

Annual report –2018–

Synatom



Excellence in nuclear fuel cycle management

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OUR MISSION

Synatom's activities have two main focuses.

The nuclear fuel cycle

Synatom is responsible for activities upstream of the nuclear fuel cycle (the front end) until the enriched uranium is supplied to the assembly production plant.

From this point on, the operator, so in this case ELECTRABEL, manages the fabrication and use of fuel assemblies in the reactor core and their transfer to the spent fuel pool.

Synatom then takes charge of the process downstream of the fuel cycle (the back end), so the management of the spent fuel up to the time when it is passed on to the Belgian Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF/NIRAS). These days, this by and large means interim storage on the Doel and Tihange sites.

Nuclear provisions

Synatom establishes nuclear provisions, i.e. sums of money to eventually cover the expenses of nuclear power plant decommissioning and the management of spent fuel.

Synatom also takes care of public service obligations, seeing to the annual collection of the special contribution for nuclear activities, or nuclear tax, on behalf of the Belgian State.



OUR VISION

Synatom takes a long view.

Synatom firmly believes that nuclear energy remains a key part of the energy mix.

Be it in Belgium or elsewhere in Europe or the world, nuclear energy has a role to play in the economic developments of the future, which must seek to make progress towards steadily reducing greenhouse gas emissions.

As such, Synatom is determined to offer the best possible price for the long-term supply of fuel.

In Synatom's view, we can learn a lot from the decommissioning of nuclear facilities around the world, as they facilitate accurate judgements on the financial resources needed to eventually decommission Belgium's nuclear power plants.

Synatom expects the ongoing research on radioactive waste management to lead to significant technological improvement.

OUR VALUES

In carrying out all its activities, Synatom abides by four inextricably linked values:

Exactingness : Synatom adopts the highest possible standards. It applies the best practices and constantly develops pragmatic, cost-justified solutions.

Commitment : Synatom is committed to guaranteeing a safe supply of nuclear fuel as well as an adapted management of spent fuel. Synatom manages financial provisions in a spirit of complete transparency and exercising excellent judgement.

Proactiveness and responsiveness : Synatom foresees developments and responds quickly and judiciously.

Openness : Synatom invests in research and development. It develops trust-based relationships with all of its partners.

MESSAGE FROM THE CHAIRMAN

The management of radioactive waste is fundamental for meeting our commitments to future generations. Final storage of it in facilities that guarantee safety for citizens and the environment, is an indisputable legal obligation.

This is particularly true when it concerns medium to high level and long-lived waste from the nuclear fuel used in power plants.

As owner of the nuclear fuel, Synatom is very conscious of its responsibilities and makes every effort to meet the obligations incumbent on it now and in the future.

But what is the situation at the end of this decade for this last category of waste ?



Many uncertainties

1. **The national policy** for long-term management of long-lived waste of medium to high activity has not yet been decided.
2. The **lay-out project** of future underground storage for waste disposal is fundamentally modified.
3. Furthermore, **there is no consensus** on the host rock or its depth.
4. The **phasing and timing** of the project are, according to the best estimate, extended by nearly 30 years.

Given this host of persistent uncertainties surrounding the very fundamentals of long-term management of fuel cycle waste, Synatom must be particularly careful to avoid the side effects the current situation could lead to.

Didier Engels, Chairman

AND THE CHIEF EXECUTIVE OFFICER

Building trust

Postponement of the decision results in a sense of powerlessness. In addition, the growing number of trial balloons only heightens public scepticism and **mistrust**. However, it is quite the opposite of what should be done, i.e. rebuild confidence and visibility. This should be the main focus of the final solution. Let us not forget that, regardless of the techniques adopted and the guarantees offered, public agreement must be found in order to develop this final solution.

System equity

This is a reaffirmation of our financial commitments to cover the costs related to fully managing radioactive waste from the nuclear fuel cycle. At the same time, we are keeping a very close eye on the fairness of the measures that Belgium wants to put in place. We are aware of our obligations and fully accept them. On the other hand, we cannot agree to enter a system which is a « **bottomless pit** ». You can't honestly develop concepts today which require huge investments for an effectiveness that is always contested.

Sending strong signals

As generations that have benefited from the undeniable economic advantages of nuclear electricity, we are now obliged to implement sustainable solutions for management of the resulting waste.

The challenge is significant for all actors in view of the initial observation. But there is no possible alternative, we must act. We must create opportunities to work with the Belgian Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF) to lay the foundations for proactive waste management.

Isn't it time to officially assert what works ? Is it not possible to establish now all the conditions that will lead to a safe and acceptable solution for as many people as possible ?

Our answer is yes.

For storage itself, Finland and France will very soon provide us with specific and concrete feedback on the commissioning of their above-ground and underground facilities. The resulting expertise will be a major contribution to the knowledge we have already acquired in Belgium.



Robert Leclère,
CEO

Generating interest

What is important now is to work towards the emergence of a strong collective awareness and then a general mobilisation of all actors. We must put an end to this permanent instability which prevents any company from looking to the long term with confidence. At Synatom, we are committed, from 2019, to work towards a fundamental change that combines safety, responsibility and realism. We will work with ONDRAF to set specific objectives and to fairly determine the corresponding funding. **There is no time to dither.**

THE FRONT END OF THE NUCLEAR FUEL CYCLE

There are three main phases in the nuclear fuel cycle: front end, reactor use and back end.

At the front end, Synatom's mission is to guarantee Engie Electrabel, the operator of the Doel and Tihange nuclear power plants, the quantities of enriched uranium needed to manufacture new fuel assemblies.

To this end, Synatom is active in three global markets for:

1. The purchase of ore and concentrates (yellow cake)
2. The conversion of uranium to uranium hexafluoride
3. The enrichment

Synatom must take into account the constraints of these three markets and therefore operates mainly on the basis of long-term contracts.

Besides the markets, Synatom must also incorporate reactor operations and political decisions. These different factors and their interactions are particularly complex. We will examine them for the year 2018.

The state of world markets in 2018

Although Synatom was not active on the markets in 2018, due in particular to its long-term contracts, it closely monitored the various events that took place in the markets throughout the year.

Uranium concentrates (yellow cake)

Since the end of 2017, the world's main producers of concentrates have decided to drastically reduce their production in order to align supply with demand, and to achieve a price increase in the long term.

In addition, traders appeared on the uranium market in mid-2018. Several hedge funds have purchased large quantities of concentrates on the spot market.

These major events have had a significant impact on prices. They have increased dramatically by more than **27% in one year**.

The conversion of uranium to uranium hexafluoride

There are 5 converters worldwide. Alongside CNEIC, which only covers China's domestic needs, four other companies offer conversion services: Cameco (Canada), ConverDyn (USA), Orano (France) and Tenex (Russia).

As in the concentrates market, major events in 2018 had an impact on the conversion sector. The American company ConverDyn shut down its Metropolis plant and the French company Orano started up its new «Philippe Coste» plant, which is the result of the Comurhex II project. It is expected to reach full production capacity by 2021.

Prices have doubled in one year.

Enrichment

The market is in the hands of 4 enrichers. There is CNEIC which covers the needs of China, then three companies situated on the European continent, i.e. Tenex in Russia, Orano in France and Urenco in the UK. Urenco has plants in the UK, the Netherlands, in Germany and in the US. Prices that had been falling for several years stabilised towards the middle of the year. Ultracentrifugation technology is now the **only** technology used by the world's leading operators.



Uranium concentrates



What about laser enrichment?

The Australian company SILEX developed a laser uranium enrichment technology in the 1990s. The process is called SILEX, which stands for «Separation of Isotopes by Laser Excitation». Research began in Australia and continued in the United States in 2006. The consortium formed by General Electric, Hitachi and Cameco was dissolved in June 2018. This ended the development of the test plant, which had entered into the final stages of authorisations. SILEX signed a new partnership with Canadian Cameco in February 2019.



Enrichment cascade

Belgian factors

Operation of the nuclear power plants in 2018

2018 was marked by a particularly low availability rate of around 50%. In addition to the scheduled maintenance work, there have been unscheduled long-term shutdowns for upgrades of equipment and/or buildings in and outside the nuclear area of the plants. These periods of non-operation have a direct impact on Synatom's procurement activities. Synatom must constantly adjust its coverage strategy in order to achieve, over time, a final stock level of **close to zero** for all products when the last Belgian reactor is shut down.

