

1969-2019

50
years

Annual report

2019

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 fabrication 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 :

Exactness : 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 AND THE CHIEF EXECUTIVE OFFICER

Summary of half a century of excellence and start of a new era

The year 2019 was characterised by two dates that will remain engraved in Synatom's history.

First of all, on **29 October**, Synatom reached the milestone of 50 years of existence : half a century of excellence at the service of the Belgian nuclear energy sector.

Then, on **12 December**, the Nuclear Provisions Commission submitted its findings from the three-year review of the company's financial provisions, which have been constituted to pay for the complete decommissioning of Belgium's nuclear power plants and the safe storage of waste from the nuclear fuel cycle.

This first date has symbolic value, and is a positive reflection of our own role and the role of nuclear energy in our country's development (socio-economically, environmentally, and so on).

Moreover, the new legal foundations established by the Nuclear Provisions Commission at the end of 2019 will have an undeniable influence on Synatom's future operating model. Indeed, by becoming one of the most important fund managers in Belgium over the next few years, our company will see its financial responsibilities considerably increased.

Therefore, 2019 can be seen as a pivotal year marking 50 years of excellence and the start of a new era.

50
years

1969-2019

Exceptional summary of half a century of excellence

We can simply be proud of what we have done throughout this first half-century of existence. Since 1969, we have been supporting the visionaries who foresaw the vital importance of nuclear energy in Belgium. They planned to build the nuclear power plants that the country has today. Since commissioning the first three reactors in 1975, Synatom has been supplying the enriched fissile materials needed to manufacture the nuclear fuel used to generate electricity. Synatom is therefore intricately linked with the current state of the Belgian nuclear energy sector.

Driving a major energy transition

The commissioning of Belgium's nuclear power plants has allowed a major **energy transition** to take place; and in about ten years time has eliminated the need for oil in all of our power plants. Eliminating coal will be the next step. Since 1985, electricity generation in Belgium has been mainly low-carbon, largely thanks to our nuclear power plants. These plants have prevented the release of millions of tons of CO₂ into the atmosphere every year. Leading the way in contemporary environmental standards. And this brings us to the question : **Why** couldn't nuclear energy, alongside renewable energies, be the driving force behind the «climate» transition in the years 2020-2030 ?

A driving force for energy independence

At the time, the oil shocks of 1973 and 1979 were a cruel reminder of Belgium's dependence on oil imports. The commissioning of nuclear power plants was a timely step towards reducing this dependence in the electricity generation sector. Even today, nuclear power plants still produce nearly **50 %** of our electricity and reduce our natural gas imports by the same amount. If we were to shut down all or some of our nuclear power plants and replace them with gas-fired plants, we will find ourselves in a situation of dependence similar to that of the 1970s. The new policy to pursue development based almost entirely on wind and solar energy is certainly producing results today.



Didier Engels,
Chairman

However, in the long term, it could make us permanently dependent on natural gas to compensate for fluctuations in the supply. Energy independence must be the political priority when developing our future energy and climate strategies.

A driver of economic development

Nuclear energy can generate electricity at a very competitive price. For decades, affordable nuclear electricity has been a major factor in allowing Belgian companies to be more **competitive**. For example, in the energy scenarios drawn up by the Intergovernmental Panel on Climate Change (IPCC), nuclear power is included in the recommended energy mix to mitigate climate change and its economic impact.

Moreover, in 2019, Belgium's nuclear power plants produced 48.8% of the country's electricity, but most importantly, **our country exported more** electricity than it imported. This level of exportation (2.1%) is « mainly attributed to the abundant supply of electricity-generating plants in Belgium (in particular, the nuclear power plants) ». A situation that also has a direct and positive impact on the country's balance of payments.

Boosting employment

For decades, the nuclear power plants in Doel and Tihange have created **2000 jobs** and certainly the same number of indirect or auxiliary jobs. Jobs available on the production sites are highly qualified and well paid. Moreover, they cannot be relocated abroad. Without a doubt, the Doel and Tihange power plants have contributed to local and regional socio-economic development.

Extraordinary environmental and economic achievements. Yet these positive aspects are not taken into account when developing the country's future energy and climate policies. **Why ?**

The start of a new era

In 2019, we entered an era of profound structural changes and adopted new principles of corporate governance. These essential principles are tailored to our company and form part of a long-term vision. Among other things, we have decided to expand the Board of Directors to include two new people from outside the company who are renowned for their knowledge of financial markets. We hope to bring as much expertise as possible into the three main business areas of our company. The one area where the most important developments will be taking place in the next few years, is in financial management.

An audit committee will also be set up to strengthen our governance principles. This committee will assist the Board of Directors in its tasks and control the company's activities in the broader sense, including risks.

At the same time, we are going to improve our internal organisational structure by creating an «Investment» department. All of these changes will take place in the next few months.

Synatom: one of the largest fund managers in Belgium ... in the making

Changes to our corporate governance are required to manage the colossal sum that the nuclear provisions now constitute, and which will continue to grow over the next few years. These amounted to €13.2 billion after the three-year review in 2019. In five years, the provisions have grown by more than five billion euros and are expected to grow by a further one billion euros by 2021.

In addition, Electrabel has decided to pay Synatom the full amount owing for spent fuel management by 2025. In total, another €6 billion will be added to the funds currently being managed. With this evolution in mind, Synatom will become one of the most important fund managers in Belgium with around €10.5 billion by 2025.

In addition to the company's technical activities, the financial management of our portfolios will be crucial to ensure that these funds are available and adequate precisely when they are needed. In this respect, Synatom needs to adopt specific strategies aimed at very different time horizons :

- **short and medium term** for the decommissioning of nuclear power plants.
- **long and very long term** for the final disposal of nuclear waste from the nuclear fuel cycle.

Legitimate expectations for 2020

For several months now, all the players in the power generation sector have been sending warnings to the public authorities.

It is **extremely urgent** to finally adopt a pragmatic and sustainable **energy policy** that is capable of responding fully to the climate challenges and risks facing us. The time for declaring our good intentions is over! The time has come to make real operational decisions, and establish clear, sound and ambitious courses of action. The message that young people in Belgium and abroad have been repeating in 2019 : There is only one solution to climate change: action ... here and now !

