to proceed in the event of an incident



From left to right: Paul De fauw, Chairman of the EDF Luminus Board of Directors, Anne Froidmont, Commercial Director, Stradus Infra, Daniël Termont, Mayor of Ghent and Grégoire Dallemagne, CEO of EDF Luminus.





Frigologix is one of the companies that signed a You.Balance contract in 2013.

This service enables customers to be remunerated for flexible consumption, which reduces their energy bills and helps balance the network.

With a storage capacity at its Lommel site of 36,000 pallets whose temperature must remain at around -25° C, Frigolix is the ideal candidate for this optimization opportunity. See page 31.



Work on the renovation of the Lixhe hydroelectric power plant began in 2013 with the dismantling of the installations. Here we see the evacuation of one of the two downstream half-rings, a part which fits around the turbine and acts as the junction with the downstream flue.

Replacing two of the four turbines will allow the river's flow rate to more closely match natural conditions. See pages 40-41.



On 9 October 2013, Gérard Roth, the EDF Group's Continental Europe Director, presented a preliminary assessment of the partnership agreement between the Province of Liège, EDF and EDF Luminus, signed in July 2012. See page 32.



In July 2013, EDF Luminus achieved the highest rating awarded by the gas and electricity regulator in the Flemish region (the VREG) for the quality of customer service in the first guarter of 2013. To achieve five stars, the number of upheld complaints must be below three per 5,000 customers. Obtaining this label confirms the company's progress in terms of customer satisfaction. EDF Luminus kept its five stars throughout 2013. See page 27.



In June 2013, EDF Luminus received the ISO 14001 (environmental standard) and OHSAS 18001 (international standard for health and safety) certificates for all its sites and activities. See page 52. Thanks to Monique Marchal, an employee who involves all her family in training assistance dogs for people with reduced mobility, the Dyadis Association received the Gold Prize and the Staff Prize awarded within the framework of the We Love Your Project programme. This programme, which has been running since 2011, encourages voluntary work by staff by enabling everyone to compete for a variety of awards. The picture shows the president of Dyadis. In 2013, five associations received financial support within the framework of the We Love Your Project programme. See page 54.





Paul De fauw

"EDF Luminus is making the necessary changes to face a tough and rapidly evolving market. Its commercial responsiveness, increased productivity and ability to seize new opportunities for growth, with strong local roots and the support of the EDF Group, will be key to its future success."

# The Board of Directors: a key player for sustainable development in EDF Luminus

## **EDF Luminus faces many challenges**

Three questions for the Chairman of the Board of Directors

## How would you describe the environment in which EDF Luminus is evolving?

The environment in which EDF Luminus is evolving is, to say the least, extremely challenging! The company's margins have fallen considerably under the influence of some major regulatory changes (prices frozen then reduced, a higher nuclear contribution, etc.) and serious pressure from competitors on the Belgian market. At the same time, the natural gas-fired power plants – which make up more than half of the installed base of EDF Luminus – are less competitive. It must be said that various forms of renewable energy have developed very quickly, even during a period of economic crisis. These energy sources are replacing traditional thermal power plants – albeit only partially, due to their unpredictable nature. Furthermore, the low prices of coal and CO<sub>2</sub> favour foreign coal-fired plants to the detriment of Belgian plants. Consequently, the gas-fired power plants of EDF Luminus, which only operate for a few hours per year, can no longer cover their fixed running and maintenance costs.

## How did the Board of Directors respond to this in 2013?

The Board of Directors, like the senior management team, was able to respond to these developments swiftly and effectively. The strategy defined and approved in 2011 was rapidly adapted at the start of 2013 to deal with the new situation.

We can summarise 2013 by saying that the Board concentrated on three topics:

- ✓ streamlining the organisation, in particular with the approval of a plan to reduce costs by 20% between now and 2015;
- ✓ investments in renewable energy, with almost one hundred million euro to invest in 2014 in the onshore wind farm and hydroelectricity;
- preparing for the commercial future of the company, which must be able to offer its customers a wider range of services, particularly in the area of energy efficiency.

## What are the priorities defined by the Board of Directors for the future?

EDF Luminus has withstood the crisis, thanks to some far-reaching organisational changes. It is now well positioned, but must pursue its efforts in the future. The Board of Directors wants the company to continue to develop its w d adapt its thermal plants to meet the market required flexibility. To continue to develop, the company must provide its customers with innovative and sustainable solutions in terms of both energy supply and the associated services.

EDF Luminus is part of a group that believes Belgium is one of its strategic areas in Europe and wants to establish itself there over the long term, in close cooperation with local actors. The broad range of skills available to EDF Luminus with the support of the EDF Group constitutes a crucial advantage.

The partnership formed with the Province of Liège is a good example of an alliance between local actors and support from an international group. Among the actions taken under the auspices of this partnership, EDF's German research institute, Eifer, has been able to apply its expertise to the issue of modelling an area containing 84 municipalities in order to identify the most suitable locations for charging stations for electric vehicles.

The investment in installations supplying the urban heating network of the city of Ghent is another example of synergy, as another subsidiary of the EDF Group, Ecotral, specialising in energy efficiency, was consulted to provide the technical solution. The city of Ghent and EDF Luminus have the firm intention of jointly exploring other innovative avenues concerning related energy issues.

The original project that oversaw the creation of SPE as Luminus, with the participation of regional and municipal holdings, has found fresh impetus through the strategic and industrial support of EDF as partner-shareholder.

I am aware how much the staff of EDF Luminus have come together to transform the company, with the support of the Board of Directors and the company's shareholders. We are all working on this interesting future with determination!

## **Composition of the Board of Directors**

The Board of Directors is composed of 15 directors, 7 of whom are proposed by Belgian shareholders and 8 by the EDF Group.

At the end of 2013, the Board was made up as follows:

### Belgian directors:

- Defada byba, represented by Paul De fauw, Chairman of the Board
- Dominique Drion
- André Gilles
- Stéphane Moreau
- Nubis bvba, represented by **Jo Geebelen**
- Christophe Peeters
- Ome sprl, represented by Jacques Vandebosch

### French directors (EDF):

- Pierre Aumont (Deputy Vice President, Continental Europe Division)
- Agnès Butterlin (Finance Director International)
- Laurent Catenos (Head of coordination Central & Eastern Europe Germany)
- François Driesen (General Counsel Europe)
- Henri Lafontaine (Group Senior Executive Vice President, Commerce)
- Klaus Rohatsch (Project Coordinator)
- **Gérard Roth** (Senior Executive Vice President, Continental Europe Division)
- Alain Verry (Senior Vice President, Business Integration & Development)

The Board of Directors defines the policy and general strategy of the company and oversees the operational management. It delegates the day-to-day management to the Executive Committee. It met five times in 2013, in accordance with the Articles of Association.

#### The Board of Directors' Committees

To exercise its statutory tasks, the Board of Directors has three specialised committees, whose members are directors selected by the Board. Each committee meets at least twice a year and whenever the interests of the company so require.

These committees are as follows:

- The Strategic Committee evaluates the company's strategic plan (e.g. investment or acquisition projects) and gives advice on key orientations.
- The Audit and Risks Committee oversees the reliability of financial information provided to shareholders and gives recommendations on the accounting policy, accounts assessment, budget management and the quality of internal control. It also gives recommendations on the policy to adopt with regard to major financial or operational risks.
- The Nomination and Remuneration Committee examines the company's remuneration policy and monitors, in particular, the appointment, performance and remuneration of the members of the Executive Committee.

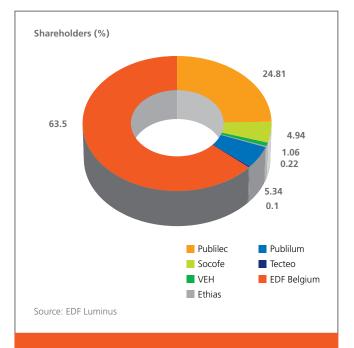
### Governance: regular meetings of the three Board committees

In 2013, the Audit and Risks Committee met on four occasions, as in 2012. The audit programme is decided in accordance with the internal controls carried out each year throughout the company and with the risks identified.

The Strategic Committee and the Nomination and Remuneration Committee both met on three occasions.

Internal audit reports administrative to the CFO but functionally to the Board of Directors (via the BARC). This reporting relationship promotes independence and assures adequate consideration of audit findings and recommendations.





# A Franco-Belgian shareholding, stable since 2010

The EDF Group, via EDF Belgium, owns a **63.5%** share of the company.

The Belgian shareholders of EDF Luminus, i.e. Publilec, Publilum, Socofe, Tecteo, VEH and Ethias, hold **36.5%** of the shares.



Grégoire Dallemagne

"My warm thanks go to all those who work hard every day to make EDF Luminus the preferred Belgian energy company, providing innovative and sustainable solutions and the best service to our customers. The support of local communities will be of great help, as will our integration within the EDF Group."

# Transforming the company to ensure its future

## 2013 overview and priorities for 2014

A message from the Chief Executive Officer

Our customers are increasingly aware of the impact of their choices relating to their energy supply. It is important to them to reduce their ecological footprint, to control their spending and to receive a quality service with no surprises. In the face of ongoing climate change, EDF Luminus must provide sustainable solutions so that everyone can be sure of competitive, reliable and environmentally friendly energy.

The company has therefore started an in-depth transformation process to meet these new needs. In addition to our traditional activities as a producer and supplier of gas and electricity, we are gradually becoming designers of innovative energy services, a driving force for progress for our customers and the environment.

In 2013, we managed to deal with a number of challenges in order to proceed along this path.

## Prioritising customer satisfaction, in the broadest sense of the term

We substantially lowered our prices on January 1, 2013, simplified our range of products and launched innovative services. Our teams took action to provide better customer satisfaction and maintain our market share.

We reviewed our operating methods to make them quicker and more efficient, with a lighter cost structure throughout the company. In spite of this 10% reduction in our operating costs in 2013, the net profit decreased by 60% compared to 2012, amounting to 37 million euro, only 0.9% of turnover. These cost reduction efforts will be continued in 2014.

In spite of the operational – and above all human – challenge resulting from this reorganisation, we are the first Belgian utility with a Top Employer label, granted by an independent body for the second consecutive year. The rate of work-related accidents remains lower than the average for the sector. We continue to make every effort to achieve our long-term target: zero accidents.

# Increasing our investments in renewable energy and optimising our thermal power plant facilities

In 2013, EDF Luminus commissioned two 3.4 MW wind turbines on the sites of two of its industrial customers in Ghent and Antwerp. Other projects will enter the construction phase in 2014. Thanks to its development efforts, EDF Luminus can cherish the ambition of doubling its wind farm portfolio between now and 2016. EDF Luminus is also investing in hydroelectricity by renovating the Lixhe hydroelectric plant at a cost of 12 million euro.

### A strategy that integrates the challenges of sustainable development

Innovation, partnerships, constant adjustment of production capacities, motivation of staff to become the energy supplier most sought after by customers: our strategic priorities contribute to the sustainable development of the company and its environment.

### 5 strategic priorities

Becoming the benchmark for **customer satisfaction**.

Developing our leadership in green energy while optimising our conventional mix.

Developing local partnerships and innovative solutions Achieving **operational excellence**.

Engaging all employees and steering the transformation in line with our values.

Two of the three turbines at the Andenne power plant will be replaced in 2014–2015 at a cost of 9 million euro. In total, EDF Luminus plans to invest more than 100 million euro in renewable energy in 2014.

In the face of unfavourable market conditions, we had to announce the temporary or permanent closure of a number of gas-fired power plants that are hardly ever running. Some of these plants will form part of our response to the call for tenders issued by the grid operator to establish a strategic reserve in Belgium, in order to cope with consumption peaks in the event of serious problems during the winter period.

## Energy flexibility and efficiency: key assets for the future

We are already experiencing the early results of innovation in energy services. We now offer our professional and industrial customers the possibility of making their demand reduction capacity available to reduce consumption during peak periods. As well as improving the balance of the electricity system, this solution encourages the development of renewable energy sources, intermittent by nature, helps lower CO<sub>2</sub> emissions and enables our customers to reduce their energy bills.

Strengthened by a long-standing presence in Belgium, we are introducing a growing number of innovations in partnership with the towns and cities. In 2012 we signed an extended partnership with the EDF Group and the province of Liège with regard to 'sustainable cities', a field in which significant progress was made in 2013. Along similar lines, we are considering the urban heating project for the city of Ghent, with a view to providing an environmentally friendly energy solution.

In building our future, we have the support of the EDF Group, which invests more than 500 million euro annually in research and development. This is an advantage that few energy companies benefit from.

"Respect, customer orientation, personal commitment, creativity and constant improvement are the values that characterise our corporate culture and guide our choices, our priorities and above all the way in which we work together."

Our ambition is a very motivating force that encourages each employee to develop his or her full potential on a daily basis, in order to contribute to sustainable and responsible overall progress.



### The Executive Committee of EDF Luminus at the end of 2013.

From left to right

Kris Vervaet, Chief Commercial Officer; Patrick Pruvot, Deputy General Manager; Grégoire Dallemagne, Chief Executive Officer; Jürgen Dennersmann, Corporate Director Trading & Supply; Yann Baros, Corporate Director Production; Véronique Vansteelandt, General Counsel; Dimitri Hovine, Corporate Director, Human Resources.

Since the end of 2013, two women have joined the Executive Committee:

- Agnès Butterlin as Chief Financial Officer;
- Kathleen Daems as Corporate Director, Human Resources.

As a result, more than one-third of the company's Executive Committee have been women as of April 22, 2014.

# The EDF Group, an industrial partner to local stakeholders

### 46.8% of the turnover originated outside France

Thanks to its 39 million customers and a total electricity production of 653.9 TWh, the EDF Group is one of the world leaders on the energy market.



Charles Chirey is an expert from NetSeenergy, a subsidiary of the EDF Group specialising in monitoring and analysing the energy consumption of its customers. He was involved on site at the Seraing Olympic swimming pool and at the Higher Education Insitution of the Province of Liège during the installation and implementation of the energy monitoring systems by EDF Luminus within the framework of the three-way partnership presented on page 32.

The EDF Group's Research and Development teams include more than 2,000 people and have an annual budget of more than 500 million euro. Research is focused on three major priorities: consolidating a low-carbon energy mix, anticipating the electricity system of the future and developing a flexible, low-carbon energy demand.

The EDF Group's turnover for 2013 amounted to 75,594 million euro, an increase of 3,416 million euro (+ 4.7%, of which 2.9% is organic growth).