Synatom is particularly vigilant and has integrated the schedule established by Engie Electrabel for the maintenance of nuclear units until 2022. A schedule that also allows the authorities and Elia, the electricity transmission system operator, to take the necessary measures to ensure the country's security of supply for the coming winters.

What is the present state of the law on the scheduled phase-out of nuclear power?

Synatom organises its activities in accordance with the law which provides for the gradual closure of nuclear units.

As a reminder, the Doel 3 reactor will be shut down in 2022, then the Tihange 2 reactor in 2023. The Doel 1, Doel 2, Doel 4, Tihange 1 and Tihange 3 reactors are all expected to be shut down in the course of 2025.

The Belgian government has expressed its willingness to comply with this schedule. In addition, there are calls, particularly from business circles, for guarantees or adjustments to ensure the country's security of electricity supply in the coming years. Nothing had been definitively decided by the end of 2018.

Synatom must take **all possible scenarios** into account.

THE BACK END OF THE NUCLEAR FUEL CYCLE

After several years in the reactor vessel - 4 cycles of 12 months or 3 cycles of 18 months - nuclear fuel assemblies are considered used or spent.

They must then be safely stored in two phases:

1. **Transfer to a spent fuel pool**

It is located in a building within the nuclear island of each reactor.

2. **Intermediate storage**

The spent fuel assemblies are then transferred to a centralised storage building; one at the Tihange site and one at the Doel site. They will remain there for several decades.

A significant investment programme

The year 2018 was marked by concrete progress on several projects that together represent an investment of nearly **300 million euros for the future.**

New intermediate storage capacities

New facilities will be required by 2023 for the intermediate storage of spent fuel assemblies. The authorisation application procedures in both Doel and Tihange are progressing at a rapid pace. The first public consultations will take place in early 2019 for Tihange. Dry storage will be used in these new buildings. These new infrastructures will be built and operated by Engie Electrabel's qualified personnel on behalf of Synatom.

New dry storage and transport containers

New intermediate dry storage buildings also mean the supply of containers. Synatom manages the container supply projects in parallel with construction of the new buildings. New contracts were signed at the end of 2016 with **GNS** (Gesellschaft für Nuklear-Service mbH - Germany) and **ORANO** TN (formerly Areva - France).

Each company will supply two types of containers. The safety files for the first two models were submitted to the Federal Agency for Nuclear Control (FANC) and its subsidiary BEL V in 2018. Manufacturers will use 2019 as an opportunity to write safety files for the other models and take the first steps to manufacture prototypes. It should be noted that these containers are bivalent because they cannot only provide long-term intermediate storage but can also be used for transport to their final destination.



Iron casting at the GNS plant in Krefeld (Germany)

GNS uses nodular cast iron, a special cast iron that is characterised by good castability, high resistance during very severe mechanical stress and high tenacity.



A second transfer shuttle for the Tihange site

Synatom is still investing to fulfil its spent fuel management missions in the coming years, particularly for the period after final shutdown of the reactors. Synatom is therefore pursuing the procedure of acquiring a second intramural transport «shuttle» for the Tihange site. This will provide support to the on-site shuttle currently in service to transfer the assemblies contained in the deactivation pools of the three units to the centralised underwater storage building. The safety file required for this type of equipment is currently being analysed by the FANC and its subsidiary Bel V. It is a complex dossier involving a gradual approach with an intense exchange of questions and answers.

A process of continual improvement

Similarly, the procedures related to the transfers between the deactivation pools and the centralised building have been optimised at both sites. They are part of a process of continuous improvement and have been approved by the independent safety authorities. They also incorporate recent developments in legislation on well-being at work.

An exemplary industrial project

On 4 July 2018, the final load of waste generated by the historical reprocessing contracts arrived at the Belgoprocess site in Dessel. A total of **853 canisters** of waste returned from the La Hague plant in France in three major repatriation campaigns involving **25 transports**. These were carried out safely under the supervision of the FANC. All canisters are now stored in a specific building at Belgoprocess. It is important to note that the materials recovered through reprocessing (96%) have been used to manufacture new fuel assemblies which, in turn, have already been used in Belgian reactors. An exceptional process that is a unique model for full completion of a «closed» nuclear fuel cycle.

Millions of euro for Research & Development

Synatom is one of the largest contributors to ONDRAF's Research and Development budget, whose current flagship project is the Praclay experiment. It examines the influence that radioactive waste releasing heat would have on Boom clay, a potential host rock for receiving this waste. The heating period of the gallery specially designed for this research will last for 10 years.

Synatom has contributed more than **€10 million** to ONDRAF for its research budget for 2018.

Return of SYNATOM conditioned waste from reprocessing

2000-2007	2010-2013	2017-2018
387 	431 	35 
14 	9 	2 
Vitrified waste High activity	Compacted waste Medium activity	Vitrified waste Medium activity

Long life



FINANCIAL MANAGEMENT

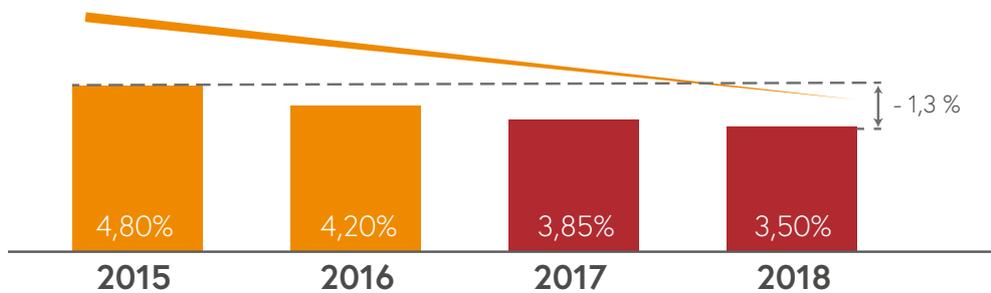
In 2018, the issue of the costs related to the future management of waste from the nuclear fuel cycle and the security of nuclear supplies made regular **headlines** in both the Belgian media and the political arena. The large number of new parameters that emerged in 2018 will undoubtedly influence the three-year review of nuclear provisions planned for 2019. It is also highly likely that the 2003 law on provisions for decommissioning nuclear power plants and for the management of irradiated fissile materials in these plants will undergo changes in the future that may have a significant impact on Synatom's activities.

The provisions status at the end of 2018

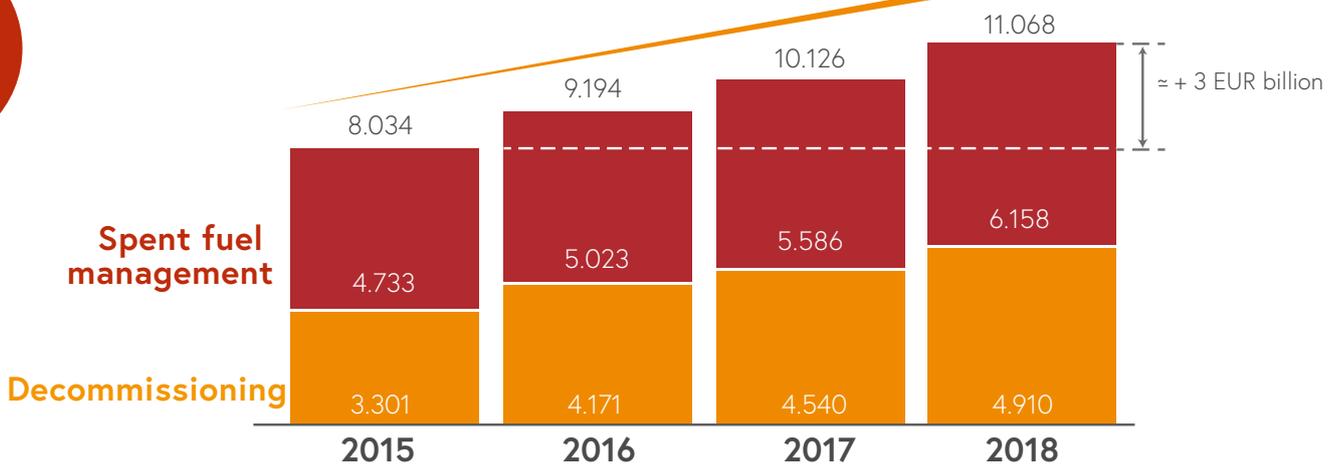
Nuclear provisions are calculated using a discount rate. In 2016, in response to the steady decline in interest rates, the Nuclear Provisions Committee recommended that the discount rate be gradually reduced to 3.5% in 2018.