CO₂ emissions are now expected to decline sharply over the next few years. This drastic reduction in emissions must become the sole focus.

At the same time, the second priority for the authorities is to define **a national plan** for the management of radioactive waste that is able to **concretely** respond to the European directive adopted in 2011 and establish a Community framework for the responsible and safe management of spent fuel and radioactive waste. Without precise guidelines for the final disposal of intermediate-level and high-level long-lived waste, the actors directly concerned are easily lost in the realm of speculation and abstract ideas. This situation does not aid the National Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF/NIRAS) in developing concrete, safe and acceptable solutions for the producers of waste... and the general population. At the end of 2019, the European Commission reminded Belgium of its obligations in this area.



Robert Leclère,
CEO

The trust of our stakeholders

Despite these uncertainties, we continue to pursue our missions with determination, professionalism and unparalleled transparency. We are aware of our responsibilities and are working positively and proactively to implement sustainable solutions. We believe that a constructive approach is the way to earn the trust of our stakeholders. We are prepared, strong and committed to the task ! Ready for the next five years in which we will undergo a profound transformation .. Ready for another fifty years of excellence.

THE FRONT-END OF THE NUCLEAR FUEL CYCLE

Synatom's first mission is to **supply enriched fissile material** to Belgium's nuclear power plants. In other words, at all times, Synatom must be capable of supplying enriched uranium to the fuel assembly plant designated by Engie Electrabel, the operator of the Doel and Tihange nuclear power plants.

To achieve this key objective, Synatom operates in the markets that govern front-end activities in the nuclear fuel cycle. These global markets comprise three core activities :

1. Uranium mining and milling

The extraction of uranium ore is followed, at or near the mine site, by milling to produce a product called yellow cake, which has a uranium content of about 85%.

2. The conversion of uranium to uranium hexafluoride

The yellow cake will be sent to a specialised company that will purify it and transform it into a material called uranium hexafluoride (UF₆).

3. Enrichment

To be used as fuel in a Belgian nuclear reactor, the uranium must have a concentration in the order of 4% to 5% of uranium 235. Since natural uranium contains only 0.7% uranium, enrichment operations are required to increase its concentration. Today, enrichment is performed using a centrifuge technology.



Yellow cake on belt filter

The functioning of the markets

Transactions carried out in the 3 pillars at the front end of the nuclear fuel cycle are mainly carried out on the basis of **long-term contracts**.

For long-term contracts, buyers and sellers negotiate private contracts with multiple clauses stipulating, among other things, the conditions of delivery.

There is also a spot market, where transactions can be carried out on a day-to-day basis and prices are set « on the spot ».

Specialised agencies publish prices for information purposes.

It should be noted that the markets covering conversion and enrichment activities are characterised by a **very limited number of operators**.

Very strict rules

All stages of the uranium market are drastically regulated on the basis of the EURATOM Treaty and more particularly by the recommendations and controls of the **EURATOM Supply Agency** (European Commission). Synatom must submit to the Agency any contract relating to the supply of ore and/or yellowcake and await its validation. Synatom must also notify the Agency, for information purposes, of any conversion and enrichment services contracts. The Agency also issues recommendations to the nuclear power plant operators, including the obligation to cover their needs with long-term contracts. It also ensures, independently of those carried out by the **International Atomic Energy Agency** (IAEA), permanent controls on Belgian nuclear sites in terms of nuclear fuel inventories.

The principles of Synatom

Synatom's sourcing strategy favours long-term contracts based on a diversified portfolio both in terms of suppliers and geographical origins. In addition, uranium supplies must come from politically stable countries whose producers scrupulously respect the **ethical and environmental** recommendations of the World Nuclear Association.

The international situation

Uranium concentrates (yellowcake)

The price of uranium concentrate for long-term contracts remained very stable, rising from US\$32 per pound in January to around US\$33 per pound at the end of 2019. Spot prices fell from US\$29 to just under US\$25 per pound between January 1 and December 31. This price stagnation is due to excess supply over demand. The balance could be restored in the medium term following, on the one hand, reductions in production and, on the other hand, the commissioning of new nuclear reactors.

Conversion

Prices for conversion to uranium hexafluoride for long-term contracts have increased from approximately 6% to 11% over the course of 2019.

The increase in spot prices was even more spectacular. These increased from US\$13.5 per kilo to US\$22 per kilo, or an increase of more than 60%.

Enrichment

Enrichment prices, both on the spot market and for long-term contracts, increased by 20% in 2019, with a price of respectively US\$47 and US\$50 at the separation unit (SWU).

Strong signals from international bodies ...

Markets have been very cautious. Yet the year 2019 was marked by a series of strong signals from several international bodies, including the IPCC (Intergovernmental Panel on Climate Change), in the fight against global warming.

- In May 2019, **the International Energy Agency (IEA)** published a report (the first in 20 years devoted to nuclear energy) entitled « Nuclear Power in a clean energy system ». The Agency stresses the role of nuclear and hydropower as the backbone of a low-carbon energy system. The report recommends a number of possible actions ranging from extending the production lifetime of existing reactors as long as their safety is guaranteed, to the construction of new plants and the development of new nuclear technologies.
- In October 2019, **the International Atomic Energy Agency (IAEA)** organised an extraordinary conference on climate change and the role of nuclear energy. One of the findings is that: « The true potential of nuclear power must be fully recognised if the world is to meet its climate challenges. »
- In November 2019, **the European Parliament** adopted a resolution recognising the significant and sustainable role of nuclear energy in mitigating climate change. This resolution is part of the European green deal to reduce greenhouse gas emissions with 55% by 2030.



Orano - Site of Tricastin - Handling of a transport container of UF₆

... and national !