The turnover achieved outside of France in 2013 represents 46.8% of the consolidated turnover of the Group compared to 45.8% in 2012.

The Group covers the full range of activities: generation, transport, distribution, trading, gas and electricity sales and energy services. EDF is listed on the Paris stock exchange and is a member of the CAC 40 index.

### The leading European investor in renewable energy

In the last three years, the EDF Group has devoted the greatest share of its gross operational investments for development to renewable energies.

In 2013, the share of renewable energy in the Group's gross operational investments for development amounted to 36%, while a 33% share was earmarked for new nuclear facilities.

Thanks to its continuous investments, the EDF Group is now the European leader in renewable energy in terms of installed capacity. According to the typology used by IHS experts, it ranks second in Europe for emerging renewable energy sources (photovoltaic solar, marine, geothermal, small hydropower, biomass, waste-to-energy).

At a European level, the most recent PWC\* study highlights that: "The EDF Group contributes significantly to maintaining the average European carbon factor at a relatively low level." (The European carbon factor in 2012, outside of EDF, amounted to 452 kg of CO<sub>2</sub> per MWh, but was only 350 kg of CO<sub>2</sub> per MWh when the EDF contribution was included.)

In November 2013, EDF launched the first Green Bond issue in euro to be made by a major company, in order to finance future renewable energy projects. The funds raised (1.4 million euro) are exclusively dedicated to financing projects led by EDF Energies Nouvelles (New Energies).

For this inaugural issue, the Group made an innovative dual commitment:

- 1 The projects selected must meet five eligibility criteria drawn up by the Vigeo rating agency: respect for human rights in countries where the projects are located; environmental impact management; health and safety protection for workers; fostering a responsible relationship with suppliers; and dialogue with local stakeholders.
- **2 -** Traceability guarantee; the investments made will be subject to a unique traceability process, being annually disclosed by EDF and audited by Deloitte & Associates.

<sup>\*</sup>Study by PricewaterhouseCoopers (PWC) of November 2013: European carbon factor – Comparison of CO, emissions from the main European electricity companies.

# Corporate responsibility: 11 commitments made at Group level in 2013

Since it was first created, the EDF Group has implemented a strategy with the public interest front of mind and based on a corporate responsibility approach. That is how, in 2005, the EDF Group came to be the first European energy company to sign an agreement with the representatives of 16 national and international trade union organisations, applicable to controlled subsidiaries active in countries such as China, Vietnam, the United Kingdom and Poland. This agreement, renegotiated in 2009, includes 22 clauses that apply fully to EDF Luminus since March 22, 2011.

At its General Meeting in 2013, the EDF Group presented a number of commitments intended to unite the Group's companies around eleven common objectives. There are measurement and monitoring indicators associated with these objectives, intended to generate more value and improve overall performance.

A number of these commitments apply directly to EDF Luminus:

- ✓ not tolerating any breach of human rights, any fraud or corruption (ref. New Code
  of Conduct p. 6 and signature of the United Nations Global Compact p.19);
- ✓ investing in renewable energy sources and increasing their competitiveness (ref. wind farm development p. 39; renovation of the Lixhe hydroelectric power plant p. 40–41);
- ✓ conserving the water resource in all its activities (ref. p. 42);
- ✓ reducing workplace accidents among employees and subcontractors (2013 results p. 52);
- ✓ maintaining the professional excellence and performance of employees through training (ref. p. 50) and promoting diversity (ref. p. 53);
- ✓ supporting local development through employment (ref. direct and indirect jobs p. 4);
- ✓ proactively fighting fuel poverty (ref. targeted actions p. 25).

In addition, the EDF Group introduced a Code of Ethics applicable group-wide in 2013.

This can be viewed at the following web site: http://ethique.edf.com.

The Group's Code of Ethics refers to the following international commitments in particular:

- ✓ Universal Declaration of Human Rights;
- Conventions of the International Labour Organisation guaranteeing the fundamental principles and rights of employment and fighting against discriminations;
- ✓ Guidelines of the Organisation for Economic Cooperation and Development for multinationals;
- ✓ Convention of the Organisation for Economic Cooperation and Development on the fight against the corruption of foreign public agents in international commercial transactions;
- ✓ United Nations convention on corruption.

An alert mechanism enables failures to comply with the Code to be identified and dealt with. To alert the EDF Group Ethics and Professional Conduct Committee, go to: http://alerte-ethique.edf.com.

The EDF Group publishes an activity report and Sustainable Development indicators every year. The 2013 reports can be viewed using the following link: http://shareholders-and-investors.edf.com/news-and-publications/publications/regulatory-information/annual-reports-42724.html

# Our markets and their specific features

### Managing the balance between supply and demand: an extremely complex process

The energy market, and particularly electricity, has one unique aspect that can be summarised as follows: the proper functioning of the electricity system requires an almost perfect balance at all times between generation and consumption. Achieving this balance at a reasonable cost is an extremely complex process, with the available generation capacity having become as difficult to predict as the consumption of customers due to the development of renewable energy sources, which are mostly intermittent.

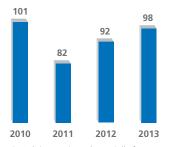
To effectively maintain this balance, a stakeholder such as EDF Luminus must therefore make a number of forecasts:

- long-term macro-economic forecasts, with the support of experts in the EDF Group;
- medium term (one to three years);
- short term, on a daily basis and in real time, based on the latest available meteorological data.

The electricity and gas markets have other specific characteristics:

✓ The demand for gas depends largely on the outdoor temperature, which can vary substantially from one day or one year to the next. Demand for electricity varies

Annual gas consumption by end customers of Belgian distribution grids (TWh)



Gas consumption in Belgium varies substantially from one year to the next. In 2013, consumption by end customers rose significantly compared with 2012 and 2011, due to the cold and prolonged winter.

Source: Synergrid.

**considerably**, during the course of one day as well as from one day or one year to the next. The demand for lighting is particularly difficult to predict, as it depends on meteorological data.

- ✓ Electricity is difficult to store, especially in large quantities, other than in pumped storage power stations. It must therefore be supplied in real time. However, the production of some forms of renewable energy (wind, but mostly solar) is **difficult to predict**. Gas can be stored more easily, but Belgian storage capacity is limited.
- ✓ On the European market, generating units are started up in accordance with the prices offered by the various operators, beginning with the least expensive real-time offers, until demand has been met. As a result, some thermal generating units have to be extremely flexible in order to be in a position at all times to inject enough energy into the grid to satisfy demand.
- ✓ On the wholesale markets, **electricity and gas prices fluctuate enormously and constantly** in line with the
  generating capacities available with regard to demand.
  If the available generating capacities are considered to be
  structurally greater than demand, prices tend to fall.
  They can, however, increase significantly from one day or
  one hour to the next, for example in the case of unforeseen
  outage. EDF Luminus must therefore constantly make
  decisions on whether to generate electricity with its own
  units or buy it on the wholesale markets. In addition,
  EDF Luminus must cover the risks incurred on those



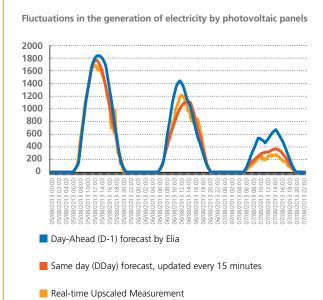
The fourth unit on the Angleur site, built in 2010, is an open cycle power plant with two 63 MW turbines that can reach full power in under ten minutes due to their low thermal mass. This "peak" power plant, as it is called, can supply the consumption peaks of 70,000 homes.

markets, since the sale of electricity to retail customers is based on a fixed or only slightly variable price.

## The need for increased flexibility in view of the development of renewable energy sources

The generation facilities that supply the grids are not interchangeable. Their cost, reliability and environmental impact all vary according to the sector.

Some energy sources provide the **basic production**, e.g. run-of-river hydroelectric power plants (EDF Luminus hydraulic power plants are all run-of-river), nuclear or coal power stations. In these cases the variable costs are lowest. Other units have the ability to cover the consumption peaks (the



The graph shown above shows the fluctuations in the generation of electricity by photovoltaic panels and the associated forecasting problems.

On this graph, we can see that peak sunlight periods vary from one day and one hour to the next. The peak time on August 5 was noon, with more than 1,700 MW recorded. The peak on August 6, however, was only 1,200 MW at 13.00 hrs. On August 7, production did not exceed 300 MW, with a maximum of 280 MW available at 15.45 hrs. Moreover, forecasts made the previous day are higher than reality on all three days, while those made every fifteen minutes on the same day are slightly above real production on August 5 and 7, but lower than actual production on August 6.

Source: Elia.

time when 'everyone' switches on kettles in the morning or the television in the evening). These are the most flexible units, those which are able to produce electricity instantly (gas-fired power plants, particularly open cycle plants, or oil-fired plants).

Given that renewable energy sometimes accounts for up to 20% of available production nowadays and given the large variations from one day or one hour to the next (more than 2,000 MW in Belgium for wind turbines, including offshore), it is essential to have extremely flexible reserve capacities that are capable of satisfying the varying requirements of the transmission system.

### Checks and balances... provided by a dedicated team

To optimise the various available resources in order to meet its commitments to its customers as cost-effectively as possible, EDF Luminus relies on a local team, the Trading & Supply Department.

This team works to protect the company and its customers from the uncertainties related to the fluctuations in demand, the significant variations in market prices and any unforeseen unavailability of production assets. Its goal is to adjust its supply-demand balance for all time horizons via the wholesale markets. Indeed, any imbalance between the energy delivered to customers and that supplied to the grid by EDF Luminus leads to expensive penalties.

In the very short term, adjustments are made 24 hours a day, every day, in order to respond to all possible situations, mainly related to the weather (temperature, wind, sun). The development of intermittent energy sources requires constant monitoring of the portfolio, much nearer to real time. In this way, EDF Luminus contributes to the full efficiency of the grid operator's balancing system.

## The EDF Group's support in optimising the EDF Luminus portfolio

To access all the wholesale energy markets and to optimise its short-term portfolio, EDF Luminus relies on the support and expertise of EDF Trading.

EDF Trading is an industrial trader established in Europe, the USA and Asia, trading in all commodities (electricity, coal, gas, CO<sub>2</sub>, etc.). This subsidiary of EDF has both land and sea transport resources, as well as real shore assets allowing it to significantly reduce the risks associated with a trading activity.

# Our sustainability challenges and our value chain

### A Belgian market heavily influenced by the European and global environment

In accordance with the recommendations of ISO 26 000, EDF Luminus has identified the activities under its direct control and those that come within its sphere of influence.

The diagram opposite illustrates the EDF Luminus value chain. The company directly controls some elements of the chain; these are obviously the aspects on which it focuses its efforts. However, EDF Luminus cannot ignore the complex connections, processes and consequences that affect the entire chain.

### For example:

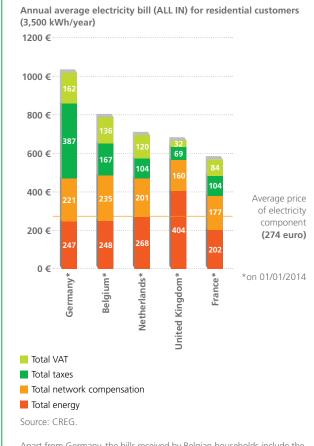
- ✓ EDF Luminus is dependent on world gas prices and changes in the price of the raw materials required to build and operate its generating facilities. This means that anticipating and mitigating industrial and financial risks is essential.
- ✓ Although EDF Luminus effectively controls its own energy mix, the latter depends to a great extent on the energy policy of each region, particularly with regard to the issue of the permits and subsidies for renewable energy sources.
- ✓ Downstream, the quality of invoicing depends on a number of factors, some of which are external: quality of data provided by the distributors, changes related to distribution tariffs, taxes, exemptions, etc. Regulatory changes are sometimes retroactive, which does not help customers to understand their invoices and generates extra costs in terms of implementation and recovery for the suppliers.
- The quality of the energy supplied, as with the security of customers' installations, is not within the purview of the supplier, who can only contribute to security under the terms of very specific contracts. In the case of the High Voltage offer, for example, those enterprises equipped with a high voltage station can ask EDF Luminus to carry out an in-depth analysis of measures to be taken to ensure that their installation complies with the law. Compliance checks, however, can only be conducted by an independent and certified body.

✓ EDF Luminus endeavours to help its customers to act responsibly by giving them advice on energy savings or suggesting adjustments to their monthly payments to bring them as close as possible to their actual consumption. However, total consumption, distribution costs and taxes paid by customers are outside the company's control.

The most illustrative example of the many factors influencing the activities under the control of the company is perhaps the final invoice received by the customer. In Belgium, it is the energy supplier who sends the customer an overall bill composed of the following elements:

- 1 the price of the energy supplied, gas and/or electricity;
- 2 transport and distribution costs;
- 3 local and federal taxes, surcharges and fees related to public service obligations (support for renewable energy sources, financing of social tariffs);
- 4 VAT.

For an average household, energy costs represent approximately 38% of the electricity bill. Transport and distribution costs represent another one-third of the bill (32%), while taxes, surcharges, fees and VAT represent 30% of the total. The energy share for gas is approximately 55%.



Apart from Germany, the bills received by Belgian households include the most costs in addition to the supply of energy consumed. In Flanders, almost 40% of the electricity distribution costs are not directly related to the management of the grid, but come from surcharges related to public service obligations. In Wallonia, this proportion is 23% for distribution costs alone, with surcharges included in transport costs. Excluding additional costs, the price of energy in Belgium is comparable to that in Germany or the Netherlands and is much lower than that of the United Kingdom.