This gradual reduction in discount rates had the effect of increasing the amounts to be provisioned. At the end of 2018, provisions now stand at **€11.1 billion**, of which 45 and 55% respectively were allocated to decommissioning and spent fuel management. Since the end of 2015, provisions have increased by more than 37% or €3.0 billion.

Decrease in discount rates



Change in provisions in EUR million





Re-assessment of final disposal costs

At the end of September 2018, ONDRAF published a new estimate of the cost for the final disposal of waste from the nuclear fuel cycle. For SYNATOM, this mainly concerns medium- and high-level and long-lived waste from reprocessing contracts as well as spent fuel assemblies themselves if they are not reprocessed. To date, the former are temporarily stored at the Belgoprocess site in Dessel and the latter at the Doel and Tihange nuclear power plants.

Compared to the previous ONDRAF estimate made in 2011, it must be noted that :

1. the new amounts put forward have **more than doubled or even almost tripled**. ONDRAF is now estimating a total amount of between €8 and €10.7 billion. The reasons given are mainly related to a reassessment of the landfill criteria and a change in architecture.
2. the schedule has been radically revised by ONDRAF and extended by nearly **30 years** to take us to closure of the depot in 2130... or in more than a century.

Synatom, together with other nuclear waste producers, has identified potential optimisation opportunities. A consultation was set up with producers in 2018 to study the relevance of these optimisation measures and to enable ONDRAF to adopt a final version in the course of 2020.

The impact of these two factors is **ambivalent** in terms of the establishment of provisions related to spent fuel management. In fact, it would appear that an increase in costs of this magnitude will cause the amounts to be provisioned today to skyrocket. However, this is not the case because the impact of the increase is mitigated by extending the provisioning period by at least 25 years, and consequently by the interest accrued during this additional period.

The special contribution

The special contribution, also known as the nuclear tax, is collected by Synatom on behalf of the Belgian Government. It applies to the Tihange 2 and 3 reactors as well as Doel 3 and 4. It should be recalled that the Tihange 1 and Doel 1 and 2 reactors are subject to separate taxation as part of the agreement on their operating extension for an additional 10 years.

For 2018, the special contribution, which is mainly based on the profit margin achieved by the plant owners, has been set at €150.4 million. This amount is due to low electricity prices and the unavailability of some reactors.

Shares in the Belgian nuclear reactors

REACTORS	CAPACITY EN MWé	IN SERVICE	SHARES		
			ENGIE - ELECTRABEL	EDF BELGIUM	LUMINUS
Doel 1	445	05/02/1975	100 %		
Doel 2	433	01/12/1975	100 %		
Doel 3	1006	01/10/1982	89,81 %		10,19 %
Doel 4	1039	01/07/1985	89,81 %		10,19 %
Tihange 1	962	01/10/1975	50 %	50 %	
Tihange 2	1008	01/06/1983	89,81 %		10,19 %
Tihange 3	1038	01/09/1985	89,81 %		10,19 %

MANAGEMENT AND SUPERVISORY BODIES

BOARD OF DIRECTORS

Messrs	Didier ENGELS	Chairman
	Robert LECLÈRE	Chief Executive Officer
	Jan BARTAK (1)	
	Marc BEYENS	
	René DELPORTE	
	Thierry SAEGEMAN	
	Dimitri STROOBANTS	Directors

(1) Until 30 June 2018

GOVERNMENT REPRESENTATIVES

Messrs	Yves DE GRAEVE
	Martial PARDOEN

AUDITOR

DELOITTE Réviseurs d'Entreprises, SC s.f.d. SCRL, represented by Mr Laurent Boxus

ACKNOWLEDGEMENTS

The Board of directors would like to thank the company's employees for the dedication and professionalism they have shown in carrying out their duties.

MANAGEMENT REPORT

Ladies and Gentlemen,

In accordance with legal and statutory requirements, it is our pleasure to present our company's management report for its forty-ninth financial year, and to submit for your approval the annual accounts for the year ended 31 December 2018.

General information

During the financial year under review, the generation of nuclear power in the country reached 27.251 GWh.

In 2018, Belgian nuclear power plants operated at an average load factor of 52% compared with 77% in 2017.

This drop in production can be explained by several prolonged shutdowns. The defaults found at Doel 3 in 2017 that called for major civil engineering work were also discovered at the Tihange 2 and Tihange 3 units and, to a lesser extent, at Doel 4. This resulted in shutdowns lasting several months for all of these units. Prolonged shutdown of the Doel 1 and 2 units was scheduled for the summer months with a view to extension of their operation (long-term operation). Following a programme of inspections on an emergency cooling pipe at Doel 1, corrective measures proved necessary and were extended to Doel 2 as a preventive measure.

Shareholder structure, capital and mission of the company

Synatom's capital stands at 49.6 million euro, of which around 25% is paid-up capital, and is represented by two million registered shares. All of the shares are held by ELECTRABEL except one specific share held by the Belgian State granting it certain special rights in the Board of Directors in the Synatom General Meeting.

Synatom's mission consists primarily of supplying Belgium's nuclear power plants with enriched uranium, managing the back-end of the nuclear fuel cycle and managing the provisions related to both the decommissioning of the nuclear power plants and the management of irradiated fissile material in these plants.

Technical and commercial activities

Nuclear fuel supply

In view of the political decision to permanently shut down the nuclear power plants from 2022, Synatom has redefined its procurement policy for the coming years, using tried-and-tested criteria that have proven their worth in the past: the diversification of sources and the retention of strategic stock in line with the recommendations of the EURATOM Supply Agency.

2018 was particularly difficult in terms of forecasting the supply of the nuclear power plants following the unscheduled, prolonged shutdown of the various units. 2019 will therefore be spent adapting our strategy to cover our future needs, still within the context of a definitive shutdown of all nuclear units in 2025. .

Eight years after the Fukushima disaster on 11 March 2011, the consequences are still being felt on the market. Supply remains in surplus, both for natural uranium and for enrichment services. This situation is not set to change in the short term, but following the decisions taken by the largest producers of natural uranium to significantly reduce their production of natural uranium, or even completely suspend their production, the balance between supply and demand should be restored in the medium term.

Prices for uranium concentrates continued to fall slightly in the first four months of 2018, before beginning to climb and finishing the year at 27 USD/lb. The indicator for long-term contracts estimated at 30 USD/lb in January 2018 ended the year at 32 USD/lb.

Spot prices for enrichment services continued the fall that started in 2014, reaching a floor of 34 USD/SWU at the end of August 2018, and then started to increase to end the year at 40 USD/SWU. The long-term price of enrichment services went from 45 USD/SWU at the beginning of the year, ending the year at 42 USD/SWU.

Synatom's supply portfolio and strategic stock guarantee that it will be able to supply the fissile material required to operate the power plants in the coming years.

Spent fuel and waste management

Safe and responsible management of the temporary on-site storage of spent fuel elements at the Doel and Tihange nuclear power plants is one of Synatom's key tasks.

On the Doel site, this involves using dry storage containers. In 2018, a total of 4 spent fuel containers were loaded and stored. The total number of containers loaded in the dedicated «SCG» building is 105.

On the Tihange site, 5 spent fuel transfers were carried out between the spent fuel pools and the centralised underwater storage facility.

Initiated in 2013, the project to acquire a new underwater shuttle for Tihange fuel continues. It should also be noted that alternative solutions are being developed to manage MOX (mixed oxide) fuel in preparation for the shutdown of Tihange 2 in 2023 and the subsequent emptying of the unit's pool.

In order to anticipate saturation, both at Doel and at Tihange, of the current spent fuel storage facilities around 2023 construction of a new dry storage building on each of the two sites is being studied. The safety file for the building on the Tihange site has been submitted to the authorities.

At the same time, Synatom has adopted a new purchasing strategy for storage containers intended for these new installations, known as «Post-2020 Containers». The safety files for 2 of the 4 models of container were submitted in 2018 to the authorities in preparation of their pre-manufacturing approval.