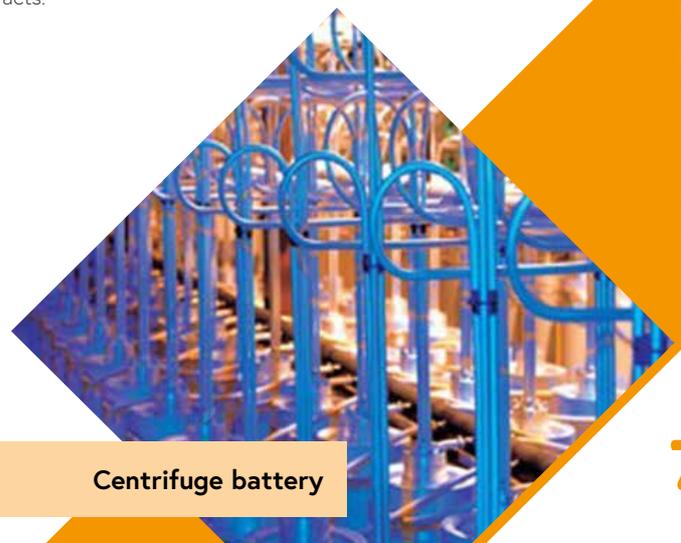
In June 2019, **Elia, Belgium's transmission system operator for electricity** sounded the alarm. It predicts a reduced generating capacity during Belgium's planned nuclear phase-out. The closure of all of the Belgian nuclear power plants would **create a structural need for additional electricity generating systems**. In addition, plant closures by our European neighbours would also have a negative impact on import capacities during the winter months.

A very specific approach

Within a very strict regulatory framework, Synatom must constantly adjust its capacity to mobilise raw materials and services. It takes into account, of course, the 2003 law regulating the phase-out of all the nuclear reactors by 2025. A law that should produce its first effects as early as 2022. By that time, the Doel 3 reactor will have reached the fateful 40-years of operation and will have to be definitively shut down. In 2023, it will be Tihange 2. This would reduce the need for Synatom's services by a third.

If the law is fully enforced and Synatom is being managed efficiently, its stock should be close to zero by 2025. At the same time, if the production lifetime of several reactors **is extended**, Synatom must be capable of fulfilling their needs as they arise. This is one possibility that was raised at the end of 2019 by the new Chairman of the Board of Directors for Engie Electrabel.

This situation, with its many unknowns, requires great agility, but also a great deal of planning and foresight when drawing up contracts.



Centrifuge battery

THE BACK-END OF THE NUCLEAR FUEL CYCLE

At the Doel and Tihange reactors, the nuclear fuel assemblies produce electricity for four or three cycles of 12 or 18 months respectively.

At the end of this production phase, the fuel is considered to be spent. Spent fuel assemblies must then go through a special management process involving specialised techniques and complying with very strict safety rules.

The **first stage** of this management process, which lasts three to five years, is the cooling of spent fuel assemblies in the spent fuel pool. The assemblies are stored vertically, in metal cells covered by eight metres of water. Water provides excellent protection against ionising radiation. During the period in the spent fuel pool, the residual heat and radioactivity of the spent fuel sharply decreases.

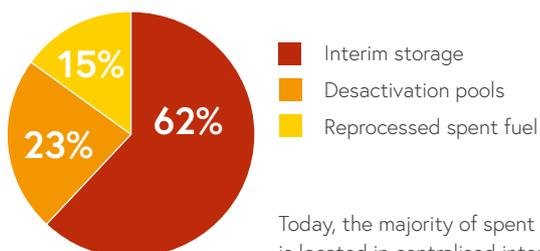
After this period, the spent fuel assemblies are transferred to a central storage building on the nuclear power plant site, pending the final stage :

- or their management by the Belgian Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF-NIRAS) which will ensure their geological storage;
- or their transport to a reprocessing plant.

It should be noted that the on-site storage phase for spent fuel assemblies will have to be spread over several decades because the deep geological storage option selected by ONDRAF-NIRAS for the spent fuel will only be operational after 2100.

Where are the spent fuel assemblies located ?

Situation on 31/12/2019



Today, the majority of spent fuel (**62%**) is located in centralised interim storage buildings. In Tihange, centralised storage is currently carried out underwater in « pools », while at Doel they are using dry storage in special containers.

Approximately **23%** of spent fuel is currently in the spent fuel storage pools of the reactors.

15% of spent fuel was already reprocessed under pre-1993 contracts. The uranium and plutonium recovered through this reprocessing (i.e. 96% of the spent fuel) has already been reused in Belgian reactors in the form of new fuel assemblies. As for the final waste, it was returned to Belgium after a special conditioning process (compacting or vitrification). Today, they are

safely stored on the Belgoprocess site (a subsidiary of ONDRAF/NIRAS) in Dessel, awaiting their final disposal.

The compelling necessity for... ... new central storage facilities

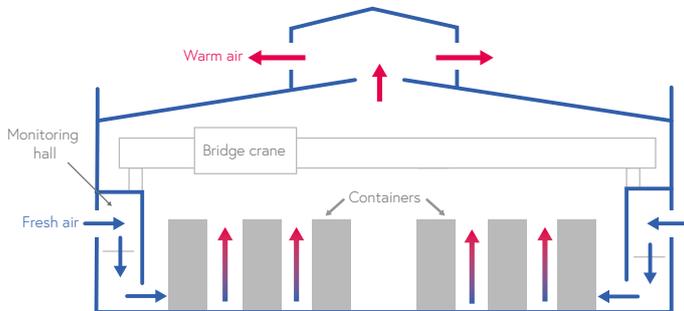
In both Doel and Tihange, the central storage buildings are gradually reaching saturation point. However, when a reactor is shut down, the dedicated spent fuel pool must be completely emptied before the dismantling phase can begin. Emptying the spent fuel pools therefore requires additional central storage facilities.

Therefore, we need to build a second central storage building for each of the two nuclear sites by 2025. Dry storage in containers is the preferred option for the spent fuel assemblies. This preference is based on experience at Doel using a similar form of dry storage since 1995. The building, called SF² for Spent Fuel Storage Facility, is designed to be earthquake resistant and has a passive ventilation system. The advantage of this natural ventilation system is that no electrical equipment is required, eliminating the risk of a malfunction. In addition, this building **will not generate any radioactive effluents**.