No influence	Little influence	Direct control	Output
Educational system	Employee diversity	Safety and well being at work	Employee health
Labour regulations	Labour costs	Employee skills	Employee motivation and performance
Oil, gas, coal, uranium & CO <sub>2</sub> prices	Labour costs	Hiring & compensation policy	
Raw materials for generation units	Price of purchased materials and services:	Gas and electricity sourcing policy	
	computers, paper, offices, etc.	Responsible procurement	Global cost of purchases
Europeun, reu		Technical improvements when running or servicing plants	
	Subsidies for some energy sources	Energy mix optimisation by building, upgrading, or decommissioning power plants	Safety and comfort of residents
Technical improvements	Environment regulation	Permit requests	Ecological footprint
in power plants	Obtaining and renewing permits	Safety and efficiency levels of power plants	
Energy transport and distribution		Power plants operating costs	
		Investments amounts	Total generation costs
Meteo & climate		Customers' consumption forecasts	
	Flexibility and reliability of production units	Management of the balance	Real-time balance between general and consumption at a reasonable of
Real consumption	Heating, lighting and other energy needs	between generation and consumption  Energy efficiency offers	
of individual customers	Customers behaviour with regard to energy savings		
Distributors' visits to customers' sites	Installation of smart meters		
	Reliability of meter data		Safety of customers' installation
Transport & distribution costs		Margin level on energy & services offers	Energy selling price
Surcharges and taxes included	Price indexations	Energy price	
in energy bill Total amount of custom	Total amount of customer energy bill	Invoicing	Accurate bills
		Managing complaints	Customers satisfaction level
nstream activities	Activity related to people	Managing customers' debts	Unpaid amounts



# **Our Corporate Social Responsibility policy**

In 2012, EDF Luminus introduced a Corporate Social Responsibility policy with five key commitment areas consistent with the company's strategy:

- ✓ ethics and sound governance, primary motivations;
- ✓ customer satisfaction, a permanent and absolute priority;
- ✓ enough profit to preserve the company's future, as an essential foundation:
- ✓ innovation, environment protection and biodiversity conservation;
- ✓ people with all their dimensions: health, safety, diversity, vulnerability, both internally and externally.

### An annual action plan

To see this CSR policy turned into practical results, a number of initiatives have been taken and monitored by the Executive Committee within the framework of the company's transformation plan launched in 2012. In addition, regular meetings bring together the key positions in the company with regard to corporate social responsibility. This committee monitors the progress of actions taken and suggests new initiatives, with a view to helping every employee to integrate social issues into their daily tasks.

In 2013, the CSR action plan facilitated the following developments in particular:

- identifying the critical suppliers in terms of corporate social responsibility;
- ✓ refining the method of measuring the company's carbon footprint;
- ✓ sharing more information with stakeholders via the company's first sustainable development report.



### **EDF Luminus is a signatory of the United Nations Global Compact**

In addition to the corporate social responsibility policy published in 2012, EDF Luminus signed the United Nations Global Compact in its own name in November 2013. The EDF Group adhered to the Compact in 2001.

The UN Global Compact brings together a large number of companies that are committed to observing ten principles concerning human rights, labour, the environment and, since 2004, the fight against corruption.

Through this membership, EDF Luminus is committed to moving forward with the application of these principles and must provide evidence of the progress made on an annual basis.

### The ten principles of the UN Global Compact

### **Human Rights**

- **1** Businesses should support and respect the protection of internationally proclaimed human rights; and
- 2 make sure that they are not complicit in human rights abuses.

### Labour

- **3** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- 4 the elimination of all forms of forced and compulsory labour;
- 5 the effective abolition of child labour; and
- **6** the elimination of discrimination in respect of employment and occupation.

### **Environment**

- 7 Businesses should support a precautionary approach to environmental challenges;
- **8** undertake initiatives to promote greater environmental responsibility; and
- 9 encourage the development and diffusion of environmentallyfriendly technologies.

### Anti-corruption

10 - Businesses should work against corruption in all its forms, including extortion and bribery.

# Stakeholder dialogue takes many forms

The daily interactions of EDF Luminus with our various stakeholders (governments, regulators, administrations, shareholders, consumers, environment protection associations, etc.) enable us to identify their key concerns. The issues enumerated below are of varying levels of importance, depending on the stakeholder.

**Security of the energy supply.** This is a vital issue for the company, with electricity and heating being considered essential services. EDF Luminus regularly compares its assumptions regarding the production-consumption balance in the medium and long term with the positions taken by governments, regulators and other consultative authorities.

**Scarcity of resources and climate change.** These global threats influence both day-to-day activities and investment decisions with regard to reducing the company's ecological footprint. For instance, as a power generator, EDF Luminus has a duty to minimise its impact on the environment.

**Fuel poverty.** The extended economic crisis affects both households' and companies' budgets, as well as the profitability of both suppliers and distributors.

**Technological developments.** These also have an impact on the company's activities: new energy generation techniques, smart grids and meters, new methods of interacting with consumers, etc.

EDF Luminus is a member of the FEBEG (Fédération Belge des Entreprises Electriques et Gazières – the Belgian Federation of Electricity and Gas Companies), which has a seat on the CREG General Council. The General Council meets about ten times a year, not including meetings of the four working groups. It brings together representatives of public authorities,

industrial and residential consumers, trade union federations, grid operators, generators and suppliers, environmental associations, etc., totalling approximately forty members. One of its missions is to be a forum for debate on the country's energy policy.



## The CREG General Council: a qualitative dialogue

**Daniel Van Daele**, federal secretary at the FGTB, was the Chairman of the CREG General Council throughout 2013.

"As Chairman of the General Council and of the working group on prices, I have made it a priority to improve the technical knowledge of the members of the General Council and the transparency of our discussions.

The energy sector is extremely complex and plays a key role from an economic, social and environmental perspective. The General Council is a forum for dialogue that is sometimes lively but constructive, with each participant their point of view. In 2013, after lengthy discussions, we reached an agreement on the quality rules to be applied to public or private energy price comparison sites. This facilitates the work of the federal regulator.

In 2013, we appreciated the fact that EDF Luminus explained the profitability issues faced by its thermal power plants. The questions we ask are usually answered quickly and in detail. This is important to enable the Belgian market, which is heavily dependent on the international context, to function more efficiently."

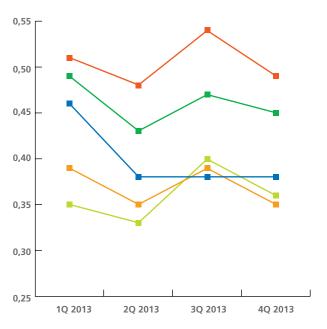
### **Customer expectations: a quarterly barometer**

To complete its analysis of stakeholder expectations, the company introduced a quarterly quantitative barometer in 2012. This enables the societal issues most important to customers to be prioritized.

## Measuring changes in expectations with regard to sustainable development

In 2013, this barometer shows that the main concern of EDF Luminus customers with regard to sustainable development remains the priority given to quality of service. The need for the supplier to be an "honest and responsible" company is also very important, far ahead of three other criteria, namely: the promotion of energy-related savings, the stability of the company, and the concern shown for at-risk customers. Seasonal variations are of little significance; they can be attributed to increased expectations at the end of the winter and in the autumn. The priority given to ethics and customer satisfaction, highlighted in the company's CSR policy, therefore remains highly topical.

CSR barometer: Quantitative assessment of Luminus customer expectations



Customers are given a number of possible suggestions to evaluate their expectations. The graph below shows the quarterly changes for five of the 12 items assessed.

- "The company must take the following action to satisfy me:
- focus on customers first
- operate honestly and responsibly
- encourage energy savings
- demonstrate its stability and provide security
- show concern for deprived customers"

### Wind farm projects: a direct dialogue with residents

In Wallonia, the process of setting up wind turbines requires the mandatory organisation of a public information meeting before any application for permits or licences.

Each project includes an impact study conducted by an independent firm. Residents' feedback is taken into consideration when developing the project.

In 2013, public meetings were held in Nandrin, Spy, Walcourt, Nives, Emines, Gouvy, Eupen, Dinant, Bastogne and Courcelles.

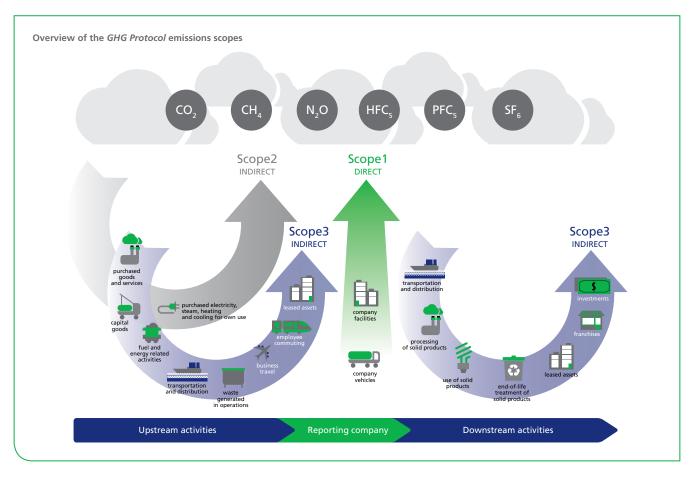
To find out more about the EDF Luminus wind farm projects, go to: http://edfluminus.edf.com/activities/production/wind-farm-projects-94775.html



Cover of the brochure used in Eupen to present the installation project of three wind turbines.

# Overall assessment of greenhouse gas emissions: a proactive action

The emissions from EDF Luminus generation facilities must be declared when they exceed a certain threshold. This is the case in particular with carbon dioxide and nitrogen oxide in both Flanders and Wallonia (ref. emissions related to generation p. 43). These declarations are subject to periodical internal and external audits. Above and beyond these legal obligations, EDF Luminus decided to measure its overall carbon footprint, in order to identify the most significant components and to prioritize actions undertaken to reduce it.



### A recognised methodology: the GHG protocol

The GHG (Greenhouse Gas) methodology was used to collect data and for the calculation itself. This was developed at the initiative of the WRI (World Resource Institute) and the WBCSD (World Business Council for Sustainable Development) in consultation with companies, NGOs and governments. This is the most widely recognised method internationally for carbon accounting.

The protocol covers the six greenhouse gases in the Kyoto Protocol: carbon dioxide ( $CO_2$ ), methane ( $CH_4$ ), nitrogen oxide ( $N_2O$ ), hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulphur hexafluoride ( $SF_6$ ). The data are presented in tonnes of  $CO_2$ -equivalent ( $tCO_2e$ ), with the other gases converted in accordance with their global warming potential.

The GHG Protocol classifies greenhouse gas emissions in three categories:

- ✓ scope 1, which groups direct emissions generated by the company's activity (emissions from power plants fired by oil or natural gas during the production of electricity; heating of buildings with in-house heating systems; emissions from company vehicles, etc.);
- ✓ scope 2, which includes emissions generated by the energy consumed by EDF Luminus in its own buildings;
- ✓ scope 3, which groups together the indirect emissions generated upstream and downstream: emissions related to the supply of fuel to the power plants (extraction, transport, etc.) or to the purchase of electricity and gas resold to end customers.

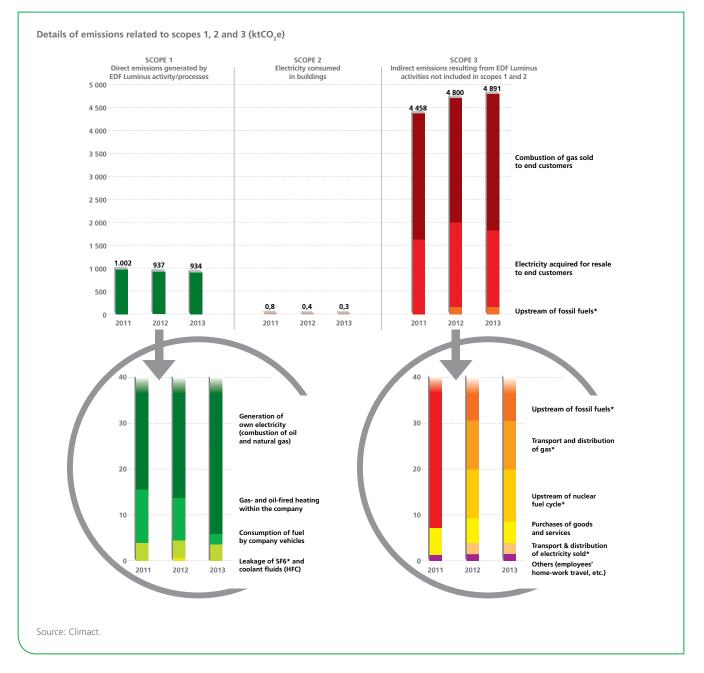
This distinction enables the identification of emissions for which the company is directly responsible (scope 1) and those generated indirectly, over which the company has more (scope 2) or less (scope 3) influence.

### Changes in the footprint since 2011

The balance of all emissions generated by EDF Luminus activities in Belgium amounts to 5,800,000 tonnes of CO<sub>2</sub>- equivalent in 2013.

On the graph opposite we can see that:

- ✓ More than half of emissions by EDF Luminus derive from the combustion of natural gas sold to customers (ref. scope 3). This figure depends principally on the country's economic situation, EDF Luminus' market share and on weather conditions. The 10% increase in consumption by EDF Luminus customers in 2013 is mostly due to increased heating needs during this cold year.
- ✓ The second GHG-relevant source of emissions, also included in scope 3, is represented by the supply of electricity to end customers with purchases made directly from renewable energy producers or on wholesale markets. These emissions fell by 9% in 2013 due to a drop in consumer demand and an increase in EDF Luminus own production.
- ✓ Emissions related to the generation of electricity in EDF Luminus power plants (scope 1) represent approximately 15% of the total footprint. This low figure is due to the energy mix of EDF Luminus, a low emitter of greenhouse gas. Moreover, the proportion of electricity generated by gas power plants has fallen substantially as of 2011. It was only 42% of the total in 2013.
- ✓ The other greenhouse gas emissions represent a low percentage of the total balance. They originate mainly from purchases of goods and services, business travel or home-work travel, the energy consumed in buildings and the transport and processing of waste. In 2013, the fall recorded is due to a lower consumption of electricity in some administrative buildings.



It should be noted that the scope of calculation of the emissions broadened between 2011 and 2012. The emissions presented for 2011 do not include SF6 emissions (scope 1 – of little significance with regard to the overall footprint) or those generated by the fuel prior to its purchase by EDF Luminus (scope 3), or those related to the transport and distribution of electricity and gas. These categories are marked with an asterisk \* in the graph opposite and represent less than 200,000 tCO<sub>2</sub>e in 2012 and 2013, i.e. 3.4% of the total footprint for 2013. Leakages of SF6 and coolant fluids do not appear on the graph in 2013 as they are below 70 tonnes.

# **Controlling and reducing emissions**

The emissions balance sheet helps improve knowledge of EDF Luminus' environmental impact, beyond the direct generation of electricity, and to refine the action plan for reducing direct and indirect emissions.

EDF Luminus' continuous investment in the maintenance and modernisation of its power plants and increasing renewable energy generation sources are two of the most important triggers for reducing its environmental impact.