The campaign to repair and encapsulate non-watertight spent fuel rods in Doel 1 and 2 pool, which started at the end of 2017, continued in January 2018. It is an important stage in end-of-life plant management and has demonstrated that Synatom has a reliable and qualified technical solution for conditioning leaking rods.

As part of the continuous improvement of safety, the new transfer procedures on the Doel and Tihange sites for spent fuel containers were approved by the safety authorities at the end of 2018 and they are now applied on both sites.

Lastly, the second and final return of vitrified medium-level waste, from the spent fuel reprocessing campaigns in La Hague (France), took place in early July 2018, bringing to an end our repatriation activities for waste from fuel reprocessing in La Hague.

Synatom therefore has no more waste to transfer to the Belgian National Agency for Radioactive Waste and Enriched Fissile Material (ONDRAF/NIRAS) in the short term.

Research and development

The research and development work on geological disposal carried out by ONDRAF/NIRAS and funded by the producers of radioactive waste continues, even if the delay in establishing the «Safety and Feasibility Case» and the absence of a National Policy are leading ONDRAF/NIRAS to temporarily reduce the scale of this work.

The choice of a definitive site will only be made at the end of a phased process, spanning several decades, including several intermediate stages such as the choice of the host rock or the setting of reversibility, recoverability and monitoring conditions.

Despite the uncertainty surrounding the final solution for management of medium-level and high-level waste, R&D in clay continues, in particular the Praclay heating experiment at Mol, simulating the behaviour of heat-emitting waste in Boom clay. Started in 2014, this experiment is scheduled to last 10 years.

Management of nuclear provisions

Constitution of nuclear provisions

In accordance with the opinion expressed by the Nuclear provisions committee (NPC) on 12 December 2016, the provisions discount rate was revised downwards to 3.5% on 31 December 2018.

As a result, the nuclear provisions in Synatom's statutory accounts stands at 11.1 billion euro as at 31 December 2018 (compared with 10.1 billion as at 31 December 2017). This increase is mainly due to the revision of the discount rate against a backdrop of falling interest rates and allowances for irradiated fuel over the year.

As a reminder, the NPC asked Synatom in 2016 to revise its discount rate downwards over three years (namely 4.2% in 2016, 3.85% in 2017 and 3.50% in 2018).

The total impact of this gradual decrease in the discount rate is 1.7 billion euro.

Provisions for management of irradiated fuel

On 9 February 2018, ONDRAF/NIRAS proposed geological storage as a national policy for long-term management of high-level and/or long-lived waste. This proposal remains subject to approval by the Belgian government, which will first obtain the opinion of AFCN/FANC (Federal Agency for Nuclear Control).

Synatom considers in its assessment that the «mixed» scenario chosen by the NPC continues to apply: some of the fuel, i.e. around a quarter of the total quantity, is reprocessed and the rest is disposed of directly, without being reprocessed.

The provisions created for the downstream part of the cycle cover all of the costs associated with this «mixed» scenario: on-site warehousing, transport, reprocessing, packaging, warehousing, and geological disposal.

The costs actually borne in the future may, however, differ from these estimates given their nature and their due dates. The amount of these provisions may be subsequently adjusted depending on changes to the defined parameters and related cost estimates. More specifically, the current regulatory framework in Belgium has not yet confirmed adoption of geological storage as a policy for managing medium-level and high-level nuclear waste.

A scenario based on direct disposal of waste, without prior processing, would lead to a decrease in provision compared to the provision resulting from the «mixed» scenario currently used and approved by the NPC.

The new reference scenario, adopted by ONDRAF in 2018 for geological storage of this waste, is based on a new architecture and a potentially increased burial depth, as long as a suitable site can be identified in Belgium.

The new technical estimations amount to 8 billion euro, expressed under the 2017 economic conditions, namely a doubling of geological storage costs for this waste compared to the cost assumptions used in the 2016 NPC dossier. This amount has been determined after taking into account technical optimisation for 2.7 billion euro, based on 2017 economic conditions, to be confirmed by a dedicated working group by 2020.

This new scenario also brings with it significant delays in the schedule for commitment of the various expenses related to conditioning and storage of nuclear waste. These delays could be as much as 35 years for certain categories of expenditure, such as facilities for conditioning spent fuel and for the removal of conditioned fuel. Such delays result in a decrease in the net present value of the expenses and reduce the impact of the increase in burial costs on the assessment of nuclear provisions.

Given the expected changes to assumptions regarding geological waste storage costs, volumes reprocessed, unit reprocessing costs and the timetable for operations, Synatom believes, based on the information currently available, that the impact of the new technical scenario on the provision for the back-end cycle should not significantly modify the net present value of its commitments, as estimated at the end of 2018.

The new assessment, taking into account the new fees and the new schedule in particular, will be incorporated into Synatom's proposal to be submitted to the NPC during the three-year review of the provisions that will take place in 2019.

Provisions for decommissioning of nuclear power plants

These provisions are intended to cover all of the costs relating to both the definitive shutdown phase, which concerns the unloading and disposal of the plant's spent fuel, and the decommissioning period itself, which results in site declassification and clean-up.

The decommissioning strategy adopted is based on decommissioning (i) immediately after reactor shutdown, (ii) performed in series rather than one unit at a time, and (iii) complete (return to « industrial greenfield » status), enabling future industrial use of the land. The costs actually borne in the future could, however, differ from these estimates given their nature and their due dates. The amount of these provisions could also be subsequently adjusted depending on changes to the defined parameters. The hypotheses used have a major impact on the related implementation costs. However, these parameters are established based on the information and estimations that Synatom considers to be most appropriate currently, and approved by the NPC.

Special contribution

Since 2008, Synatom has been responsible for paying the special contribution, the so-called nuclear tax to the Belgian government.

The Royal Decree of 15 October 2018 established for 2018 an amount of 150.4 million euro to be paid by the nuclear operators.

Derivative financial instruments and hedging policy

Synatom is aligned with ENGIE Group's policy with regard to the use of derivative financial instruments mainly to manage its exposure to exchange rate fluctuations for its supplies expressed in US dollars.

Within this context, all supply contracts with commitments of over 1 million USD have been covered for 97.5% of the estimated prices and for the minimum quantities specified in the contracts. This currently represents a coverage amount of 263.8 million USD.

Disputes

There are no disputes in progress.

Board of Directors

The director mandates of Messrs René Delporte, Didier Engels and Thierry Saegeman are due to expire after the 2019 statutory General Assembly.

The auditor mandate of DELOITTE Réviseurs d'Entreprises, represented by Mr Laurent Boxus, is also expiring after the 2019 statutory General Assembly.

Discharge

In accordance with Article 554 of the Belgian Companies Code (Code des Sociétés), we ask the General Assembly to discharge the Board and the statutory auditor within the limits of said laws.

ANNUAL ACCOUNTS

Below, we comment on some of the important items on the balance sheet and the income statement.

Balance sheets

Financial assets - Receivables from affiliated companies

Since 1st January 2017, two 10-year loans have been granted to ELECTRABEL, including one in consideration of the provisions relating to management of irradiated fissile material and another in consideration of the provisions for decommissioning.

Long-term receivables – Other receivables

Since 2005, a part of the provisions has been invested outside the nuclear operator as provided for by the Law of 11 April 2003 on nuclear provisions. We have an outstanding loan with regard to ELIA, the balance of which stands at 454 million euro and a loan to SIBELGA for 13.8 million euro.

Short-term receivables – Trade debtors

This section contains the current trade receivables.

Short-term receivables - Other receivables

At the end of 2018, this section mainly included the nuclear tax, for the year 2018, to be paid by ELECTRABEL and Luminus for their respective shares.

This section also includes the share of the loan to SIBELGA, which will be due in 2019 for an amount of 3.7 million euro, as well as the treasury bills issued by ORES for 40 million euro also due in 2019.

Deposits, securities and bonds

This section represents, pursuant to nuclear provisions legislation, the amounts necessary for financing the expenditure associated with decommissioning and management of irradiated fuels for the next three years of operation, as well as a part of the provision funds that must be invested outside of the nuclear operator.

Provisions and deferred taxes

These provisions are intended to cover the costs of managing irradiated fissile material and decommissioning of the nuclear plants in accordance with the legislation governing nuclear provisions.

Results

Turnover

The turnover includes the fees for supply of fissile materials for 235 million euro.

Supplies and goods

This item includes purchases of natural uranium as well as conversion and enrichment services.