A safety report on the Tihange building was submitted to the Belgian Federal Agency for Nuclear Control (FANC) in May 2018 and has received approval. In early 2020, federal authorisation was granted to build and operate the facility and a planning permit was received from the Walloon Region.

The safety report on the Doel SF² building, which is similar to that of Tihange, was submitted to the FANC in early 2020.

Each building represents an investment of approximately **€100 million** paid for by Synatom.



Principle of the passive ventilation system in an SF² building

... and new dry storage containers

Synatom has always endeavoured to achieve supply diversification. This time-tested practice also applies to contracts for the purchase of dry storage containers : for example, Synatom has signed contracts with three major specialised companies in recent years : Orano TN in France, GNS in Germany and Holtec in the United States. The use of three different suppliers is a strategic choice, which is partly explained by the need for several different types of containers designed to suit the characteristics of the spent fuel assemblies. Actually, the size of the fuel assemblies from Doel 1 and 2 are different to those from Doel 3 and 4 ; and the size of fuel assemblies from Tihange 1 and 2 are different to those from Tihange 3.

Each contract is accompanied by a long and complex process to **obtain licences** that is able to meet, not only the strictest international regulations on transporting radioactive materials, but also specific Belgian safety requirements pertaining to their storage. In fact, the function of these containers is twofold: interim storage and transportation. Their capacity ranges from 21 to 32 spent fuel assemblies. They are designed to ensure that both people and the environment are protected under all circumstances. The containers are designed as a cylindrical structure that houses the fuel assemblies and disperses any residual heat. These containers must be mechanically capable of securely withstanding accidents and any other unforeseen events.

At present, the security reports on the different containers are being studied by FANC and its subsidiary Bel V. While we wait for the green light to begin mass production, prototypes have been under construction since 2019. Synatom hopes to receive the first containers starting from 2021.



The transfer shuttle currently in use at the Tihange nuclear power plant

A much-needed second transfer shuttle for the Tihange site

At Tihange, which uses centralised underwater storage, the transfer of spent fuel assemblies between the spent fuel pools of the three reactors and the building that houses the central storage pools is performed underwater in a special container called a « shuttle ». In preparation for the shutdown of the Tihange reactors, which will require a large number of transfers between buildings, Synatom has decided to purchase a second shuttle container. A safety assessment report on this shuttle was submitted to the FANC in 2016. Substantial progress was made in 2019 in this matter and Synatom hopes to obtain FANC approval in 2020.

Recognised Belgian expertise

Synatom has been supported by the experts at **Tractebel Engineering** when developing these different projects (new SF² central storage facilities, new dry storage containers, new transfer shuttle for Tihange), but also when developing strategies in radioactive waste management and nuclear power plants decommissioning. Over several decades, Tractebel Engineering has developed cutting-edge knowledge through its decades of experience working in Belgium and abroad. In 2019 alone, Tractebel Engineering performed close to 20,000 hours of work for Synatom. This trend should continue to grow in the coming years.

For many years, Orano TN, one of Synatom's most important suppliers, has entrusted the Belgian company, **Ateliers de la Meuse**, with several steps in the manufacture of dry storage containers. Each year, specialised personnel from this company performs several thousand hours of work.

FINANCIAL MANAGEMENT

The year 2019 was a very busy year preparing the sixth triennial report on the nuclear provisions. As a reminder, one part of the provisions is dedicated to cover the costs of entirely dismantling the Doel and Tihange nuclear reactors. The other part is intended to cover the costs of interim storage and the final disposal of medium-level and high-level radioactive waste with a long half-life associated with the nuclear fuel owned by Synatom.

The report, which was thoroughly revised in conjunction with financial and technical experts, was submitted to the Nuclear Provisions Commission (NPC) on 13 September. The Commission issued its findings on 12 December 2019.

Among other things this included :

1. Taking into account the reference scenario (in its most comprehensive form yet) established by the Belgian Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF/NIRAS) in 2018 for the long-term management of category B and C radioactive waste (intermediate-level and high-level long-lived waste). In addition to a **tripling of the costs** since the previous estimate made in 2011, the new benchmark also includes **an average 30-year** deferral for various phases of final disposal.
2. The scenario for the final shutdown and decommissioning of the nuclear power plants including the management of spent fuel. This is based, among other things, on industrial experience and feedback, particularly the lessons learned from Germany's decommissioning of its nuclear power plants, which is currently under way.
3. The financial calculation is based on declining discount rates (following a steady decline in financial market rates over the past several years) to obtain a conservative estimate of the amount to be provisioned today in order to cover future expenses, some which will occur in **more than 70 years**.

At the same time, Engie Electrabel has promised to pay Synatom all of its provisions for spent fuel management by 2025, i.e. **€6 billion**.

Synatom will then invest these funds on **an independent basis**, so that Engie Electrabel will no longer have any involvement in questions related to funds and their availability.

Changes in the provisions in 2019

The total provisions amounted to **€13.2 billion in 2019** compared to €11.1 billion in 2018. **This increase of €2.1 billion** is related to :

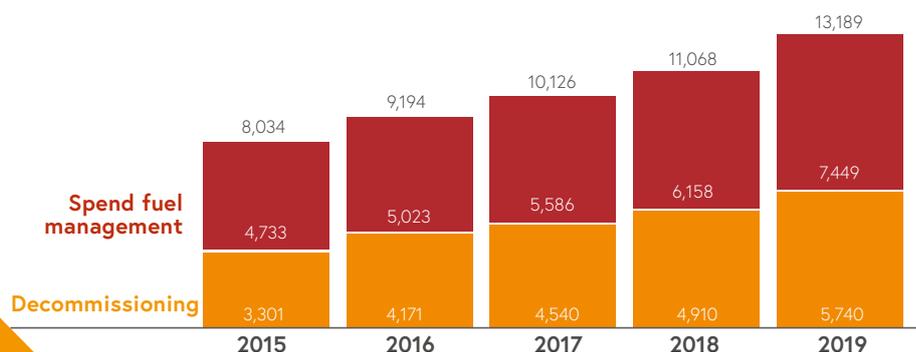
1. For decommissioning, (€5.740 billion) primarily from the downward review of the discount rate in a context of relatively low short-term interest rates.
2. For spent fuel management (€7.449 billion) the new cost estimate for the final geological disposal of intermediate-level and high-level radioactive waste and declining discount rate due to the economic situation.