EDF Luminus is nevertheless pursuing its efforts to keep employees well informed in order to influence behaviours.

Car fleet emissions are covered by a voluntary reduction policy. There are also incentives to encourage travel by train and bike. In addition, this carbon balance highlights the value of EDF Luminus' efforts to help customers reduce their own emissions through advice on energy savings, accessible to all on the Luminus website, and through a range of tailored commercial solutions (ref. €-Monitor page 28 and B2B solutions pages 30–31).

### Car fleet emissions: effective reduction

The average  $CO_2$  emissions generated by the EDF Luminus car fleet are continuing to fall. This is due to the fact that company cars are routinely replaced by less polluting vehicles, and voluntary decisions have resulted in the lowering of the maximum emission rate of company vehicles. In 2012, the Executive Committee took the decision to lower the authorised maximum emission rate per vehicle by 4g/km each year for four years.

As a result of these measures, average emissions fell from 138 g/km in 2011 to 126 g/km in 2013, i.e. an 8% reduction.

In 2013, 87.4% of EDF Luminus vehicles (6.5% more than in 2012) emitted less than 145 g/km, while 78% of leased Belgian vehicles emitted less than 145 g/km in 2012 (source: Renta, intermediate report 2012–2013).

Average CO, emissions for the vehicle fleet (g/km)



Source: EDF Luminus.



On December 9, 2013, EDF Luminus and Blue-mobility signed a partnership agreement in Hasselt in the presence of Ingrid Lieten, Flemish Minister of Innovation, and Hilde Claes, Mayor of Hasselt. This city, in which EDF Luminus employs almost 400 people, has provided 30 shared electric bicycles.

### Shared electric mobility: partnership with Blue-mobility

Beyond internal efforts, EDF Luminus encourages low carbon mobility externally.

### Blue e-bikes: the first automatic rental system for electric bicycles in an urban environment

The partnership with Blue-mobility promoting shared electric bicycles falls within the framework of the Flemish experimental platform *Olympus*, one of five platforms of the *Vlaamse Proeftuin voor elektrische voertuigen* (Flemish experimental platform for electric vehicles).

Blue-mobility is a shared bicycle project proposed by SNCB-Holding and FIETSenWERK vzw, in existence since 2011, operating from 41 railway stations throughout the country. The operating costs for 80 electric bicycles are covered thanks to the collaboration between EDF Luminus and Blue-mobility.

The Blue e-bikes are available 24 hours a day, 7 days a week, from various rental points with an automatic charging station. At the end of December 2013, they were available in Hasselt, Ghent, Ottignies, Namur, Liège, Mons and Brussels.

# Fuel poverty: two targeted actions

### Personalised contact with customers in difficulty

In spite of efforts to calculate monthly payments as accurately as possible, some customers may find themselves experiencing temporary payment problems. A customer's situation can be analysed, on request, by customer services, who will explore the possibility of staggering payments of the annual bill.

In 2013, there was a 7% increase in the number of payment plans granted to customers by the EDF sales department. The cold and lengthy winter was the main reason for this increase, which generated higher gas bills than expected for a significant number of customers.

Since 2012, EDF Luminus has made special commitments in order not to worsen the situation of vulnerable customers: customers are contacted proactively when their annual bill is much higher than expected; applications from customers in danger of being cut off are given priority. Also, EDF Luminus endeavours to encourage customers in difficulty to contact the social welfare agencies.

### Payment plans granted in 2013

Number of payment plans granted in 2013 for bills outstanding for more than 30 days, not including collective debt settlement schemes.



Source: EDF Luminus

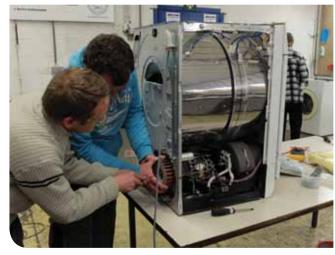
## Energy savings: partnership with the Resources Federation and écoconso

The Resources Federation brings together social economy enterprises involved in collecting, sorting and recycling all types of waste. Coming together under the electroREV label, a symbol of quality, associations that are members of the Resources Federation recondition domestic appliances and sell them second-hand. These appliances are guaranteed for six months.

EDF Luminus has supported the Resources Federation since the end of 2011. Actions are implemented with the support and expertise of écoconso, an asbl (non-profit organisation) specialising in environmentally friendly consumption.

A number of measures were taken in 2013 with the support of EDF Luminus to promote energy savings among visitors and customers of the Federation's 23 sales outlets:

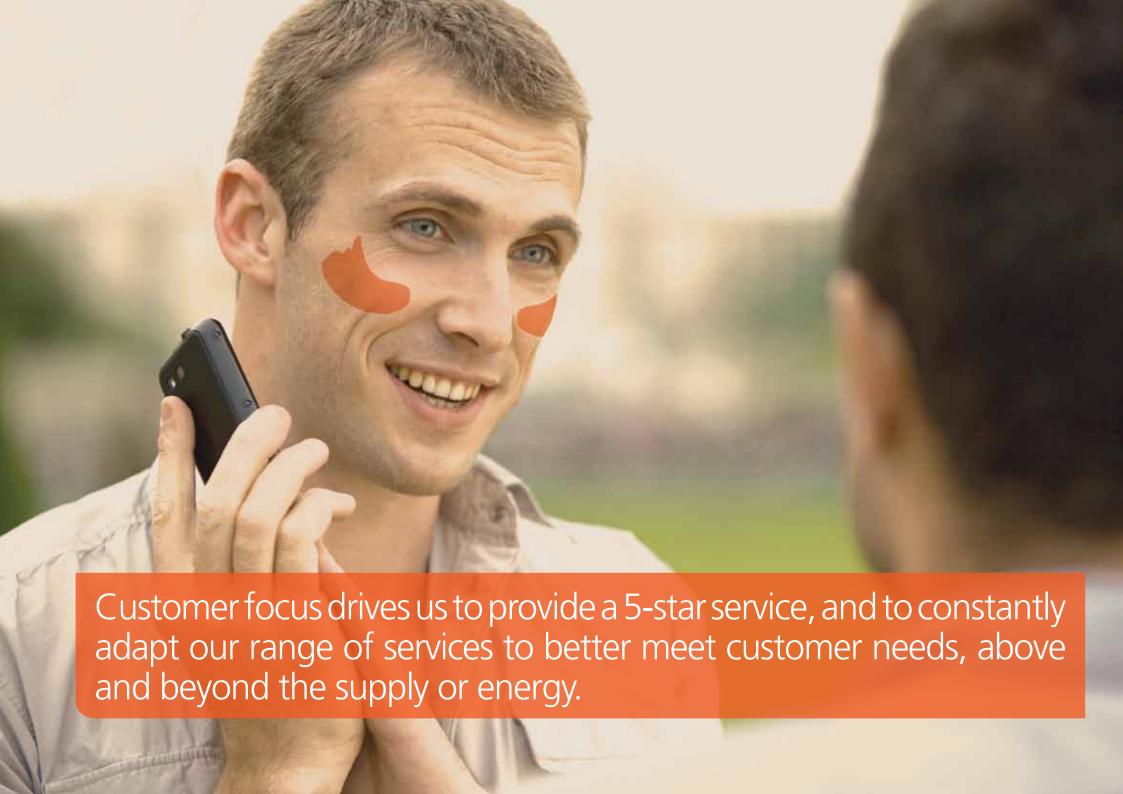
- printed instructions for using the appliances include advice on the best way to save energy;
- ✓ stickers were created and attached to the most frequently sold appliances to encourage energy-efficient use and proper maintenance;
- a brochure was published to explain why purchasing a second-hand washing machine can help to reduce the customer's ecological footprint.



Reconditioning of a clothes drier in the Le Hublot workshop, holder of the electroREV label. The asbl Nouveau Saint-Servais, an on-the-job training company that manages the workshop in Namur, is a member of the Resources Federation.



"Energy saving" stickers attached to washing machines and refrigerators bearing the electroREV label.



# Significantly improved customer satisfaction

EDF Luminus measures customer satisfaction in a number of ways. This gives us a clear understanding of the reasons for any dissatisfaction on their part and of any changes in their expectations, so that we can suggest continuous improvements to the quality of service.

An initial comprehensive indicator is determined from the results of a quarterly survey conducted among 2,000 consumers. This indicator shows that the level of customer satisfaction has remained higher than or equal to 7/10 over the last three years, with the 2013 result being the highest at 7.3/10.

### Results are up for all indicators

In 2011, customer satisfaction measurement in the week following contact with the EDF Luminus customer service department was implemented in order to obtain an accurate assessment of performance and make comparisons with the levels of service achieved in other economic sectors. The results at the end of 2013 show a positive change since 2011. For the B2C segment, satisfaction in 2013 reached 7.8, compared to 7.5 in 2011. On the B2B market, satisfaction also increased, with an average score of 7.5 in 2013.

Level of customer satisfaction within six months after contact with EDF Luminus Customer Service Department



Source: EDF Luminus

Customer satisfaction is also measured six months after a contact in order to check whether the short-term results have remained the same. According to Henri Buenen, Customer Service Director, "those results also show a significant improvement over 2013, confirmed by the award of the 5-star label in Flanders."



### Five stars for Customer Service: teamwork rewarded

In July 2013, the EDF Luminus Customer Service department achieved the highest rating awarded by the Flemish regulator.

The VREG indicator classifies energy suppliers in five groups, based on the number of admissible complaints received by the Flemish regulator and the Federal Service of Energy Mediation. The ranking is published on the Internet

and changes every quarter. Level 5 corresponds to a maximum of three complaints received for every 5,000 customers.

We were able to achieve the highest level for the first quarter of 2013 and throughout 2013 thanks to the creation of a multidisciplinary team, within customer services, which is aiming at processing and solving any customer issue within 24 hours. A number of EDF Luminus Retail units contributed to the success of the project: Customer Service Liège & Hasselt, B2B, Operations, Marketing, Sales, etc.

For Kathleen Vanden Boer and Yves Duchesne, team coaches in Hasselt and Liège: "To obtain five stars, it was not necessary to strengthen our teams or make any drastic changes to our procedures or IT tools. We already had everything we needed: our colleagues, their skills and their motivation. It was, however, necessary to adapt our attitude to ensure that it was directed towards "the customer and the real solution" in all circumstances. Quickly identifying the priority actions for each case, monitoring them and reassuring the customers about their situation is a daily undertaking. Staff empowerment and the challenge of transforming each dissatisfaction into satisfaction have been the driving force behind this success."

It should be noted that the number of complaints registered in Wallonia and in the Brussels region is approximately the same as in Flanders and that, as a result, EDF Luminus could have an equivalent label, were this type of certification available.

## Sustainable services for residential customers

### EDF Luminus customers can help conserve natural resources in a number of different ways:

- ✓ by prioritising payment by banker's order or direct debit and electronic bills
- ✓ by monitoring their consumption via the €-Monitor service
- ✓ by seeking energy-savings advice on the Luminus website.

### Billing: reduced paper consumption

EDF Luminus encourages its customers to use electronic billing and to pay by direct debit in order to reduce the consumption of paper. At the end of 2013, more than 57% of monthly bills were paperless, as opposed to 45% in 2009.

### Monthly paperless invoices issued



Source: EDF Luminus.

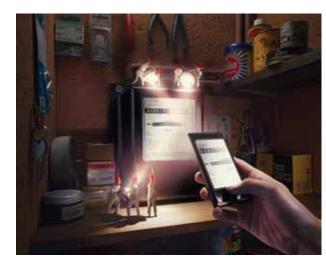
In 2013, EDF Luminus also encouraged its customers to exchange ideas on how to save energy. Those were published on the Luminus website

# **€-Monitor:** helping customers to manage their energy budget more efficiently

With the €-monitor service, EDF Luminus customers can benefit from a service that helps them better manage their monthly payments and avoid nasty surprises when the final statement arrives.

€-Monitor is a free service, included in all tariffs in 2013. It can be accessed on the Internet or via a smartphone. All you have to do is register on the Luminus website and enter your gas and electricity metering data to calculate your ideal monthly payments, in order to reduce the amount of your final statement. The customer is free to decide whether or not to adjust the monthly payments, which must remain realistic. Those customers approached in 2013 underlined the ease and clarity of using the service.

According to Jeroen Demeester, Marketing Director, "We have observed that this application is having some very positive effects. In general, those customers that want to be proactively informed about their situation are also keen to control their consumption. €-Monitor provides them with the means to control their budget effectively, in real time and 24 hours a day."



The €-Monitor service was the subject of an advertising campaign in 2013.

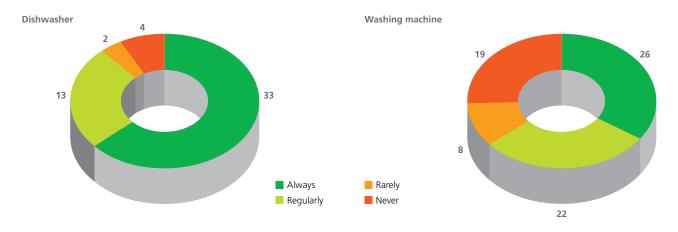
# Flexibility of residential consumption: initial results are encouraging

EDF Luminus is a participant in Linear, a research project that is supported by the Flemish government (www.linear-smartgrid. be). This project brings together Energyville (a collaboration between the University of Leuven, VITO and IMEC), iMinds, the grid operators EANDIS and INFRAX, and companies such as Telenet, Belgacom, Fifthplay, Miele, Viessman and Laborelec. Its mission is to study the emergence of "Demand Response" among residential customers in order to bring their consumption into line with the generation of wind and solar energy.

In order to discover to what extent residential customers can demonstrate flexibility with regard to their domestic appliances, some 200 families were supplied with smart appliances.

### A survey on demand response conducted as part of the Linear project

Half of them responded to a survey conducted in September 2013. This provided a better understanding of the motivation and behaviour of the families.



As part of the experiment, the families could chose the immediate start-up of the appliance, or schedule when the programme should finish, enabling Linear to start up the appliance at the most suitable time. The survey shows that flexibility has become a matter of routine for most of the families. Washing machines and driers achieve a comparable score in terms of flexibility, but the winner in all categories is the dishwasher.

80% of the participants state that they check their consumption at least a few times each month and one-third are already saving energy since replacing their appliances by carefully managing their consumption.

To find out more, go to http://www.linear-smartgrid.be/?g=nieuwsbrieven (in Dutch).