Services and other goods

This item mainly includes the costs incurred over the financial year for management of spent fuel, i.e. 52 million euro, and 14 million euro for the ONDRAF/NIRAS R&D programme.

Non recurrent income and expenses

The amounts in this section are the result of the three-year review of nuclear provisions and in particular the shift of the discount rate from 3.85% to 3.5% in 2018. The non recurrent operating costs reflect the additional allowances to the nuclear provisions, whereas the non recurrent operating revenue reflects the additional billing of provisions to the nuclear operators for the same amount.

Financial income

This item covers interest on long-term loans and receivables and interest on investments within the framework of the nuclear provisions law.

Profit

The annual accounts for the 2018 financial year closed with a profit of €572,484.83 compared to €543,125.95 in 2017.

Subsequent events and outlook

The provisions incorporate into their assumptions all regulatory requirements either existing or scheduled to be implemented at European, national or regional level. If new legislation has to be introduced in the future, the estimated costs used as a basis for calculations would be likely to vary. However, we are not aware of any changes to regulations that could significantly affect the provisioned amounts.

Evaluation of the provisions incorporates margins for contingencies and risks in order to take into account the degree of control of the decommissioning and spent fuel management techniques. The contingency margins for the disposal of waste are determined by ONDRAF/NIRAS and included in its fees. Furthermore, ONDRAF has asked the CPN, in its notice of new fees, to make sure that the provisions cover the expenses associated with the back-end of the cycle in the event that the optimisations submitted for appraisal do not materialise. Synatom estimates appropriate margins for each category of costs, including those linked to the success of ONDRAF's optimisations as mentioned in the chapter on nuclear provisions.

It should also be remembered that the Belgian government has not yet made a decision regarding the waste management, either in deep geological repositories or in long-term storage. The assumption incorporated into the scenario chosen by the NPC is based on a deep geological repository in Boom clay, as recommended in the ONDRAF/NIRAS «waste plan», although there is not, to date, a qualified site in Belgium for burial.

Under these conditions, Synatom considers that the provisions as approved by the Commission take into account all of the information currently available to cover the contingencies and risks of the decommissioning and irradiated fuel management process.

It is proposed to the General Assembly of 8 May 2019, deliberating on the accounts for the 2018 financial year, to allocate an amount of €28,624.00 to the legal reserve and to distribute a dividend of €1.09 per fully paid-up share, for a total amount of €546,635.00. The remaining balance for the financial year, i.e. €2,774.17, is deducted from the balance brought forward, which now stands at €8,043.92.

Unless there is any major unpredictable event, the profit for the current financial year should enable Synatom to pay a similar dividend for the 2019 financial year in 2020.

We do not anticipate any other significant circumstances that could substantially influence the future development of the company.

Brussels, 1 April 2019

BALANCE SHEET

As per 31 December (in thousands of EUR)

ASSETS	2018	2017
Fixed assets	0	1
Furniture, vehicles and equipment	0	1
Financial assets	8,115,000	7,380,000
Affiliated companies		
- Other receivables	8,115,000	7,380,000
Long-term receivables	467,474	541,202
Trade debtors	0	0
Other receivables	467,474	541,202
Stocks and contracts in progress	587,699	568,184
• Stocks		
Work in progress	587,699	568,184
Receivables within one year	403,448	300,857
Trade debtors	29,222	189,350
Other receivables	374,226	111,507
Deposits, securities and bonds	1,709,442	1,614,236
• Other deposits	1,709,442	1,614,236
Cash and cash equivalents	262	87
Prepayments and accrued income	2,520	1,644
TOTAL ASSETS	11,285,845	10,406,211

EQUITY AND LIABILITIES	2018	2017
Capital	12,453	12,453
Issued share capital	49,600	49,600
Capital not fully paid-up (-)	-37,147	-37,147
Share premiums	141	141
Reserves	1,767	1,738
Legal reserve	1,716	1,687
Non-available reserve		
- Other	14	14
Tax free reserve	37	37
Profit brought forward	8	11
Provisions and deferred taxes	11,067,815	10,125,680
Provisions for liabilities and charges	11,067,815	10,125,680
Amounts payable within one year	202,108	261,237
Trade payables		
- Suppliers	89,989	92,554
Taxes, payroll and social security		
- Taxes	111,343	3,970
- Payroll and social security	229	196
Other amounts payable	547	164,517
Accruals and deferred income	1,553	4,951
TOTAL EQUITY AND LIABILITIES	11,285,845	10,406,211

INCOME STATEMENT

(in thousands of EUR)

	2018	2017
Operating income	776,481	796,129
Turnover	236,717	316,655
Variation in stocks of finished good, work and contracts in progress (increase +; decrease -)	19,514	-6,630
Other operating income	18	18
Non recurrent operating income	520,232	486,086
Operating charges	1,148,508	1,168,328
Supplies and goods	134,749	159,065
Services and other goods	69,488	76,043
Payroll, social security costs and pensions	2,130	2,103
Depreciation and amounts written off on formation expenses, tangible and intangible assets	0	0
Provisions for liabilities and charges (increase +; decrease -)	421,904	445,029
Other operating charges	5	2
Non recurrent operating charges	520,232	486,086
Operating result	-372,027	-372,199
Financial income	372,626	372,785
Income from financial assets	272,425	225,136
Income from current assets	99,962	126,250
Other financial assets	0	0
Non recurrent financial income	240	21,399
Financial charges	24	42
Other financial charges	24	42
Pre-tax operating result	575	544
Pre-tax result for the year	575	544
Taxes on profit	3	1
Profit (loss) for the year	572	543
PROFIT OF THE YEAR TO BE APPROPRIATED	572	543

APPROPRIATION ACCOUNT	2018	2017
Profit to be appropriated	583	554
Profit for the period	572	543
Profit brought forward from previous year	11	11
Appropriation to capital and reserves	29	27
To legal reserve	29	27
Result to be carried forward	8	11
Profit to be distributed	546	516
Dividends	546	516

ADDITIONAL NOTES

(in thousands of EUR)

Financial assets

	2018
AFFILIATED COMPANIES	
Affiliated companies - Receivables	
• Net book value at the end of the previous period	7,380,000
• Additions	735,000
• Reimbursements	0
• Impairment	0
• Impairment cancellation	0
• Other	0
Net book value at the end of the period	8,115,000

Deposits, securities and bonds, prepayments and accrued income

	2018	2017
Deposits, securities and bonds		
• Shares	1,709,427	1,614,221
• Term accounts with financial institutions	15	15
With residual term of one month	15	15
Prepayments and accrued income		
• Accrued interests	1,715	1,644
• Prepaid sales	805	-

Equity and shareholders

	2018
CAPITAL	
Issued share capital	
At the end of the previous period	49,600
• At the end of the period	49,600
Representation of the capital	
Type of shares:	
• Registered shares: 2,000,000	2,000,000
NON FULLY PAID-UP	
Shareholders (non-called capital)	
• Electrabel	37,147
SHAREHOLDER'S STRUCTURE	
• Electrabel	1,999,999 shares
• Belgian State	1 share
	2,000,000 shares

Liabilities, accruals and deferred income

	2018
TAXES, PAYROLL AND SOCIAL SECURITY	
Taxes	
• Due taxes	-
• Not yet due taxes	111,343
• Estimated taxes	-
Payroll and social security	
• Due liabilities to social security	-
• Other debts related to payroll and social security	229
ACCRUALS AND DEFERRED INCOME	
• Miscellaneous	1,553

ADDITIONAL NOTES

Operating results

	2018	2017
OPERATING INCOME		
Turnover		
• Fees for the availability of fissile material	235,180	316,303
• Miscellaneous	1,537	352
	236,717	316,655
OPERATING CHARGES		
Number of staff hired		
• Total at the end of period	15	14
• Average number of staff in full time equivalent	13,4	13,8
• Effective hours	20,752	21,162
Employment costs		
• Payroll and social benefits	1,391	1,356
• Employer's contribution to social security	382	388
• Employer's premiums for non-statutory insurance	315	312
• Other personnel costs	42	47
	2,130	2,103
Provisions for liabilities and charges		
• Increase	473,915	503,750
• Use and decrease	(-)52,011	(-)58,721
	421,904	445,029
Other operating charges		
• Taxes related to operations	3	2
• Other	1	-
	4	2

Non recurrent income and charges

	2018	2017
NON RECURRENT INCOME		
Non recurrent operation income		
• Other non recurrent operation income	520,232	486,086
NON RECURRENT CHARGES		
Non recurrent operating charges		
• Exceptional provisions for liabilities and charges	520,232	486,086

Taxes

	2018	2017
INCOME TAXES		
Main sources of disparities between pre-tax profit, expressed in the accounts, and the estimated taxable profit		
• Disallowed expenses	60	60
• Use of anterior losses	(-)635	(-)604
VALUE ADDED TAX AND RETAINED TAXES CHARGED TO THIRD PARTIES		
Value added tax charged		
• To the company (deductible)	6,488	4,452
• By the company	157,178	166,484
Retained taxes charged to third parties		
• On wages and salaries	517	522

ADDITIONAL NOTES

Off balance sheet rights and commitments

Forward transactions

Purchase foreign exchange 219,065

Other commitments

In the nuclear sector, there are purchase contracts for raw materials and services related to uranium concentrates, conversion and enrichment as well as contracts for the back end of the fuel cycle.