Different spending deadlines

The time that the financial provisions will be needed greatly varies, depending on whether the provisions are intended for power plant decommissioning or spent fuel management costs.

According to ONDRAF/NIRAS's calculations, which were made in 2018 based on its most conservative figures, construction of the final storage facilities starts around 2050 at the earliest. Final disposal of category B waste would take place starting from 2070. For category C waste, final burial would only take place starting from 2110 !

Changes in the provisions in million euros



Today, it appears that expenses related to nuclear fuel **will span more than a century**. And this is definitely very... very long term.

However, the first decommissioning expenses (albeit minimal) were spent in 2019 on preparations for the final shutdown of the Doel 3 and Tihange 2 reactors. In accordance with the law on the gradual phase-out of nuclear power, these two reactors will be the first to be shut down, respectively on 1 October 2022 and 1 February 2023.

The final shutdown of a reactor is an unavoidable step that begins well before the end of the production lifetime in order to comply with regulatory procedures set by the Belgian Federal Agency for Nuclear Control (FANC) and ONDRAF/NIRAS. Once the reactor is shut down, a period of three to five years is required to remove the fuel assemblies from the spent fuel pool and prepare for the actual dismantling. Dismantling a unit takes about 10 to 15 years.

Independent discount rates

In view of these very different time horizons, the NPC has decided to change the discount rates for each type of provision. Hence, the discount rate for nuclear fuel management provisions has changed from 3.5% in 2018 to 3.25% in 2019.

While the discount rate for the decommissioning provisions will gradually decrease from 3.5% in 2018 to 3% in 2019; then from 2.7% in 2020 to 2.5% in 2021.

A strong commitment from Engie Electrabel

At the end of 2019, Engie Electrabel undertook to repay its share of the provisions related to spent fuel management, which had been loaned to it by Synatom, **before 2025** (i.e. an amount of €4.8 billion). In total, Synatom will be in charge of managing an additional **€6 billion**.

In the future, the availability and adequacy of spent fuel management provisions will no longer be a question involving Engie Electrabel.

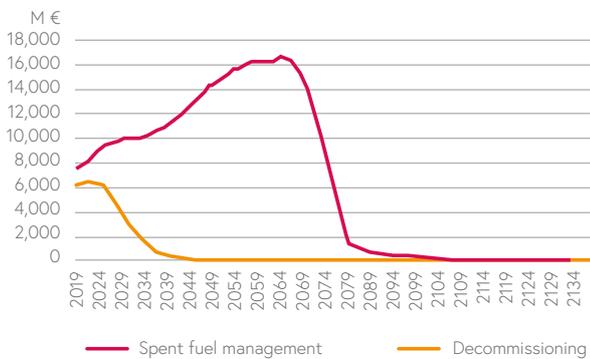
An important turning point

Taking into account this gradual reimbursement, the programmed increase in provisions and the amounts already managed today by Synatom, the funds managed by Synatom will amount to **more than €10.5 billion in 2025**.

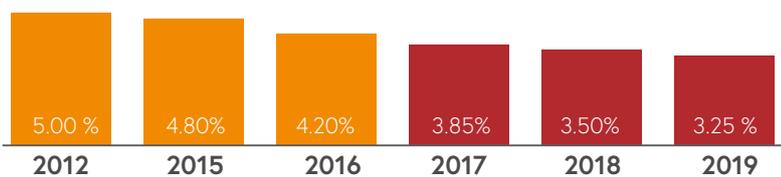
This new situation means that Synatom will become one of the largest fund managers in Belgium in just a few years.

From 2020, Synatom will adapt its strategy and governance to deal with these new challenges.

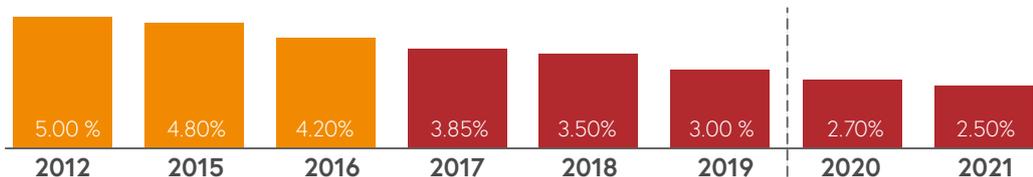
Planning of the use of the provisions



Discount rate for spent fuel management



Discount rate for decommissioning



MANAGEMENT AND SUPERVISORY BODIES

BOARD OF DIRECTORS

Messrs	Didier ENGELS	Chairman
	Robert LECLÈRE	Chief Executive Officer
	Marc BEYENS	
	René DELPORTE	
	Thierry SÆGEMAN	
	Dimitri STROOBANTS	Directors

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 fiftieth financial year, and to submit for your approval the annual accounts for the year ended 31 December 2019.

General information

During the financial year under review, the generation of nuclear power in the country reached 41,159 GWh.

In 2019, Belgian nuclear power plants operated at an average load factor of 79% compared with 53% in 2018.

It should be noted that in 2019, Tihange 2 was shut down for half of the year following the concrete problems detected in 2018. Only three out of seven units were under review in 2019 (Doel 1, 2 and 3) and the extended review of Tihange 1 that should have started in 2019 was postponed to 2020.

Shareholder structure, capital and mission of the company

Synatom's capital stands at 49.6 million euros, including approximately 25% of paid-up capital, and is represented by 2 million registered shares. All of the shares are held by ELECTRABEL apart from a golden share held by the Belgian State granting it certain special rights on the Board of Directors and in the General Assembly of Synatom.

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

Technical and commercial activities

Nuclear fuel supply

The 2003 law provides 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 maintenance of strategic stock in line with the recommendations of the Euratom Supply Agency.