### **Statement by Edwin Steffens**



It really is very easy to adapt to the flexibility of domestic appliances.
At first, we would forget to start up the dishwasher, as it is concealed in a cabinet. We were afraid that our two dogs would not like the appliances

starting up in the middle of the night, but our fears were unfounded. The dogs were not disturbed and we do not hear the appliances either. The dishwasher in particular produces good results. Previously, we started it after the evening meal, and we do the same now, or almost. On the other hand, as my wife likes to do the laundry at the weekend, the flexibility of the washing machine and drier only comes into play for the last loads.



### **Statement by Penny De Beleyr**

With a family of five, the dishwasher gets filled up quickly and the laundry tends to get backed up too. In our house also, the dishwasher is the star performer. Initially,

I was slightly concerned about the clothes drier: was it okay to leave damp washing in it all night? It did not take long for us to realise that the drum turned occasionally to make sure that everything remained fresh. We usually fill the washing machine, the drier or the dishwasher in the evening, setting the end of the programme for the following evening. This allows us to get the maximum profit from the flexibility. In any case, we do not need these machines when we go to work or while we are asleep.

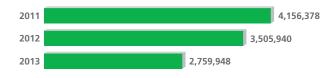
# Responsible offers for businesses

### **Guaranteed green contracts for companies**

The EDF Luminus Business programme enables businesses to select a supply contract accompanied by a guarantee of 100% green energy. This offer is available to large companies, public administrations, hospitals and educational establishments. The guarantees of origin allow the type of energy to be identified (wind, solar, hydroelectric or quality cogeneration), as well as the production site and other information for each MWh produced. EDF Luminus partly uses its own renewable production to provide guarantees of origin, but also makes additional purchases on international markets to meet the needs of its customers.

The volume of electricity sold through this programme has fallen regularly since 2011, partly due to the economic crisis, but also as a result of changes in the regulations that are less favourable than the tax regime applicable until 2011.

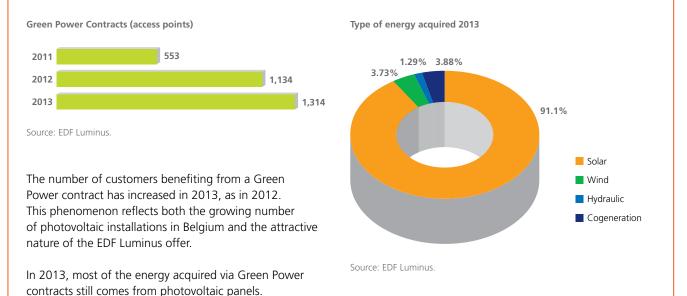
Volumes consumed under the terms of guaranteed green contracts (MWh)



Source: Declarations to the regulators within the framework of the reporting system on guarantees of origin.

## Buy back of "green" electricity produced by companies

One of the other services offered to businesses consists of buying the renewable electricity generated by their own installations when the amount generated exceeds their own consumption requirements.



# The trading platform: a new tailored service for private generators

In 2013, EDF Luminus introduced a new service for customers that generate high volumes of energy. By using the web interface provided, these customers can transmit the anticipated volumes and set the prices for which they are prepared to buy or sell with a few clicks of the mouse.

It is very easy for customers to communicate any changes to the volumes they wish to generate considering the latest market conditions. The customers can also consult their past production as well as the income and costs, using the 15 minutes production history, and adjust their offer if necessary to obtain better conditions.

In the opinion of Gregory Michiels, Director, Portfolio Management, "this completely automated system answers customers' expectations: they also want to anticipate rapidly changing market conditions. This is an additional offer that sets us apart from our competitors."

Customers particularly appreciate the platform's functions and ease of use, as demonstrated by **Tom Vlaemynck**, a glasshouse grower in Deinze.



"To grow tomatoes in a glasshouse you need a lot of heat. We have decided to equip ourselves with a cogeneration unit with sufficient power to satisfy our heating requirements. The thermal output is 9.5 MW, while the electrical power is 7.5 MW. Thanks to this installation, we only need a traditional back-up boiler to heat the glasshouse in an emergency. Also, we can use the  ${\rm CO_2}$  from the combustion gases to help plants grow. The gas is spread under the plants with the heat.

What I do not need however, is all of the electricity that we generate. Accessing the EDF Luminus trading platform therefore enables me to manage the cogeneration unit more efficiently. I can decide whether to sell the energy generated on the long-term market or the short-term market and benefit from opportunities. The collaboration with EDF Luminus and the trading platform help turn tomato growing into a profitable business."

### **Energy services adapted to businesses**

In 2013, EDF Luminus added to its range of services for businesses.

In addition to the 'High Voltage' offer, which makes it easier to comply with the law on high voltage stations, and the 'Condensers' offer, which helps avoid penalties for overloading the transport and electricity distribution grid, EDF Luminus launched the 'Relighting' offer in 2013, which facilitates the renovation of lighting installations. After undertaking an analysis, the EDF Luminus specialists put together an offer to finance the modifications needed to obtain greater comfort and improved safety at work, while reducing the energy bill. The proposed measures also help to increase productivity since they will allow the elimination of dark areas and glare, and adapt light intensity to better fit the actual customers needs.

EDF Luminus also offers businesses the 'You Balance' service, which remunerates customers when they authorise a reduction of their electricity supply during consumption peaks. Some operations can be briefly suspended by some industrial and service industry consumers without any impact on the quality of production. This is especially the case with refrigeration, pumping, drying, air conditioning, cogeneration units, etc. 'You Balance' improves energy savings, reduces CO<sub>2</sub> production and helps balance the grid during peak hours.

# Partnership with the Province of Liège: tangible progress

The Agreement signed between the Province of Liège, EDF and EDF Luminus, with a view to develop projects for Sustainable Cities and Municipalities, showed its first positive results on the ground in 2013. Among the pilot projects carried out in 2013, one concerns energy efficiency, the other electric mobility.



Meeting of the Provincial Council on 9 October 2013. Raoul Nihart, EDF Luminus project manager responsible for the partnership, updated the provincial councillors on the progress of the energy monitoring project at the Provincial Higher Education Institution.

### **Energy monitoring**

Energy monitoring entails continuously measuring the energy consumption of a building, not just at the main meters, but also by installing digital sub-meters in different places. These observe the behaviour of a building and detect any anomalies in consumption that would otherwise remain undetected.

In 2013, two projects were carried out with the support of Netseenergy, a French subsidiary of the EDF Group. The first, at the Seraing Olympic swimming pool, ended in August 2013. The second began in September at the Higher Education Institution of the Province of Liège.

## Location of the charging infrastructures for electric vehicles

The EDF Group's research centre EIFER, situated in Germany, has developed a decision-making tool to enable local authorities to identify the best locations to install charging stations for electric vehicles. Within the framework of the **Smart City Liège**, project, EDF Luminus proposed the use of this tool throughout the Province, in 84 cities and municipalities.

The tool takes a large quantity of geographical data into account, such as the locations of major employers, shopping centres, sports facilities, tourist attractions, residential areas, public car parks, roads, train and bus stations, airports, existing electric charge stations, etc. It also uses socio-economic information such as population density, the number and location of households with several vehicles, housing density, average incomes per household and per municipality, etc.

The tool then allows the number of charging points per type of zone and per municipality to be allocated, taking weighting factors into consideration as defined in close collaboration with the Province of Liège. Each combination of weighting factors defines a scenario and several scenarios have been developed in this way.

## André Gilles, Member of the Provincial Council – Chairman:

"Building an intelligent and sustainable territory, with a supra-municipal approach, requires effective tools. With regard to electric mobility and, more specifically, the location of charging infrastructures, EDF Luminus has provided us with a useful tool and their expertise to enable us to make smart decisions in this area."

The tool has been applied to the specific case of Eco-carsharing car parks. The purpose was to determine, on behalf of the province of Liège, which car parks should be given priority in terms of installing charging infrastructures to encourage Eco-carsharing and the use of public transport. Thanks to the EVITA tool, car parks have been classified in five categories with different priorities.



A 3-dimensional view of an Eco-carsharing Point.



# Strong impact of the price reduction on the 2013 result

### Stable revenues

EDF Luminus' turnover remained stable in 2013 despite the significant drop in sale prices implemented at the start of the year and the persistently competitive market.

Those decreases were partly offset by:

- ✓ The rise in electricity transmission costs in Wallonia, as a result of the buyback obligation concerning the green certificates of private producers imposed in Elia (the transmission and distribution costs must be paid to the grid operators and then billed to the customers);
- ✓ The increase in the volumes sold within the framework of the ancillary services provided to the transmission grid operator (increased demand for flexibility);
- ✓ The increase in the volumes of gas sold, particularly to residential customers, due to the cold temperatures in the first six months of 2013.

### Annual turnover in billions of euro



Source: Annual Report of the Board of Directors to the General Meeting of April 29, 2014.

### Significant fall in net profit

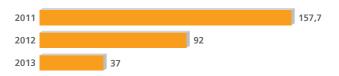
Since 2011, EDF Luminus' net profit has fallen significantly. In 2013, it represented only 0.9% of the turnover.

The net profit in 2013 was particularly affected by the following factors:

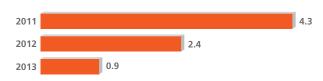
- the significant drop in the prices offered to residential customers at the beginning of 2013;
- the shutdown until June 2013 of two of the four reactors in which EDF Luminus holds a 10.2% share, Doel 3 and Tihange 2, due to indications of defects detected on the reactor vessels;
- ✓ the amount of the nuclear contribution, which remains very high (the total amount was 475 million euro in 2013):
- the low profitability of the thermal power plants, due to their less frequent use outside of winter peak times and ancillary services provided to the network; some assets, whose mothballing or closing was notified to the authorities, have been the subject of accelerated depreciation:
- the downward adjustment, since 2012, of the system for reimbursing the social rate to suppliers.

These unfavourable changes have led to the company reinforcing the cost reduction plan launched in 2012, which allowed a 10% reduction of fixed costs in 2013. This transitionally resulted in a non-recurring expense related to the reorganisation of the company and to the financing of the early departure before pre-retirement plan put in place for around 50 employees aged above 53.

### Net income in millions of euro



### Net income as % of turnover



Source: Annual Report of the Board of Directors to the General Meeting of April 29, 2014.

## Increased investments to build the future

In 2013, EDF Luminus launched an ambitious project to develop its wind farm facilities. As a result, investments in our wind farm portfolio have tripled between 2011 and 2013.



Lixhe hydroelectric power plant, December 2013: the machine which produces concrete is about to be started to rebuild the downstream hydraulic duct. The renovation of this power plant cost 4 million euro in 2013, of a planned total of 12 million over two years.

The key investments of 2013, double those in 2011, were devoted to:

- wind farm development, which accounted for more than two-thirds of the investment in the EDF Luminus generation portfolio, and almost 40% of all investments;
- ✓ the renovation of the Lixhe power plant, which will have cost 12 million euro at the end of 2014;
- ✓ the modernisation of the IT systems.

### Some important decisions in 2013

At the end of 2013, the EDF Luminus Board of Directors decided to invest in the renovation of the hydroelectric power plant in Andenne in order to replace two turbo-alternator units that are expected to return to service in 2015, with the investment totalling 9 million euro over two years.

The EDF Luminus Executive Committee also decided in 2013 to invest in the modernisation of the Ham electric power plant, which supplies the Ghent heating network. In 2014, two cogeneration units will therefore be installed and two oil burners replaced by gas burners at a total cost of 4.9 million euro.

In total, EDF Luminus plans to invest almost 100 million euro in renewable energy sources in 2014.



Source: EDF Luminus.

## Financing the current and future costs of nuclear facilities

As the holder of a 10.2% share in four Belgian nuclear power plants, EDF Luminus is required to contribute to the operating and maintenance costs of these plants in proportion to its holdings. The company also contributes to the provisions managed by Synatom, with regard to both the dismantling and management of the used fuel. Every three years, Synatom provides the Nuclear Provisions Commission with the methodology for the constitution of provisions, i.e. the underlying strategic approach, the development and implementation programmes, an estimate of the funding required and the completion and payment schedules.

## A balanced financial situation

### A healthy balance sheet

On December 31, 2013, the balance sheet total stood at 1,880 million euro, down 0.4 million euro compared to 2012.

The amount of shareholder equity was 856.5 million euro, of which 490.8 million euro was capital.

### Stable financial debt

The financial situation of EDF Luminus enables it to finance its investment programme. The long-term debt in particular remains stable and limited to one hundred million euro.

EDF Luminus intends to continue its investments, particularly in the field of renewable energy, to ensure its future in a changeable market.

### Taxes and contributions

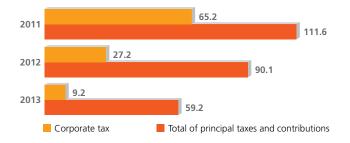
In 2013, as in 2012, the amount of corporate tax paid by EDF Luminus fell significantly due to a substantial decrease in the net profit.

Some taxes payable by EDF Luminus also fell due to the reduced workforce and less frequent use of the thermal power plants.

The total amount of taxes and contributions paid by EDF Luminus nevertheless remains very high, due in particular to the nuclear contribution. This was set at a total of 550 million euro in 2012, then at 475 million euro in 2013, negating any profit margin for EDF Luminus on its share in the Belgian nuclear generation units.

The total amount of taxes paid in 2012 was equivalent to the company's net profit. In 2013, this total represented more than 150% of the net profit.

### Taxes and contributions paid in millions of euro



EDF Luminus is liable for property tax, industrial tax, taxes on motive force and waste water and the nuclear contribution.

Source: EDF Luminus.

### **Dividends down**

The General Meeting of April 29, 2014 approved the allocation of the net profit after taxes for the 2013 financial year as follows:

- ✓ 1.85 million euro (5% of 37 million euro) was allocated to the legal reserve, in accordance with the law;
- ✓ 60% of the balance was distributed as dividends paid to shareholders, for a total amount of 21 million euro (as opposed to 43.74 million euro in 2012);
- the balance was transferred to other reserves, for a total of 14 million euro.

Source: Annual Report of the Board of Directors to the General Meeting of April 29, 2014.



# Electricity generation: Further decrease of the use of thermal plants

The total volume of electricity generated in-house by EDF Luminus has fallen considerably since 2011 due to the less frequent use of the gas-fired power plants. Between 2010 and 2011, production by the gas-fired plants fell by half (it was 5,054 GWh in 2010) and has since continued to fall.