Brief description of the additional retirement or survival pension system

Members of staff enjoy an income guarantee in case of retirement or survival based on their seniority as a staff member of the company or as a staff member of affiliated companies and dependent upon their remuneration at the end of their career.

In order to cover engagements deriving from these guarantees, the company transfers contributions to the above mentioned companies and their pension fund and concluded a group insurance policy.

Relations with affiliated and associated companies

	2018	2017
AFFILIATED COMPANIES		
Financial assets		
• Participation	-	-
• Other receivables	8,115,000	7,380,000
	8,115,000	7,380,000
Receivables		
• Long-term (more than 1 year)		
• Short-term (less than 1 year)	351,449	296,294
	351,449	296,294
Liabilities		
• Short-term (less than 1 year)	1,055	164,040
	1,055	164,040
Financial results		
• Income from financial assets	266,297	225,136
• Income from current assets	93,108	

Related party transactions which are not concluded at arm's length

In the absence of any legal criteria to inventory significant non-arm's length transactions with related parties, no transactions are recorded here.

For information purposes and in the interest of transparency, all significant transactions with related parties (apart from transactions with companies which are (more or less) wholly owned by the group to which we belong) are listed below.

Ores

Ores is an operator for all management and operating tasks related to part of the distribution network for natural gas and electricity in Wallonia.

Synatom endorsed commercial paper issued by Ores for a total amount of 40 million euro that is due to expire in 2019.

Sibelga

Sibelga is the sole manager of networks for electricity and natural gas distribution for the 19 municipalities of the Brussels Region.

In October 2012, Electrabel has transferred to Synatom two tranches of a loan to Sibelga. The loan, with an actual outstanding amount of 17 million euro, is repayable in annual instalments until December 2026.

Financial relations with :

A. Directors and managers

Direct and indirect salaries and pensions to directors and managers charged to the income statement : 25,206 euro

B. The auditor(s) or associated persons

Audit fees : 39,000 euro

Other control missions : 3,750 euro

Valuation of the nuclear provisions

The costs relative to the management of spent fuel and the decommissioning of nuclear facilities are an integral part of the costs of electricity production from nuclear energy. In compliance with the law of 11 April 2003, relative to the provisions established for the decommissioning of nuclear plants and for the management of irradiated fissile materials in these plants (the law on nuclear provisions), these costs are provisioned within the nuclear provisioning company Synatom SA, under the control of the Nuclear provisions committee (NPC)

1. Provisions for the back end of the cycle

The provisions for the back end of the cycle cover all of the costs related to a mixed scenario: on-site storage, transport, reprocessing of a portion of the spent fuel, packaging, storage and geological removal. They are determined on the basis of the following parameters :

- the costs of storage including essentially the costs of construction and operation of supplementary dry storage facilities as well as the operation of existing facilities and the costs for the purchase of containers;
- some of the irradiated fuel is transferred for reprocessing. The plutonium and uranium coming from reprocessing are ceded to a third party;
- the irradiated and non-reprocessed fuel is conditioned, which requires the construction of conditioning facilities depending on the acceptance criteria issued by the National Organisation for Radioactive Waste and Enriched Fissile Material (ONDRAF/NIRAS);
- reprocessing residues and conditioned irradiated fuel are transferred to ONDRAF/NIRAS;
- the costs of the disposal operations into deep geological layers are estimated by ONDRAF/NIRAS;
- the long-term commitment is calculated on the basis of estimated internal costs and external costs evaluated from bids received by third-parties;
- the discount rate retained is 3.5%. It takes into account an inflation of 2% (real rate is 1.5%). It is based on an analysis of the evolution and average, historic and prospective, of the long-term reference rates.

Costs effectively borne in the future could however, differ from these estimates given their nature and their due dates. The amount of these provisions could also be adjusted later depending on future changes of the parameters presented above and the associated cost estimates. More especially :

- concerning the partial reprocessing scenario, the current Belgian reactors framework does not define the nuclear waste management methods; following a resolution adopted by the Chamber of Representatives in 1993, reprocessing of spent fuel has been suspended. The scenario retained is based on the hypothesis that the Belgian Government will authorise Synatom to reprocess spent fuel and an agreement between Belgium and France will be concluded in order to allow Orano (previously Areva) to perform this processing. In its assessment of 2016, the NPC recommended that the necessary actions be formally initiated so as to ensure the realisation of the partial reprocessing scenario;
- a scenario based on direct disposal of waste, without prior processing, would lead to a lower provision, than that resulting from the « mixed » scenario retained today and approved by the NPC;

- the Belgian government has not yet taken a decision whether to use the deep geological deposit or long-term storage of medium to high activity waste. In compliance with the European Directive, the government has sent to the European Commission in 2015, a national project for the management of spent fuel and radioactive waste, which has then in 2016, been the subject of a ministerial decree, integrating a deposit into deep geological layers in Boom clay. This hypothesis has been retained by the NPC in 2016 while at this time, it does not have a certified burial site in Belgium. The NPC has however, asked for a scenario involving a concept of storage facilities which could be considered by the authorities as likely to be given authorization;
- in this context, in 2018, the ONDRAF/NIRAS Board of Directors, has adopted a new reference scenario for geological disposal of waste, based on a new architecture as well as potentially increased deep burial, on condition of a compatible site being identified in Belgium. On these bases, and in compliance with the procedures set out by the Royal Decree of 30 March 1981 « determining the missions and setting the terms of operation of the government organisation for the management of radioactive waste and fissile material », ONDRAF/NIRAS has determined new fees for the management and storage of high activity and/or long lived waste. These have been approved by the Board of Directors of ONDRAF/NIRAS on 28 September 2018 and transmitted to the NPC as well as Synatom, but must still be re-transcribed into conventions to establish between ONDRAF/NIRAS and nuclear waste producers, i.e. Electrabel and Synatom.

The new technical system involves :

- on the one hand, costs estimated at 8.0 billion euro, expressed under the economic conditions of 2017, i.e. a doubling of geological storage costs for these waste compared to the costs assumptions used in the framework of the 2016 NPC dossier. This amount is determined after taking technical optimization into account for 2.7 billion euro, expressed under the economic conditions of 2017, to be confirmed by a dedicated working group by 2020,
- on the other hand, significant delays of the commitment due dates for different expenditures concerning the conditioning and storage of nuclear waste. These deferrals can go up to 35 years for certain categories of expenditure, in particular for the spent fuel conditioning facilities and those for the disposal of conditioned fuel; such an offset in time translates into a decrease of the net current value of expenditures and has the effect of reducing the effect of the increase of burial costs on the evaluation of nuclear provisions.

ONDRAF/NIRAS has invited the NPC to ensure that the provisions allow the related expenditures to be met backend of the cycle in the case where the optimizations subject to examination are not realised.

Given the expected changes to assumptions regarding geological waste storage costs, volumes reprocessed, unitary reprocessing costs and the schedule of operations, Synatom estimates on the basis of information currently available, that the impact of the new technical scenario on the provision for the backend of the cycle, should not be such as to significantly modify the updated amount of its related commitments as currently estimated.

The amount of the 31 December 2018 provisions for the management of irradiated fuel remains therefore, based on industrial scenarios and the evaluation of cash flows approved by the NPC in December 2016 in the framework of the latest triennial revision.