Following the unscheduled, prolonged shutdown of various units in 2018, 2019 was spent adapting our strategy to cover our future needs, still within the context of a definitive shutdown of all nuclear units.

Nine years on from 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 fell in the first two months of the year, before fluctuating at around 25 USD/lb and then finishing the year at 24.85 USD/lb. The indicator for long-term contracts estimated at 32 USD/lb in January 2019 ended the year at 33 USD/lb.

Spot prices for enrichment services continued the increase that began in September 2018 to end the year at 47 USD/SWU. The long-term price of enrichment services went from 43 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 has the fissile materials required to operate the plants in the coming years.

Spent fuel and waste management

Synatom continues to ensure the safe and responsible management of spent fuel at the Doel and Tihange nuclear power plants.

In 2019, 7 dry storage containers were loaded with spent fuel at the Doel site. The total number of containers loaded in the dedicated « SCG » (Splijstof container gebouw) building is 112.

2019 also saw the beginning of the manufacture of the first two transport and storage containers by HOLTEC, to ensure the diversification of the supply of the storage containers to the SCG.

On the Tihange site, 4 spent fuel transfers were carried out between the Tihange 1 spent fuel pools and the centralised underwater storage facility.

The project to develop a new underwater shuttle for Tihange 1 and 2 fuel continues. Its aim is to diversify the means of transfer to Tihange in order to be able to better manage the intensive period of pool drainage after the final shutdown of the power plants, in anticipation of the final shutdown of Tihange 2 in 2023 and the subsequent drainage of the unit's pool.

In order to anticipate saturation, both at Doel and at Tihange, of the current spent fuel storage facilities, construction of a new dry storage building, called SF² (Spent Fuel Storage Facility), on each of the two sites is being studied.

The safety file for the Tihange building, submitted to the Federal Agency for Nuclear Control (FANC) in May 2018, received a favourable opinion. In early 2020, the federal authorisation to create and operate and the planning permit for the Walloon region were received.

The safety file for the Doel SF² building, similar to that of Tihange, was submitted to the FANC in early 2020.

At the same time, Synatom continues to deploy a new purchasing strategy for storage containers intended for these new installations, known as « Post-2020 Containers ». As part of this programme, 4 new container models have been developed. The safety files for the last 2 models of container were submitted in 2019, while the files for the first 2 models had already been filed in 2018. Pending their approval, and taking into account the time of manufacture of the containers, the prototype of two models was launched in the second half of 2019.

A second campaign to repair and encapsulate non-watertight spent fuel rods in the pools at Doel 1 and 2 will start in 2020. It will follow up on the first campaign carried out in early 2018. Remember that this is an important stage in end-of-life nuclear plant management.

Research and development and relations with the Belgian National Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF)

ONDRAF is continuing its research and development work on geological disposal, funded by the producers of radioactive waste, in order to develop a definitive solution for Category B&C waste.

The choice of the definitive site will only be made after a phased process, including several intermediate stages such as confirmation of the geological repository solution, followed by the choice of the host rock. This process will span several decades.

Given these uncertainties, and in the absence of a national policy, discussions were conducted with ONDRAF to re-assess the appropriate level of this research work.

Discussions with ONDRAF continued to renew Synatom's delivery contract in order to bring it into line with the Royal Decree of 25 April 2014 on the « Guiding Principles », which defined the new rules of financial management and charges between the waste producers and ONDRAF.

Management of nuclear provisions

Constitution of nuclear provisions

On 12 September 2019, a triennial reassessment of nuclear provisions was sent to the Nuclear Provisions Commission (NPC), which issued its opinion on 12 December 2019 based on the opinion expressed by ONDRAF.

In addition to accepting the values presented by Synatom, the NPC requested that a series of recommendations formulated by ONDRAF, as part of its mission to review the provisions for the NPC, be incorporated.

The NPC's decision provides, in particular, for lower discount

rates that reflect the reduced interest rates environment. This decrease means that more money will be provided from today. Thus, established on 31 December 2018 at 3.50%, the rates were reduced to 3.25% for management of irradiated fuel, the expenditure of which will take place over the coming decades, and for decommissioning, the expenditure of which will begin next year, gradually decreases it to 3% in 2019, 2.7% in 2020 and 2.5 % in 2021.

As a result, the nuclear provisions in Synatom's statutory accounts stands at 13.2 billion euros as at 31 December 2019 (compared with 11.1 billion as at 31 December 2018).

Evaluation of the provisions incorporates margins to accommodate contingencies and risks in order to take into account the degree of mastery of the decommissioning and irradiated fuel management techniques. The margins to accommodate contingencies related to the disposal of waste are determined by ONDRAF and included in its fees. Synatom also estimates appropriate margins for each cost category.

Provisions for management of irradiated fuel

As already mentioned in 2018, ONDRAF proposed, on 9 February 2018, geological disposal as a national policy for the long-term management of high-level and/or long-lived waste. This proposal, following the completion of the legally planned environmental impact assessments and consultation, remains subject to the approval of the Belgian government, which will have previously received the opinion of the AFCN.

In addition, Synatom considers in its assessment that the «mixed» scenario chosen by the NPC continues to apply: some of the fuel 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, conditioning, warehousing and geological disposal.

The residues of reprocessing and the conditioned irradiated fuel are transferred to ONDRAF ; the costs of disposal in deep geological formations are estimated by ONDRAF and evaluated not at the value of the fees established by ONDRAF in 2018 based on a total cost of the disposal facility of 8.0 billion euros in 2017, but using a « virtual prudential tariff » established by ONDRAF upon request from the NPC, based on a total cost of the disposal facility of 10.7 billion euros₂₀₁₇, excluding the optimisation options subject to appraisal. The estimated cost of the preliminary recommendation of the FANC concerning an additional shaft has also been added on the basis of ONDRAF recommendations.

ONDRAF's new baseline scenario incorporates the updated ONDRAF scenario delayed by around 30 years compared to the scenario adopted in 2016, with the beginning of geological disposal in around 2070, closing in around 2135, with the intermediate storage and reprocessing and conditioning activities postponed accordingly.