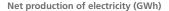
The gas-fired power plants are being used less and less frequently, due in particular to the reduction in the cost of coal and  $CO_2$ , thermal overcapacities in neighbouring countries, the continuing economic crisis and the development of renewable energy sources.

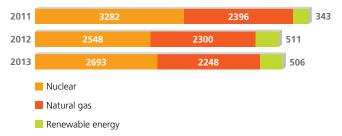
However, the gas-fired plants continue to play an essential role with regard to security of supply, particularly during winter peak times. Throughout the rest of the year, they are less frequently used (- 55% between 2010 and 2013), other than for supplying reserve capacities and ancillary services to the transmission grid operator.

The Ringvaart power plant, for example, operated for almost 7,200 hours in 2013, supplying R1 (primary reserve\*) and R2 (secondary reserve\*\*) system services. During the shutdown period planned for the Ringvaart plant, the combined cycle at Seraing was able to take over to continue to supply these services.

Since 2012, due to a series of modifications, the main EDF Luminus thermal power plants (Ringvaart, Ham, Angleur and Seraing) have been able to supply the primary or secondary reserves.

It should be noted that in 2012, as in 2013, the extended shutdown of the Doel 3 and Tihange 2 plants, in which EDF Luminus has a 10.2% holding, resulted in a marked fall in nuclear output in the EDF Luminus energy mix in comparison with previous years.





Source: EDF Luminus. In accordance with the recommendations of the GHG Protocol, this graph and those that follow include the figures corresponding to the share of EDF Luminus in Belgian nuclear generation (10.2% of four power plants). These figures do not include production associated with drawing rights on Chooz B (100 MW).

### Decisions affecting thermal plants in 2013: temporary or permanent closures

In 2013, EDF Luminus decided to notify the authorities of:

- ✓ the temporary shutdown (mothballing) of the combined cycle power plant at Seraing (485 MW) from July 1, 2014, the gas turbine at Izegem (22 MW) and two gas turbines of the combined cycle gas plant at Angleur (two times 39 MW) from April 1, 2015.
- ✓ the permanent shutdown of the open cycle power plant at Monsin (70 MW) and the "steam turbine" section of the combined cycle plant at Angleur (39 MW) from April 1, 2015.

## 2013: an exceptional year for hydro output...

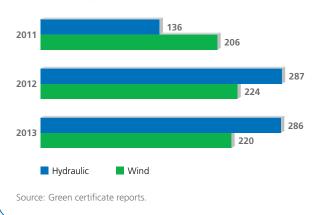
EDF Luminus results clearly demonstrate that the production of renewable energy can vary significantly from one year to the next, depending on the weather conditions.

In 2013, as in 2012 and unlike 2011, characterised by the lowest water levels recorded in Western Europe for 25 years, hydro production benefited from favourable weather conditions, particularly with regard to rainfall. This explains why production remained stable in spite of the planned shutdown of two units at the Lixhe plant during the second half of 2013 due to renovation work.

### ...but less favourable for wind

Furthermore, in 2013, the output from wind farms was slightly down due to a first quarter that was not very windy, although the production capacity increased regularly.

Renewable energy generated (GWh)



<sup>\*</sup>The primary reserve (R1) is initiated very quickly and automatically (0–30 seconds) and is used to maintain the grid frequency.

<sup>\*\*</sup>The secondary reserve can be initiated quickly (in under 15 minutes) on the instruction of the grid operator.

## **Development of the wind farm portfolio**

In 2013, two new wind turbines, the most powerful in Flanders, were built in the port areas of Ghent and Antwerp.



The wind turbine commissioned in December 2013 at the Marlux site. This turbine has been operational since November 2013.

The first, with an output of 3.4 MW, supplies the Marlux / Stradus Infra production site above. It will supply about 7,000,000 kWh of renewable energy annually, 80% of which will be fed into the Eandis – IMEWO distribution grid.

The second, with the same capacity, should produce 8,000,000 kWh per year, which is 17% more than the average due to its favourable location near the West Scheldt estuary. The total output will be absorbed by Evonik.

The installation of these two wind turbines will generate annual savings of 6,450 tonnes of  $CO_2$  compared to emissions from a thermal power plant. These savings are equivalent to the emissions from more than 2,795 cars<sup>1</sup> or 1,705 homes<sup>2</sup>.

The number of wind turbines operated by EDF Luminus increases every year. At the end of 2013, the company's wind farm portfolio contained 60 wind turbines, for a total of 124 MW.

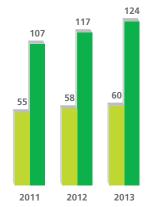
At the end of 2013, EDF Luminus accounted for 12% of the wind power capacity in Belgium, making it one of the market leaders.

In 2013, applications for licences were submitted in Eghezée, Dessel and Hoogstraten-Meer for a total output of 20 MW.

EDF Luminus enlists the expertise of EDF Energies Nouvelles for assistance during the design phase.







Source: VREG and CWaPE declarations.

### Constructing a wind farm: a long and difficult process

The average period for the development of a wind farm is at least five years, from the initial exploration phase until it is put into service. However, this period has become longer over recent years, mainly due to more frequent appeals.

#### ■ Phase 1

Initial studies and preparation of permit applications: this phase includes the feasibility study, the purchase of the land, environmental studies, as well as the preparations for the electrical connections and the permit application.

#### ■ Phase 2

Procedure for the issue of a permit: this phase lasts at least eleven months and is devoted to procedures at the regional or provincial administrative levels. It may be extended in the event of an appeal to the Minister or the Council of State.

### ■ Phase 3

Technical and legal studies conducted after obtaining the permits. An invitation to tender must be made to allow an investment decision. This stage lasts at least five months.

### ■ Phase 4

Actual construction, i.e. the time from the decision to invest to commercial operation, requires at least eleven months.

Pre-development and preparation of permits (26 months)

Permit procedure
(11 months or more depending on appeals)

Investment proposal (5 months)

Construction (11 months)

<sup>&</sup>lt;sup>1</sup> On the basis of 15,000 km/year and average emissions by Belgian automobiles of 152.5 g CO<sub>2</sub>/km.

<sup>&</sup>lt;sup>2</sup> On the basis of average emissions of 6,150 kg/home.

# Renovation of the Lixhe hydro-power plant: a major investment over two years

2013: dismantling, deconstruction and start of reconstruction

The hydroelectric power station at Lixhe, in service since 1980, generates an average volume of renewable electricity of 64 GWh per year, the equivalent of the yearly electricity consumption of 15,000 families. In September 2012, the Board of Directors of EDF Luminus decided to invest 12 million euro in modernising this 18 MW power station. EDF Luminus was assisted by EDF's Centre d'Ingénierie Hydraulique (Hydro-Engineering Centre) during the preparation and implementation phases.

The work planned for the replacement of two of the four turbines by two more efficient 3.5 MW power units with double settings began in May 2013 with the isolation of the upstream hydraulic tube by dams.

The new units will be installed during the summer of 2014. These will enable the river flow to be managed closer to natural conditions.

Two of the four existing power units will not be replaced and were able to operate normally during some phases of the project. Work is expected to be completed and operation resumed in the autumn of 2014.



- 1 Preparation for the dismantling: removal of the grating in the engine room, above the two turbo-alternator units to be replaced.
- 2 Disassembly and removal of the wheel mantel, a part fitted with sealed joints ensuring watertightness between the propeller and the rotor and which is situated directly around the wheel.















- 3 Start of dismantling the wheel, still situated below the stator.
- 4 Dismantling of the wheel on one of the units: the wheel is raised, turned then laid flat again to be taken to the dismantling area at the entrance to the plant.
- 5 Removing the stator before demolishing the flues and the machine room level to leave room for the new units, more compact but longer (the alternator is no longer around the wheel but at the end of it).
- 6 Preparing for the cutting of the stator in the disassembly area. All of the dismantled parts have either been removed to a specialist disposal facility or recycled in accordance with current legislation, particularly with regard to separating the copper and steel.
- 7 Removal of the distributor, a part situated upstream of the plant, whose guide vanes open and close to admit more or less water.
- 8 Narrowing of the downstream duct (here you can see the steel reinforcement) so that it can adjust to the smaller diameter of the new machines.

# Increased flexibility of the Angleur power plant

In 2013, a combined cycle plant at the Angleur site was converted to open cycle to better meet the market's flexibility requirements.

A combined-cycle power plant is optimal in terms of output, as the heat produced by the exhaust gases from the gas turbines is recovered to transform the water into steam and turn a steam turbine. However, a plant of this type reaches its nominal output in four to seven and a half hours, which does not allow time to respond to rapid variations in electricity consumption on the Belgian grid. An open cycle power plant starts up more quickly. It is therefore more frequently able to operate in support of renewable energy sources, such as wind and solar power, which are dependent on weather conditions.

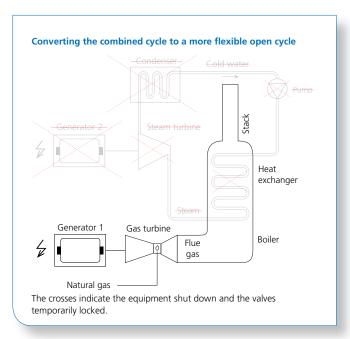
The process of converting the CCG3 unit ended in November with the qualification test of the two turbines for the supply of the tertiary reserve (power reserve that can be activated within 15 minutes at the request of the grid operator). To achieve nominal power in less than 15 minutes, it was necessary to:

- 1 temporarily seal off the steam part of the installation (see plan opposite);
- 2 make various adjustments and modifications to the gas turbine's control system;
- **3** change the maintenance procedures, as some components are used more in the new configuration.

This conversion, which is reversible, did not require any changes to the environmental permit.

It was possible to optimise the unit for the tertiary reserve by using resources mostly from within the Production Department.

In the opinion of **Didier Salmon**, Director of Production Projects, "This success is an example of the skills of our technical staff and our capacity to adapt to market requirements. Something to be very proud of! The authorities were nevertheless notified in December 2013 of the mothballing of this unit on account of the potential mediumterm use of the unit."



# Reduced water intake

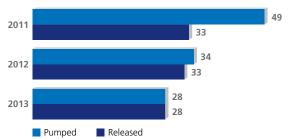
Thermal power plants have to be cooled by air via an air condenser or a cooling tower, or by the circulation of coolant water pumped into a river or the sea near the plant. The used water must be returned in accordance with strict conditions concerning chemical composition and temperature.

All of the liquid waste from the EDF Luminus power stations is continually sampled and/or tested to ensure that the limits imposed by the environmental permit are always adhered to.

Since 2011, the volumes of coolant water used annually have been low (less than one-third of the previous amount) due to the less frequent use of the thermal power plants.

In 2012 and 2013, it was possible to return virtually all of the water pumped through the cooling systems. The cooling tower at the Seraing plant was hardly used at all. Losses into the atmosphere through evaporation were therefore extremely limited.

Comparison between the pumped cooling water and the water released by the gas-fired power stations (millions of  $m^3$ )



Source: Reporting Administratie Waterwegen & Zeewezen, Flanders. Reporting REGINE - Service Public de Wallonie, DGO3 – Environment and Water Department.

# Fall in atmospheric emissions due to thermal power plants

### Slight fall in CO, emissions

The CO<sub>2</sub> emissions generated by EDF Luminus power plants have remained low since 2011 due to the reduced usage of natural gas-fired plants as a result of market conditions.

### Total CO, emissions (kilotonnes)



Source: Environmental reports. Figures audited and validated by the VBBV (Flanders) and Vincotte (Wallonia).

Total emissions for 2011 and 2012 show a slight difference compared to those recorded in the 2012 report since the final audit of these data was not available at the time of publication. The values shown here are definitive.

The CO<sub>2</sub> emissions produced by EDF Luminus for each MWh generated, at their lowest in 2011, rose slightly in 2012 on account of the extended shutdowns of the Doel 3 and Tihange 2 plants, in which EDF Luminus has a 10.2% holding. These shutdowns, which also affected the first five months of 2013, did not have the consequences observed in 2012 on the reported emissions per MWh produced, owing to a further decrease in the production of the natural gas-fired plants.

### CO, emissions (kg per MWh generated)



Source: EDF Luminus

### **Emissions of nitrogen oxide**

Emissions of nitrogen oxide by EDF Luminus have fallen significantly since 2011, with the increasingly infrequent use and then permanent shutdown of the Harelbeke power plant in 2012. These emissions have always been quite low, as the company has never operated a coal-fired plant.

The combustion system of the Ghent (Ringvaart) power station, modified in 2011, also contributes to the fall in emissions (-30% with regard to nitrogen oxide).

### Total NO<sub>v</sub> emissions (tonnes)



Source: Environmental reports.

In relation to the total volume produced, nitrogen oxide emissions remain very low.

### NO, emissions (kg per MWh generated)



Source: EDF Luminus.

### Significant fall in emissions of sulphur dioxide

Emissions of sulphur dioxide  $(SO_2)$  from the EDF Luminus production portfolio are extremely low. The vast majority of the EDF Luminus thermal power plants are fuelled by natural gas, the combustion of which does not result in sulphur emissions. The Harelbeke plant alone, permanently closed in 2012, accounted for 65% of the emissions in 2011 and 57% in 2012.

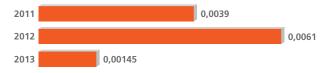
In 2013, the Ham and Monsin plants were still generating SO<sub>2</sub> emissions. Replacing the oil burners at Ham in 2014 and closing the Monsin plant in 2015 will result in a further significant reduction in this category of emissions.

### Total SO, emissions (tonnes)



Source: Environmental reports.

#### SO, emissions (grams per MWh produced)

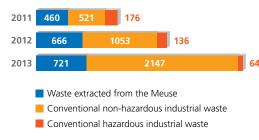


Source: EDF Luminus.

### Solid waste: the impact of the renovation of Lixhe

The industrial activities of EDF Luminus generate various types of solid waste, most of which is sorted and recycled (93% in 2013). The volume can vary considerably from one year to the next, depending on the volume of waste collected in the Meuse and on scheduled maintenance, construction or renovation projects.

Conventional industrial waste (tonnes)



### Collection of waste from the Meuse: about 700 tonnes every year

Every year, unless the water level is unusually low as in 2011 (the lowest recorded in 25 years), EDF Luminus collects about 700 tonnes of waste of all types. This waste is collected directly from the river, upstream of the hydroelectric plants, to maintain the flow and prevent any obstruction of the installations. EDF Luminus is therefore the largest collector of waste from the Meuse. The company bears all of the costs associated with the collection, sorting and recycling of the waste, whether it is of human or natural origin.