The new assessment, taking into account the new fees and new schedule, will be incorporated into the proposal that Synatom will submit to the NPC during the triennial review of provisions that will take place in 2019.

Sensitivity

The provisions for the management of the backend of the nuclear fuel cycle remain sensitive to assumptions of costs, schedule of operations and commitment for expenditures as well as the discount rate. On the basis of the new scenario published by ONDRAF/NIRAS :

- an increase of 10% of ONDRAF/NIRAS fees for the disposal of high activity and/or long lived waste translates, at unchanged amount for margins of uncertainty, by the increase of provisions on the order of 140 million euros;
- the acceleration by 5 years of the conditioning and disposal into geological storage by ONDRAF/NIRAS of high activity and/or long-lived radioactive waste would have an impact upwards of about 90 million euros on the provisions. A postponement of 5 years for the due date of the commitments for these different expenditures would have an impact downwards for a comparable amount;
- the impact of the variation of the discount rate of 10 basis points is likely to lead to a change in the balance of provisions for the processing of the backend of the nuclear fuel cycle on the order of 190 million euros upwards in case of the decrease of the rate and downwards if the rate increases.

It must be specified that these sensitivities result from a purely financial calculation. They must be analysed with all precautions of use given the number of other parameters, some interdependent, incorporated into the evaluation.

2. Decommissioning provisions

The provisions for the decommissioning of nuclear power plants are constituted on the basis of the following parameters :

- the amount to disburse eventually is determined depending on the costs estimated by the nuclear plant, on the basis of a study performed by an independent consulting agency retaining as an assumption, the execution of the serial dismantling of power plants;
- an inflation rate of 2% is applied up until the end of the decommissioning for determining the future value of the commitment;
- a discount rate of 3.5% (including 2.0% inflation) is applied for the determination of the net present value of the commitment (NPV). It is identical to that retained for the provision for the management of the back end of the nuclear fuel cycle;
- the period of operation of nuclear units is 50 years for Tihange 1 as well as for Doel 1 & 2 and 40 years for the other units;

- the beginning of the technical operations for the final shutdown of the facilities depends on the unit concerned and the sequencing of the operations for the entire fleet. They are immediately followed by the dismantling phase.

Costs effectively borne in the future could, however, differ from these estimates given their nature and their due dates. The amounts of these provisions could also be adjusted later, depending on the evolution of parameters given above. The assumptions retained have a major impact on the costs associated with their establishment. These parameters are however, established and the assumptions retained, on the basis of information and estimates which Synatom considers the most appropriate at this time, and approved by the NPC.

Moreover, the scenario retained is based on a dismantling plan and calendars which must be approved by the nuclear safety authorities.

Sensitivity

On the basis of current parameters applied for the estimation of costs and the disbursement schedule, a variation of the discount rate of 10 basis points is likely to lead to a change of the balance of the de-commissioning provision of 60 million euro, upwards in the case of a decrease in the rate and downwards if the rate increases.

It must be specified that these sensitivities result from a purely financial calculation. They must be analysed with all precautions of use given the number of other parameters, some interdependent, incorporated into the evaluation.

Valuation rules

Formation expenses

The formation expenses are included in the financial year in which they are made.

Tangible fixed assets

Purchase value

Tangible fixed assets are booked on the assets side of the balance sheet at their acquisition price, cost price, or contribution value.

Additional costs

Additional costs linked to investments are included in the original cost of the tangible fixed assets concerned.

They are depreciated at the same rate as the installations to which they relate.

Depreciation

Tangible fixed assets are depreciated as from the date on which they are brought into service. With regard to furniture and vehicles, this date normally corresponds to the date of purchase.

Provisions for depreciation are calculated using the linear method at the following depreciation percentages:

Furniture : 10%

Office equipment : 20%

Second-hand equipment : 33.33%

Renovations: over the term of the lease.

Financial fixed assets

Participations, stocks and shares

Participations, stocks and shares of non-consolidated companies are booked on the assets side of the balance sheet at their acquisition value or contribution value, excluding additional costs and reduced by any sums outstanding which may still have to be paid.

At the end of each financial year, each security is valued individually according to the situation, profitability or prospects of the company concerned. The method of valuation is chosen objectively, taking into account the nature and characteristics of the security concerned. In most cases, the net asset value is opted for, or the market value if the latter is lower than the net asset value. The criterion chosen for a security is applied systematically from one financial year to the next, unless a change in circumstances justifies doing otherwise, in which case this is specifically mentioned in the notes to the accounts.

Where the valuation thus made reveals a permanent loss of value relative to the inventory value, the securities are written down by an amount equal to the permanent part of the loss in value reported.

An exceptional write-back of amounts written down may be made where a permanent increase in value is reported for securities the value of which was previously written down. Except in this situation, the securities are never revalued, even if permanent increases in value come to light during a valuation of the securities.

Amounts receivable recorded as financial fixed assets

Amounts receivable recorded in the accounts as financial fixed assets are recorded at their nominal value. Fixed-income securities are entered in the accounts at their original cost. If the full or partial repayment of these amounts receivable or securities on their due date appears uncertain or is endangered, the value of these amounts receivable and securities are written down by the corresponding amount.

Amounts receivable after more than one year and amounts receivable within one year

Amounts receivable are recorded at their nominal value and are written down if their full or partial repayment on the due date appears uncertain or is endangered.

In the event of bankruptcy or an arrangement with creditors, unpaid amounts receivable are automatically deemed to be bad debts and their total net value (excluding VAT) is immediately written down. Other amounts receivable may be written down, depending on each situation.

Stocks

Stocks of fuel

Fuel and other raw materials are booked on the assets side of the balance sheet at their original cost, which includes, in addition to the purchase price, additional costs such as non-recoverable taxes and any transport costs.

Stocks are valued at the end of the accounting period on the basis of the weighted average price. Write-downs are recorded in the accounts when the market price proves to be lower than the net book value.

Short-term investments and term deposits

Fixed-income securities

Fixed-income securities are valued on the basis of their actuarial rate of return calculated at the time of purchase.

Provisions for liabilities and charges

At the end of each financial year, the Board of Directors, acting with prudence, sincerity and in good faith, determines the provisions to be made to cover all the forecast risks or any losses which have arisen during the financial year or previous financial years.

Provisions for decommissioning of nuclear power stations

The decommissioning costs coverage is assured, under the supervision of the Nuclear provisions committee created by the law of 11 April 2003, by the build-up of provisions on the liabilities side of the balance sheet. These provisions correspond to the discounted value of the best estimate of the future cost of shutdown, decommissioning and decontamination of nuclear power stations.

Provisions for management of irradiated fissile material

Cover for the future costs concerning storage, processing and removal of irradiated fuel in nuclear power stations (back-end of the cycle) is assured, under the supervision of the Nuclear Provisions Commission created by the law of 11 April 2003, by the build-up of provisions on the liabilities side of the balance sheet. These provisions are determined on the basis of an average unit cost established using the discounted value of the best estimate of the costs corresponding to all the quantities used during the period of operation of the nuclear power stations.

Amounts payable

Amounts payable are recorded in the accounts at their nominal value.

Off-balance sheet rights and commitments

Off-balance sheet rights and commitments are mentioned in the notes to the accounts, by category, for the nominal value of the obligation shown in the contract or, failing this, for the estimated value. Rights and commitments which cannot be quantified are mentioned for the record.

Transactions, assets and commitments in foreign currencies

Current operations in foreign currencies are recorded in the accounts at the spot rate of exchange on the date of transaction. In the case of forward foreign exchange contracts, the asset or liability entries concerned are valued at the coverage rate.

Non-monetary assets and liabilities (mainly formation expenses, tangible and intangible fixed assets, financial assets and stocks) continue to be valued at the historic conversion rates; this value serves as a basis for calculation of depreciation and any amounts written down (see above).

Exchange differences reported on realization of monetary assets and liabilities (amounts receivable, loans and amounts payable) are entered directly in the income statement.

Advance payments are deemed to be monetary or non-monetary assets depending on where they are allocated.

At the end of the financial year, the main monetary items in foreign currencies are revalued on the basis of the valid spot rate of exchange on the date of closure of the accounts, except for items which are the subject of specific hedging and for which the hedging rates are applied. The net conversion differences per foreign currency reported on this occasion are entered in the prepayments and accruals if an unrealized profit is involved, or as a liability in the income statement if an unrealized loss is involved. The currency conversion differences reported on the cash at bank and in hand are included in the income statement, even if a profit is involved.