The costs actually borne in the future could, however, differ from these estimates given their nature and their due dates. ONDRAF, in its opinion to the NPC, in particular pointed to elements of uncertainty on some costs, in principle covered by the margins for contingencies, but for which the NPC will develop a work programme and additional analyses from 2020. The amount of these provisions could be adjusted at a later date depending on changes to the parameters presented above and the estimations of associated costs. More specifically, the current regulatory framework in Belgium has not yet confirmed adoption of geological disposal as a policy for managing intermediate-level and high-level nuclear waste.

The assumption incorporated into the scenario chosen by the Nuclear Provisions Commission is based on a deep geological repository on a site that is still to be identified and qualified in Belgium.

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 irradiated 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 adjusted at a later date depending on changes to the defined parameters. The hypotheses retained have a major impact on the costs associated with their installation. However, these parameters are established based on the information and estimations that Synatom considers to be most appropriate currently, and approved by the NPC.

Nuclear tax

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

The Royal Decree of 17 October 2019 set an amount of 136.9 million euros for 2019 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 US dollars 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 220.7 million US dollars

Disputes

There are no disputes in progress.

Board of Directors

No director terms of office are due to expire in 2020.

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 profit and loss statement for the financial year.

Balance sheets

Financial assets - Receivables from affiliated companies

Since 1 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.

Financial assets - Participating interests

In February 2019, Synatom acquired a stake in the I4B fund. The debt item concerns a loan with capitalised interest repayable in 12 years.

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. Synatom has an outstanding loan to SIBELGA for 10.6 million euros.

Short-term receivables - Trade receivables

This section contains the current trade receivables, including invoices issued for the three-year review of nuclear provisions.

Short-term receivables - Other receivables

At the end of 2019, this section mainly included the nuclear tax, for the year 2019, to be paid by ELECTRABEL and Luminus for their respective shares.

This section also includes part of the loan to ELECTRABEL, which will be repaid in 2020, for 108 million euros, a share of the SIBELGA loan, which will be due in 2020, for 3.2 million euros, as well as the ELIA loan, which will be repaid early on 30 June 2020, for 454 million euros.

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 some of the amount of the provisions that must be placed 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 legal provisions in force.

Results

Turnover

The turnover includes the fees for supply of fissile materials for 307 million euros.

Supplies and goods

This item includes purchases of natural uranium and 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. 161 million euros, 6 million euros of fees for decommissioning and 12 million euros for the ONDRAF R&D programme.

Non-recurring income and expenses

The amounts in this section are the result of the 2019 three-year review of nuclear provisions, and in particular the shift of the discount rate from 3.50% to 3.25% for the provision for management of irradiated fissile material and to 3.00% for the provision for decommissioning. The non-recurring operating costs reflect the provisions additional to the nuclear provisions, whereas the non-recurring operating revenue reflects the additional billing of provisions to the nuclear operators for the same amount.

Financial income

This item concerns 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 2019 financial year closed with a profit of €532,989.36 compared to €572,484.83 in 2018.

Subsequent events and outlook

The provisions incorporate into their assumptions all the regulatory requirements either existing or scheduled for implementation 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 to accommodate contingencies and risks in order to take into account the degree of mastery of the decommissioning and irradiated fuel management techniques. The margins to accommodate contingencies related to the disposal of waste are determined by ONDRAF and included in its fees. Synatom also estimates appropriate margins for each cost category.

It should also be remembered that the Belgian government has not yet made a decision regarding the management of waste, either in deep geological repositories or in long-term surface storage. For this reason, the European Commission sent a reasoned opinion to Belgium on 27 November 2019 within the framework of the infringement proceedings of Article 258 of the Treaty on the Functioning of the European Union, on the grounds that it has not adopted a national radioactive waste management programme that complies with certain requirements of the Directive on spent fuel and radioactive waste (Council Directive 2011/70/Euratom). At this stage, there is therefore only a national programme that confirms safe temporary storage of spent fuel followed by its reprocessing or storage. The assumption incorporated into the scenario chosen by the Nuclear Provisions Commission is based on a deep geological repository on a site that is still to be identified and qualified in Belgium.

Synatom considers, to the best of its knowledge, that the provisions as approved by the NPC take into account all of the information currently available to cover the contingencies and risks of the decommissioning and irradiated fuel management process.

The situation with the Coronavirus epidemic remains uncertain at this stage and its development is being monitored by Synatom, which is taking the appropriate measures to prevent contamination of its employees, subcontractors and customers and to reduce the epidemic's consequences on business and results. At this stage, we have mainly identified the temporary effect of the deterioration of the financial markets on our investments.

It is proposed to the General Assembly of 13 May 2020, ruling on the accounts for the 2019 financial year, to allocate an amount of €26,649.00 to the legal reserve and to distribute a dividend of €1.01 per fully paid-up share, for a total amount of €506,515.00. The balance of profit for the financial year, i.e. -€204.64, is deducted from the balance brought forward, which now stands at €7,869.28.

Unless there are any major unpredictable events, the profit for the current financial year should enable Synatom to pay a dividend in 2021, for the 2020 financial year, of the same order of magnitude.

We do not anticipate any other notable circumstances that could influence future development of the company in a substantial way.

Brussels, 2 April 2020

Robert LECLÈRE, CEO

Marc BEYENS, Director

BALANCE SHEET

As per 31 December (in thousands of EUR)

ASSETS	2019	2018
Fixed assets	0	0
Furniture, vehicles and equipment	0	0
Financial assets	8,256,146	8,115,000
Affiliated companies -Receivables	8,255,000	8,115,000
Participating interests	1,146	
- Participations	850	
- Receivables	296	
Other receivables	10,574	467,474
- Créances commerciales	0	0
Stocks and contracts in progress	534,318	587,699
- Stocks		
- Work in progress	534,318	587,699
Receivables within one year	3,017,699	403,448
Trade debtors	2,137,466	29,222
Other receivables	880,233	374,226
Deposits, securities and bonds	1,977,228	1,709,442
Other deposits	1,977,228	1,709,442
Cash and cash equivalents	322	262
Prepayments and accrued income	860	2,520
TOTAL ASSETS	13,797,147	11,285,845