### Waste produced: increase in 2013 related to the deconstruction of Lixhe

Some conventional industrial waste, classified as hazardous or not, is produced during maintenance operations on power stations.

In 2012, the closure of the Harelbeke plant and the cleaning of the cooling tower's tank at the Seraing plant contributed to the increase in the volume of non-hazardous waste.

In 2013, the increase in the volume of conventional non-hazardous waste was due to the demolition of part of the Lixhe hydroelectric plant prior to the installation of two new turbines. This generated a large volume of deconstruction waste (almost 70% of the non-hazardous waste produced in 2013).

Outside the deconstruction of Lixhe, industrial waste fell in 2013 due to the decreased activity of some thermal plants and the fact that no large-scale maintenance operations were undertaken.



The demolition of part of the Lixhe hydroelectric power plant (here you can see the flues and the "engine room" level) generated a large amount of deconstruction waste, most of which was crushed and recycled.

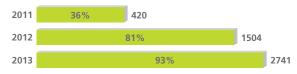
### **Recycled waste: increased volumes**

In 2012, EDF Luminus introduced a policy aimed at reducing the volume of waste sent to landfills. All waste extracted from the Meuse has since been sorted and recycled. The proportion of recycled waste has therefore risen significantly since 2012.

The volume of recycled waste varies from one year to the next, depending on whether or not the type of waste produced is recyclable.

In 2013, both the volume and the percentage of recycled waste increased substantially as a result of the deconstruction of part of the Lixhe hydroelectric plant prior to its renovation. This alone generated a total of almost 1,500 tonnes of crushed and recycled waste, more than half of all recycled waste.

Recycled waste (tonnes) and the proportion of recycled waste in relation to the total amount produced



Source: Reporting REGINE - Service Public de Wallonie, DGO3 - Soil and Waste Department. Reporting to OVAM, Openbare Vlaamse Afvalstoffenmaatschappij.

## **Protecting biodiversity**

As well as reducing environmental impacts, the regulations in force in Belgium are intended to protect certain endangered species and the locations at which they feed, reproduce and grow. Although none of the EDF Luminus installations is situated near a Natura 2000 reserve, the company is directly concerned with preserving biodiversity.







Sowing of the offsetting measures in September 2013. Photo 4 shows that the sowing in the spring of 2014 was already bearing fruit. The total surface area planted in 2013 was more than 30 hectares.



In particular, all of the projects likely to have a significant impact on the ecological balance are subjected to an impact study before an environmental permit can be issued. Similar studies are also conducted when the permits are renewed. Impact analysis includes preparing a list of the identifiable species near to the project. Particular attention is paid to protected species whose populations and habitats risk being damaged or disturbed.

### Mitigating the impact of wind farm projects

Wind farms are subject to very strict rules to limit their being sited in areas of high biodiversity. Most forests, areas frequented by migratory birds and some large lowland farming areas are to be avoided. In the Wallonia region, in particular, the regulations stipulate offsetting measures if a wind farm project presents a sufficiently high risk of damage to the biodiversity. These measures must be effective and efficient prior to the construction phase.

In 2013, EDF Luminus implemented offsetting measures as part of the construction project for the wind farm at Thuin in partnership with the Fauna and Biotopes Association. Plots of land belonging to nine farmers were sown in April and September 2013. Detailed specifications and individual schedules to be followed for five years were drawn up and given to the farmers.

The implementation of measures was monitored in August, September and November. Those three visits were an opportunity to analyse the effectiveness of the measures taken, and to already observe the presence of many songbirds.

### Continuing studies of fish behaviour

In 2013, EDF Luminus continued studies conducted at the Lixhe hydro-power plant in close collaboration with the relevant authorities. The objective is to better measure and reduce the mortality rate of the fish population during the crossing of hydroelectric power plants – and more specifically of salmon and eels. Experts from the EDF Group's Research and Development Department are involved in identifying ways to keep fish away.



## **Employment: key indicators**

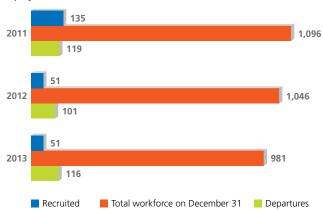
### Reduced workforce

Since 2011, EDF Luminus has made every effort to reduce its fixed costs in order to adapt to new market conditions. An initial reorganisation affecting about twenty people was launched in 2011. A new plan was launched at the beginning of 2013 and implemented from September onwards.

The workforce reduction was particularly significant in 2013, with a 6% cut, not including those who accepted the special leave plan for non executive employees above 53.

The recruitment level remains stable to meet the requirements for new skills, particularly with regard to development activities (wind power, digital applications, etc.).

### **Employee movements**



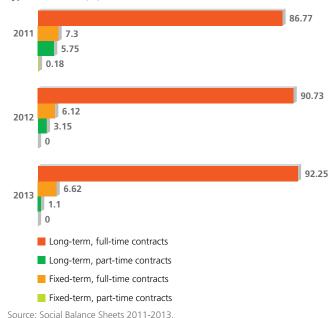
The total workforce includes part-time and fixed-term contracts as well as employees who have accepted the voluntary special leave compensated by EDF Luminus.

Source: 2011-2013 employment surveys

### Contractual stability remains high

The use of fixed-term contracts has become less frequent at EDF Luminus, particularly in those departments requiring specialist technical skills and extended experience. In absolute terms, this figure has been reduced seven-fold since 2011, with 11 fixed-term contracts in 2013, compared to 33 in 2012 and 82 in 2011. This decrease is largely due to improvements in the procedures that were causing work overloads. The progress of the company's transformation programme means that some contracts do not have to be renewed when they expire.

### Types of contract (%)



### Part time: a favourable framework

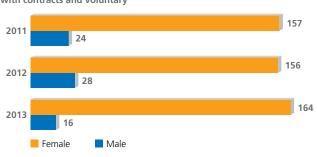
Some members of staff work part-time on a contractual basis (6.6% in 2013), while others do so on a voluntary basis (11.7% in 2013). The total number of part-time employees varied little between 2011 and 2013. However, the proportion of part-time employees in relation to the total workforce has increased in recent years. In total, the percentage rose from 16.5% in 2011 to 18.3% in 2013.

### 18.3% of staff work part time

The drop observed in 2013 in the number of men working on a voluntary part-time basis is partly due to the reorganisation of the Production department, while the increase in the number of women can be attributed to the implementation of the time-credit agreement, as a result of which 7.5% of staff have been able to receive time credit since the end of 2012 (the law imposes a 5% limit).

Those employees who have to care for a disabled child or a seriously ill family member or member of the household are given priority. Employees who are single parents, have one or more children aged under 12, or who are aged 50 or over also receive priority.

### Part-time employees on December 31, 2013, with contracts and voluntary



Source: EDF Luminus.

# Reorganisation and reduction of the workforce: significant developments in 2013

### Almost 80 people affected

In 2013, within the framework of a scaling down of the EDF Luminus cost structure, a plan to streamline the company was negotiated with our social partners and implemented from September 2013 onwards.

### This was a two-part plan:

- ✓ The relocation and reorganisation of some departments, with the centralisation in Brussels of the B2B Service Center, Accounting and Payroll. The costs associated with the mobility of the staff affected were fully funded by EDF Luminus.
- ✓ The launch of an early departure before retirement plan intended to reduce operating costs, particularly in Production.

This plan enabled some employees aged over 53, employed under previous statutory terms, to benefit from a special leave package paid by EDF Luminus.

A reorganisation of the production activities was also undertaken in order to introduce a less cumbersome structure better suited to the decreased activity or scheduled closure of some thermal plants. The introduction of this new Production structure and operating model began on December 1, 2013.

No redundancies were planned as part of this plan.

### **Change management**

Given the scale of the reorganisation in Production, each member of staff met with a manager to discuss his or her specific situation. This individual consultation process involved more than 200 people. In addition, at the sites most affected by the reorganisation, i.e. Ghent, Seraing and Angleur, psychological support was available to employees in case they asked for it.

Those employees whose jobs were transferred to another site received a list of the vacant posts at their site of origin to help them in their choice of a new job. A personalised evaluation was carried out to prepare for the change, as well as a training & development plan that was as specific as possible.

The business Partners team in the Human Resources Department monitored this plan, which could be adapted to take into account any difficulties encountered after starting the new job.

A monitoring committee involving both management and union representatives held several meetings to discuss possible problems, ensure the proper implementation of agreements and a successful outcome to the redeployment.

### A satisfactory provisional appraisal

At the end of 2013, the following figures applied:

- ✓ 2 people chose to leave the company
- ✓ 2 people accepted their post in Brussels on a temporary basis
- ✓ 10 employees agreed to carry out their duties in Brussels
- ✓ 11 people were admitted to the redeployment programme and were reappointed to a new post
- √ 49 employees accepted the early departure before early retirement package for non executives above 53, 45 of whom were from Production.



Maintaining the level of knowledge is a key factor when facing a reorganisation. Here, Claude Denoël, an employee who left on special leave since, explains to Daniel Cruciani, a colleague in the local operating team at Seraing, how to conduct the test of an important safety device on one of the three turbines at the Seraing plant.

### Some successful conversions: testimonies

Expecting a qualitative assessment of all the reappointments and conversions at the end of 2013 was not realistic. This will be addressed during 2014. However, it is now possible to highlight the success of some of the changes. Two employees provide evidence of this, as well as the problems that had to be overcome.

**Laurent Gilles**, Environmental Assistant at the Health, Safety & Environment Department, who was made Project Officer at the Strategy & Innovation Department



"Learning that the job you have been doing for seven years is to be eliminated to reduce the company's fixed costs is not easy.

As an Environmental Assistant in the EDF Luminus Southern Zone, I was involved in renewing environmental permits for some production units and set in motion the improvement initiatives for the recycling

of waste from the Meuse. I had invested a lot of time and effort in professional training closely related to my job, such as a master's degree in Environmental Management at HEC ULg, training at the Entreprise Perfectionnement Management (Advanced Management Company) and a course to become an internal ISO 14001 auditor. Let's say I was quite prepared to stay where I was...

It is very difficult to accept straightaway a change that wasn't your choice, and that you were not expecting. But with hindsight, perhaps it is because of what I had already learned that I was able to adapt to my new post. To do that, I had to take and pass a training course as an Energy Manager in the service sector. I am now working on the "Smart City" project for the Province of Liège, in a completely different department. The first step, which I managed to take successfully, was to familiarise myself with the EDF Group's energy monitoring tools. Since then I've been studying the specific features of electric mobility – quite a challenge!"

Annelies Wauters, an accountant who became storekeeper of the North warehouse



"When my post was transferred to Brussels as part of the optimisation of resources, several options for local redeployment were offered to me. I chose to apply for the post of warehouse storekeeper for the Ham and Ringvaart plants and my application was accepted.

I told myself that my experience in accounting and as a mother and my knowledge of the SAP software would be helpful in managing a warehouse.

But I knew I was going to have to find out about all the industrial premises, from the basements to the boiler rooms, and get to know all sorts of mechanical parts and the codes associated with them. I was very lucky for a month and a half to be able to follow three "teachers" around, who were extremely patient. And my experience in accounting was indeed useful to monitor orders and deliveries.

However, I had not imagined that driving the forklift truck would make me seasick... Luckily, the other trainees were very supportive. I did not have to deal with any of the usual reactions to women drivers – quite the opposite. I was also able to get my certificate after passing the mandatory exam, which enables me to manage the warehouse independently.

I have moved from a sedentary desk job to a very mobile post, I have some great colleagues, I've developed as a professional and as a person... Yes, it was a very big step, but I am extremely happy to have risen to the challenge!

## Clarification of training priorities in 2013

At EDF Luminus, each member of staff takes an active role in shaping his or her own training. A personal development plan is discussed each year with the line manager. This is part of a strategic framework approved at the highest level of the company.

The strategic priorities of EDF Luminus with regard to training, in line with the company's' mission

Customer centricity

Leadership

Business knowledge

Talent development

Sharing & Learning Mindset

Communication skills (incl language training, networking capacity;
Project & change management;
Personal efficiency (priority management/decision making;
Job specific trainings (including HSE trainings)

"Given that we have been undergoing large reorganisations for more than two years, we try to offer training courses that are increasingly focused on operational needs. Shorter, more practical, more immediately applicable by each trainee. This partly explains the fall in the number of hours devoted to "academic" training sessions. The evaluation of training courses is systematic, which enables us to make swift improvements."

**Ilse Matthijssens**, Learning & Development Manager.

The percentage of members of staff trained each year remains very high, which reflects the very technical nature and significant changes in the sector.

In 2013, the average for each trained worker was three days of training per year. Very few members of staff received no training in three years: just 1%, and half of this 1% were on special pre-retirement leave or long-term sick leave

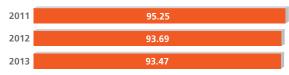
Hours of training compared with total number of hours worked (%)



Source: Social Balance Sheets 2011-2013.

These figures do not include the hours devoted to on-the-job training and e-learning, which were up in 2013.

Percentage of employees trained during the year in relation to the total workforce



Source: EDF Luminus.



One of the flagship training courses in 2013, the "Customer Certification Program", was taken by more than 850 people. This programme gave them a better understanding of the work done by customer call centres. Here, Sofieke Van Osselaer from the Trading & Supply department listens to Simon Bogaerts. One of the goals of this training course is to provide each employee with a better understanding of customers' needs and expectations so that they can take them into consideration on a daily basis.

### Mobility: a high rate of internal promotion

Most vacant posts at EDF Luminus are published on the company intranet for two weeks before being advertised externally. The line manager of an employee selected for a vacant post can under no circumstances oppose the transfer. Only the transitional periods, up to a maximum of eight weeks, can be discussed. This policy largely explains the fact that a large part (44% in 2013 and 58% in 2012) of vacant posts are filled as a result of internal promotion.

A succession plan was formalised and implemented to facilitate the appointment of employees to new posts during the reorganisation.

The EDF Group's methodology was also used to construct a programme intended for employees identified as having high potential. Experienced managers in particular benefited from training courses organised at Group level to enhance their ability to innovate and to analyse objectively in the face of major changes in the Belgian market.