STATUTORY AUDITOR'S REPORT ON THE ANNUAL ACCOUNTS

Statutory auditor's report to the shareholders' meeting of Société Belge des Combustibles Nucléaires Synatom SA for the year ended 31 December 2018 – Annual accounts

In the context of the statutory audit of the annual accounts of Société Belge des Combustibles Nucléaires Synatom SA (the "company"), we hereby submit our statutory audit report. This includes our report on the annual accounts together with other legal and regulatory requirements. These are one and indivisible.

We were appointed in our capacity as statutory auditor by the shareholders' meeting of 11 May 2016, in accordance with the proposal of the board of directors. Our mandate will expire on the date of the shareholders' meeting approving the annual accounts for the year ending 31 December 2018. Given the lack of electronic archives prior to 1997, it is impossible to us to precisely determine the first year of mission. We have performed the statutory audit of the annual accounts of Société Belge des Combustibles Nucléaires Synatom SA for at least 21 subsequent years.

Report on financial statements

Unqualified opinion

We have audited the annual accounts of the company, which comprises the balance sheet as at 31 December 2018 and the income statement for the year then ended, as well as the explanatory notes. The annual accounts show total assets of 11 285 845 (000) EUR and the income statement shows a profit for the year ended of 572 (000) EUR.

In our opinion, the annual accounts give a true and fair view of the company's net equity and financial position as of 31 December 2018 and of its results for the year then ended, in accordance with the financial reporting framework applicable in Belgium.

Basis for the unqualified opinion

We conducted our audit in accordance with International Standards on Auditing (ISA), as applicable in Belgium. In addition, we have applied the international audit standards approved by IAASB applicable to the present closure and not yet approved at national level. Our responsibilities under those standards are further described in the "Responsibilities of the statutory auditor for the audit of the annual accounts" section of our report. We have complied with all ethical requirements relevant to the statutory audit of the annual accounts in Belgium, including those regarding independence.

We have obtained from the board of directors and the company's officials the explanations and information necessary for performing our audit.

We believe that the audit evidence obtained is sufficient and appropriate to provide a basis for our opinion.

Observation

Without questioning the unqualified opinion expressed above, we draw attention to appendix C6.20.4 of the annual accounts which describes the process of evaluation of the provisions put in place for decommissioning nuclear plants and for the management of irradiated fissile materials in these plants (collectively «the nuclear provisions») in compliance with the law of 11 April 2003 regarding nuclear provisions.

As indicated in this appendix, the evaluation of nuclear provisions results from the best estimates of the board of directors and the company's officials. This evaluation is also sensitive to the industrial scenarios retained, the associate cost estimates and the macro-economic scenarios (rate of inflation and discount rate) to apply.

Responsibilities of the board of directors for the annual accounts

The board of directors is responsible for the preparation and fair presentation of the annual accounts in accordance with the financial reporting framework applicable in Belgium and for such internal control as the board of directors determines is necessary to enable the preparation of the annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts, the board of directors is responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters to be considered for going concern and using the going concern basis of accounting unless the board of directors either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so.

STATUTORY AUDITOR'S REPORT ON THE ANNUAL ACCOUNTS

Responsibilities of the statutory auditor for the audit of the annual accounts

Our objectives are to obtain reasonable assurance about whether the annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue a statutory auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts.

During our audit, we respect the legal, regulatory and normative framework that applies to annual accounts audits in Belgium.

As part of an audit in accordance with ISA, we exercise professional judgment and maintain professional skepticism throughout the audit. We also :

- identify and assess the risks of material misstatement of the annual accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from an error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management;
- conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, that a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our statutory auditor's report to the related disclosures in the annual accounts or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to

the date of our statutory auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern;

- evaluate the overall presentation, structure and content of the annual accounts, and whether the annual accounts represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, amongst other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Other legal and regulatory requirements

Responsibilities of the board of directors

The board of directors is responsible for the preparation and the content of the directors' report on the annual accounts, for maintaining the company's accounting records in compliance with the legal and regulatory requirements applicable in Belgium, as well as for the company's compliance with the Companies Code and the company's articles of association.

Responsibilities of the statutory auditor

As part of our mandate and in accordance with the Belgian standard complementary (revised in 2018) to the International Standards on Auditing (ISA), our responsibility is to verify, in all material respects, the director's report on the annual accounts, and compliance with certain obligations referred to in the Companies Code and the articles of association, as well as to report on these matters.

Aspects regarding the directors' report

In our opinion, after performing the specific procedures on the directors' report on the annual accounts, the directors' report on the annual accounts is consistent with the annual accounts for the same year and it has been established in accordance with the requirements of article 95 and 96 of the Companies Code.

In the context of our statutory audit of the annual accounts we are also responsible to consider, in particular based on information that we became aware of during the audit, if the directors' report on the annual accounts is free of material misstatement, either by information that is incorrectly stated or otherwise misleading. In the context of the procedures performed, we are not aware of such material misstatement.

Statement on the social balance sheet

The social balance sheet, to be filed at the National Bank of Belgium in accordance with article 100, § 1, 6°/2 of the Companies Code, includes, both in form and in substance, all of the information required by the Companies Code and is free from any material inconsistencies with the information available to us in the context of our work.

Statements regarding independence

- No prohibited non-audit services, as referred to by the law, have been performed and our audit firm and, if applicable, our network of audit firms, remained independent from the company during the performance of our mandate.
- The fees for the additional non-audit services compatible with the statutory audit of the annual accounts, as defined in article 134 of the Companies Code, have been properly disclosed and disaggregated in the notes to the annual accounts.

Other statements

- Without prejudice to certain formal aspects of minor importance, the accounting records are maintained in accordance with the legal and regulatory requirements applicable in Belgium.
- The appropriation of results proposed to the general meeting is in accordance with the relevant legal and regulatory requirements.
- We don't have to disclose any concluded transaction or any decision incompatible with the statutes or Companies Code.

Zaventem, 22 April 2019
The statutory auditor

**DELOITTE Bedrijfsrevisoren CVBA/
Réviseurs d'Entreprises SCRL**
Represented by Laurent Boxus

DETAILS OF THE NUCLEAR FUEL CYCLE

Front end

Extraction : uranium deposits are mined in open pits or underground using the same methods as deployed in other mining facilities.

Concentration : close to the mines, the uranium ore is processed into 'yellow cake', containing roughly 75% uranium.

Conversion : the uranium concentrate is then refined and processed into a gaseous chemical compound: uranium hexafluoride.

Enrichment : before it can be used in Belgium's nuclear reactors, the fuel must contain a higher proportion of uranium 235 than it has in its natural state. The content of uranium 235 has to be increased to more than 4%, using the centrifugation method. The result of this process is enriched uranium hexafluoride.

Fuel assembly manufacturing : this is the responsibility of the power plant operator, who determines the specific requirements. Synatom's mission is to deliver the enriched uranium hexafluoride to the manufacturing plant.

Use in the reactor

The enriched uranium contained in fuel assemblies is leased to the operator.

Back end

Spent fuel management : after 3 to 4 1/2 years in the reactor vessel, fuel assemblies are definitively removed and transferred to an underwater pool to begin their radioactive decay and shed some of their residual heat. This phase of spent fuel management is identical in Doel and Tihange and Synatom entrusts it to the operator.

Interim storage : after a few years in the spent fuel pool, the fuel assemblies are transferred to a centralised interim storage facility. In Doel, dry storage takes place in specific casks. In Tihange, spent fuel is stored in a centralised underwater pool. Eventually, once the current storage capacity has been extended, both facilities will use dry storage in casks.

Conditioning : The spent fuel is conditioned either by reprocessing which consists of the separation of uranium and plutonium - which can be recycled - from radioactive waste, or either by the conditioning of the entire spent fuel assemblies, in order to ensure final disposal.

Final storage : this is the responsibility of the Belgian agency for radioactive waste and enriched fissile materials (ONDRAF/NIRAS), which is responsible for the final management of all nuclear waste produced in Belgium. To date, the problem of final storage of high-grade, long-lived waste remains at the research stage.

Colophon :

Editorial team

SYNATOM

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You can also access and download these three versions at www.synatom.com.

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