### International opportunities

As a subsidiary of an international leader in the energy field, EDF Luminus is now able to offer its employees career opportunities outside of Belgium. Since 2009, six EDF Luminus managers have been selected for such posts, in France or elsewhere within the Group. There were eight experienced expatriates working for EDF Luminus in Belgium at the end of 2013

### **EDF Luminus: the only Top Employer in the energy sector**



**Steven Van Raemdonck**Top Employers België/Belgique
Senior Account Manager



In 2013, EDF Luminus was awarded the Top Employer label for the first time, together with 53 Belgian companies. EDF Luminus is the only Belgian energy sector company to have been awarded this label so far.

The label considers the merits of Belgian employers in accordance with five categories: pay practices, working conditions, training and development, talent management and management culture.

"Achieving the Top Employer label requires a voluntary approach on the part of the company, as well as complying with or exceeding standards with regard to Human Resources policy. The information collated in the questionnaire is verified and validated on site by random audits, which gives the label great value.

Some companies do not obtain the label in the first year, having to wait until the next. The certification also enables the company to receive detailed feedback on its practices to identify any positive changes that need to be made.

In the case of EDF Luminus, the required score was achieved in all areas. However, two strong points were identified:

- ✓ performance-related bonuses for all job levels;
- ✓ professional development and particularly the involvement of managers in defining the training plan.

The points to be reinforced concern bottom-up communication and the management of exit interviews, which remain important, even essential, during a reorganisation period.

On the basis of the declarations and appraisals made in 2013, EDF Luminus was able to obtain the label for the second year, with a 24% increase in its overall score, which is quite remarkable."

## Health, safety and incident prevention

In order to be able to monitor and improve performance in this field more effectively, EDF Luminus has introduced a complete management system for health, safety and the environment. This is focused on the continuous improvement and systematic reporting of a number of indicators by the Executive Committee and the Board of Directors.

### ISO 14001 and OHSAS 18001 certification for all activities

In June 2013, EDF Luminus obtained ISO 14001 and OHSAS 18001 certification for all of its sites and activities. ISO 14001 is an international environmental management standard, while OHSAS 18001 is an international health and safety standard.

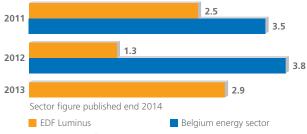
### Frequency rate

The frequency rate registered by EDF Luminus in 2013 (2.9) remains lower than the frequency rate of the Belgian energy sector (3.8 in 2012).

In 2013, there were four accidents resulting in a work stoppage of more than one day, compared to two in 2012. These were "slip, trip and fall" accidents not related to industrial risks. The causes of each accident are nevertheless analysed in detail to reduce risks related to the working environment or to individual behaviour.

### Frequency rate of accidents resulting in lost time

The frequency rate represents the number of accidents leading to incapacity per million hours worked.



Source: Annual report of the internal prevention and protection at work department. Occupational Accidents Fund.

The only accident recorded with regard to subcontractors was also a slip, trip and fall accident involving a member of the administrative staff

### **Overall severity rate**

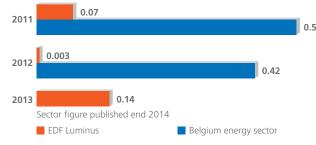
The overall severity rate recorded by EDF Luminus is significantly lower than that for the energy sector in Belgium (0.42 in 2012). The four accidents resulting in absence from work resulted in 197 days of incapacity to work. The severity rate consequently stands at 0.14 (0.003 in 2012).

No accidents resulting in death or permanent disability were recorded.

EDF Luminus also complies with Belgian legislation requiring companies to give certain staff members the task of preventing and managing psychosocial incidents.

#### Overall severity rate

The overall severity rate is the number of working days 'lost' due to workplace accidents per 1,000 hours worked.



Source: Annual report of the internal prevention and protection at work department. Occupational Accidents Fund.

### Confidential counsellors more called upon

Confidential counsellors, whose appointment must be approved by the social partners, play an important preventive and curative role

Véronique Vansteelandt, General Counsel: "In 2013, confidential counsellors were called upon more frequently than in previous years. The reasons for approaching a confidential counsellor were analysed, while maintaining the confidentiality of the information gathered. In a very difficult regulatory and economic environment, the company is experiencing a period of major organisational and operational changes intended to make the organisation more flexible and efficient. In the short term, this results in a significant amount of additional work that can become a source of tension between managers and staff. Such a period of transition also causes concerns about the future of the company and its employees. Some professional redeployments can prove to be difficult experiences, hence the importance of this monitoring and of the open communication training for managers to enhance their listening skills."

#### Cases reported to confidential counsellors



Source: Annual report of the internal prevention and protection at work department.

## **Diversity: little change in 2013**

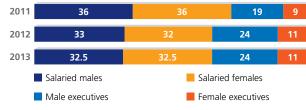
EDF Luminus believes that diversity in the workplace is a beneficial factor that encourages innovation and the ability to adapt to the needs of customers. As a result, EDF Luminus applies a zero tolerance policy with regard to all forms of discrimination or bullying in the workplace.

### Women are well represented

Women represent 43.5% of the EDF Luminus workforce. The number of women in non-management positions corresponds exactly to the figure for men. The lower representation of women in management posts is partly related to the seniority of staff in the production departments, traditionally more of a male environment, by comparison with the commercial and operational departments, formed more recently and with a younger population and a larger proportion of women.

The remuneration policy of EDF Luminus managers is based on a rigorous assessment of positions and responsibilities, which contributes to professional equality between men and women, guaranteed by Collective Labour Agreement no. 25.

### Breakdown of personnel by gender (%)



Source: EDF Luminus.

### **Disabled employees**

EDF Luminus currently employs two people whose disability requires an adjustment of the working environment. This number has remained stable over the last three years.

Since 2011, disabled employees have been able to contact a Correspondent if they have a problem. EDF Luminus can thus be sure that these individuals feel welcome and that any problems they may encounter will be identified and dealt with in the most appropriate way. A specific action plan is drawn up each year and its progress monitored.

### Ten nationalities

Ten nationalities were represented within the company as of December 31, 2013. 96% of the EDF Luminus workforce are Belgian, while French, Dutch and Italian employees each represent approximately 1%.

The number of non-Belgian employees fell in the same proportion as the total workforce (-10.5%) from 2011 to 2013.



The billing team at the Liège service centre (from left to right, Laura, Eleonore, My and Stéphanie) discussing the best solution to offer a customer.

## Solidarity: daily voluntary commitment rewarded

In 2013, EDF Luminus was able to demonstrate its commitment to diversity and solidarity through a number of projects:

- ✓ In June 2013, 15 diabetics were able to climb the Stelvio Pass a 20-kilometre ascent and a height difference of 2,000 metres with the support of EDF Luminus. Five of them, together with Lucien Van Impe and the Flemish Minister for Welfare, Jo Vandeurzen, completed the challenge on electric bicycles.
- ✓ In October 2013, EDF Luminus sponsored Cap 48's programme to support disabled people. During the RTBF programme, two teams of 14 people, four of whom were disabled, took on the challenge of pedalling for 10 hours at a stretch on two stationary bicycles provided by Luminus, the aim being to accumulate real or virtual kilometres.
- ✓ In December 2013, five Belgian associations received financial support under the We Love Your Project programme, which encourages voluntary work by the company's staff.

Created in 2011 within the framework of the European Year of Volunteering, the We Love Your Project programme rewards associations in which EDF Luminus employees are personally involved. This is done on an annual basis following a rigorous selection process.

### Five Belgian associations have received financial support

Each submission is examined by a panel referring to a number of strict criteria: degree of involvement in the organisation, innovative nature of the project, how closely related it is to the company's activity, and long-term impact.

In 2013, five Belgian organisations active in the support or inclusion of people with serious problems (physical or mental disability or cultural disadvantages) received financial support amounting to a total of 17,000 euro.



The annual fête of the Pleegzorg Limburg association. The foster families enable children separated from their parents by judicial decision to recreate a protective "bubble" to encourage their development.

### **Pleegzorg Limburg**

The jury's special prize was awarded to the Pleegzorg Limburg association and to Tim Kusters, Customer Service, for his daily commitment as a foster parent. Tim, his wife and their two daughters aged 7 and 5 foster a three-year-old boy who was separated from his parents by a court order and is not eligible for adoption. The prize was used to fund the annual fête held for the children fostered with families belonging to the association

### **Dyadis**

The "gold" prize was awarded to Monique Marchal, B2B Sales, who involves her whole family, husband and children, in the training of assistance dogs for people with reduced mobility. Since 1994, Dyadis has selected and bought puppies that were provided free of charge and have undergone 18 months

of training with three successive host families to people in wheelchairs to increase their independence and provide them with the support of a friendly presence. Monique's project also received the staff prize, awarded this year for the second time, after a vote involving more than half the workforcel.

### The Voice of Women

The Voice of Women association, which works in Brussels for vulnerable teenagers, received the silver prize thanks to the involvement of Marco Boedts from Trading & Supply.

### Two bronze prizes

Two bronze prizes were awarded in 2013, thanks to savings made through paperless programs.

The first was awarded to Dinh Nguyen-Phan, from the Trading & Supply department, for his involvement with the Vietnamese Professional Society, which encourages academic and scientific exchanges between Belgium and Vietnam and the integration of Vietnamese students in Belgium.

The second was awarded to Sarah Mommens of the Customer Service department, and to G-Football, for enabling physically or mentally disabled children to practise a very popular sport.



One of the beneficiaries of the Dyadis association's activity.

## Key economic, social and environmental indicators

This report contains general and sector Standard Disclosures from the GRI4 Sustainability Reporting Guidelines. Among them the following:

	Ref. GRI	Page(s)
CEO statement regarding Sustainability	G4 - 1	11-13, 19
Organization's headquarters	G4-5	56
Total number of employees & operations	G4-9	4, 5
Net sales, Quantity of products or services provided	G4-9	4, 34
Total capitalization broken down in terms of debt and equity	G4-9	36
Key topics and concerns raised by stakeholders	G4-27	21
Reporting period	G4-28	2
Contact point for questions	G4-31	2
Governance structure and committees	G4-34	9
Net energy output, broken down by primary energy source	EU2	38
Total amount of renewable energy generated by source	OG3	38
Demand-side management programs for customers	G4-DMA	29, 31
Total water withdrawal by source in thermal power plants	G4-EN8	42
Biodiversity: approaches to assess impacts, to conserve and rehabilitate habitats	G4-DMA	45
Direct greenhouse gas emissions (scope 1)	G4-EN15	23
Indirect greenhouse gas emission (scope 2)	G4-EN16	23
Other indirect greenhouse gas emissions (scope 3)	G4-EN17	23
NO <sub>x</sub> , SO <sub>2</sub> and other significant air emissions	G4-EN21	43
Total weight of waste by type and disposal method	G4-EN23	44

The French and Dutch version of the Sustainable Development report you are reading were printed using vegetable based inks on 100% recycled paper. This paper was awarded a number of environmental certificates: ISO 90001, ISO14001, OSHAS 18001, NAPM. It also carried the FSC label and the EU ecological label.

The  $CO_2$  emitted during the production of this report was offset via the purchase of emission certificates within the framework of the forest protection project in the "Kasigau Wildlife Corridor" (in Kenya).

The project was set up to protect the existing dry forest and savannah over an area of almost 170,000 hectares. Each year, this project offsets the equivalent of 1,000,000 tonnes of CO<sub>2</sub> and provides work for more than 200 local inhabitants, giving them the opportunity to build themselves a sustainable future.

### In addition to those mentioned in this report, the following individuals assisted with its preparation:

Ben Aelbrecht | Nele Aendekerk | Pierre Aumont | Delphine Bailly | Yann Baros | Marc Beckers | Stéphanie Béchet | Martine Beke | Vanessa Beltrame | Peter Billiau | Michele Bouhon | Henri Buenen | Agnès Butterlin | Marc Caes | Laurent Catenos | Frédéric Cattareggia | Yve Claes | Christian Collin | Eliane Corbeel | Steven Cremmery | Erwin Daelman | Katleen Daems | Chantal Dalimier | Michael Dasnois | Nico De Bie | Coralie Delagrange | Amandine Delalieux | Benoît Deliège | Frédérik Demaret | Jeroen Demeester | Vincent Denis | Jo Demol | Jürgen Dennersman | Griet Depaepe | Michele De Pauw | François Desmaré | Els Devalez | Oriane De Vroey | Jean-Luc Fagnoule | Alessandro Frangi | Arlette Frederic | Anne-France Fontaine | Arnaud Fraikin | Vincianne Gillard | Laurent Gilles | Anne Grandjean | Kris Hackars | Stéphane Hacquin | Sonja Haustein | Dimitri Hovine | Bert Kempenaers | Xavier Leblanc | Simon Lehane | Gaetan Leemans | Xavier Leroy | Isabelle Liebens | Geert Leppens | Johan Lisabeth | Geert Maes | Monigue Marchal | David Marciniak | Emmanuel Masguelier | Michel Massin | Ilse Matthijssens | Pierre Mazeau | Gregory Michiels | Gregory Missiaen | Filip Modderie | Jonas Moerman | Jean-Christophe Mollaret | Françoise Morbois | Martine Moreau | Nicolas Moyne | Kris Neiss | Marleen Niisten | Raoul Nihart | Pierre Nihant | Xavier Pascolini | Gregory Paternoster | Filip Peperstraete | Colette Piermont | Sébastien Piret | Katja Princen | Aline Prins | Hilde Provoost | Patrick Pruvot | Raoul Raaijmakers | Véronique Reff | Patrick Robijns | Christian Robin | Céline Rycerski | Didier Salmon | Koen Schaillée | Frank Schoonacker | Yannick Soarès | Olivier Sorini | Bart Swings | Pierre Theunissen | Jean-François Tock | Morgane Tock | Nico Vandamme | Jan Van der Steen | Geert Van de Velde | Koen Van Hoey | Philip Van Poppel | Véronique Vansteelandt | Jeroen Verbeeck | Sven Vercalsteren | Patrick Verhasselt | Tom Verheyen | Kris Vervaet | Aude de Villenfagne | Philip Volckaert | Malou Wezemael

#### Photos:

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The photos on pages 18, 26, 33, 37 and 46 illustrate EDF Luminus values. They were used in 2012 by the Hoet and Hoet agency during an internal information campaign on changing company values.

The campaign's message was that each member of the "EDF Luminus tribe" has a duty to be customer-oriented and personally committed, to demonstrate creativity and to seek continuous improvement, while respecting colleagues and stakeholders.

### Graphic design:

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