EQUITY AND LIABILITIES	2019	2018
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	1,793	1,767
Legal reserve	1,742	1,716
Non-available reserve		
- Other	14	14
Tax free reserve	37	37
Profit brought forward	8	8
Provisions and deferred taxes	13,188,259	11,067,815
Provisions for liabilities and charges	13,188,259	11,067,815
Amounts payable within one year	591,467	202,108
Trade payables		
- Suppliers	224,261	89,989
Taxes, payroll and social security		
- Taxes	366,479	111,343
- Payroll and social security	220	229
Other amounts payable	507	547
Accruals and deferred income	3,026	1,553
TOTAL EQUITY AND LIABILITIES	13,797,147	11,285,845

INCOME STATEMENT

(in thousands of EUR)

	2019	2018
Operating income	2,020,902	776,481
Turnover	307,965	236,717
Variation in stocks of finished good, work and contracts in progress (increase +; decrease -)	-53,380	19,514
Other operating income	1,486	18
Non-recurrent operating income	1,764,831	520,232
Operating charges	2,407,739	1,148,508
Supplies and goods	103,345	134,749
Services and other goods	181,617	69,488
Payroll, social security costs and pensions	2,332	2,130
Depreciation and amounts written off on formation expenses, tangible and intangible assets	0	0
Provisions for liabilities and charges (increase +; decrease -)	355,612	421,904
Non-recurrent operating charges	2	5
Operating result	1,764,831	520,232
Financial income	-386,837	-372,027
Income from financial assets	387,500	372,626
Income from current assets	299,537	272,425
Other financial assets	87,963	99,962
Non-recurrent financial income		240
Financial charges	128	24
Other financial charges	107	
Pre-tax operating result	21	24
Pre-tax result for the year	535	575
Taxes on profit	535	575
Profit (loss) for the year	2	3
Bénéfice (Perte) de l'exercice	533	572
PROFIT OF THE YEAR TO BE APPROPRIATED	533	572

APPROPRIATION ACCOUNT	2019	2018
Profit to be appropriated	541	583
Profit for the period	533	572
Profit brought forward from previous year	8	11
Appropriation to capital and reserves	27	29
To legal reserve	27	29
Result to be carried forward	8	8
Profit to be distributed	506	546
Dividends	506	546

ADDITIONAL NOTES

(in thousands of EUR)

Financial assets

	2019
AFFILIATED COMPANIES	
Affiliated companies - Receivables	
• Net book value at the end of the previous period	8,115,000
• Additions	248,000
• Reimbursements	0
• Impairment	0
• Impairment cancellation	0
• Other	-108,000
Net book value at the end of the period	8,255,000
	2019
PARTICIPATING INTERESTS	
Participating interests - Participations	
• Acquisitions	3,100
Acquisition value at the end of the period	3,100
• Uncalled capital - movements	2,250
Uncalled capital at the end of the period	2,250
Net book value at the end of the period	850

Information about participations

NAME	INTERESTS			
	Nature	Number	%	Equity
I4B- The Belgian Infrastructure Fund SA Avenue du Port 86C - 1000 Bruxelles	Registered shares	3,100,000	33.33	EUR 2,250,000

Deposits, securities and bonds, prepayments and accrued income

	2019	2018
Deposits, securities and bonds		
• Shares	1,977,227	1,709,427
Prepayments and accrued income		
• Accrued interests	834	1,715
• Other	26	805

Equity and shareholders

CAPITAL	2019
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
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

	2019
TAXES, PAYROLL AND SOCIAL SECURITY	
Taxes	
• Due taxes	-
• Not yet due taxes	366,479
• Estimated taxes	-
Payroll and social security	
• Due liabilities to social security	-
• Other debts related to payroll and social security	220
ACCRUALS AND DEFERRED INCOME	
Deferred income	2,966
Miscellaneous	60

Additional Notes

Operating results

	2019	2018
OPERATING INCOME		
Turnover		
• Fees for the availability of fissile material	306,628	235,180
• Miscellaneous	1,337	1,537
	307,965	236,717
OPERATING CHARGES		
Number of staff hired		
• Total at the end of period	14	15
• Average number of staff in full time equivalent	14.3	13.4
• Effective hours	22,396	20,752
Employment costs		
• Payroll and social benefits	1,402	1,391
• Employer's contribution to social security	395	382
• Employer's premiums for non-statutory insurance	492	315
• Other personnel costs	43	42
	2,332	2,130
Provisions for liabilities and charges		
• Increase	522,571	473,915
• Use and decrease	(-)166,959	(-)52,011
	355,612	421,904
Other operating charges		
• Taxes related to operations	2	3
• Other		1
	2	4

Non recurrent income and charges

	2019	2018
NON-RECURRENT INCOME		
Non-recurrent operation income		
• Other non-recurrent operation income	1,764,831	520,232
NON-RECURRENT CHARGES		
Non-recurrent operating charges		
• Exceptional provisions for liabilities and charges	1,764,831	520,232

Taxes

	2019	2018
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	(-)596	(-)635
VALUE ADDED TAX AND RETAINED TAXES CHARGED TO THIRD PARTIES		
Value added tax charged		
• To the company (deductible)	5,373	6,488
• By the company	433,352	157,178
Retained taxes charged to third parties		
• On wages and salaries	497	517

Additional Notes

Off balance sheet rights and commitments

Forward transactions

Purchase foreign exchange 182,225

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.

Other off balance sheet rights and commitments

Revision of the dismantling provision for nuclear plants – 2,70% in 2020195,126

Revision of the dismantling provision for nuclear plants – 2,50% in 2021126,103

Relations with affiliated and associated companies

	AFFILIATED COMPANIES		ASSOCIATED COMPANIES	
	2019	2018	2019	2018
Financial assets				
• Participation	-	-	850	
• Other receivables	8,255,000	8,115,000	296	
	8,255,000	8,115,000	1,146	
Receivables				
• Long-term (more than 1 year)				
• Short-term (less than 1 year)	2,553,172	351,449		
	2,553,172	351,449		
Liabilities				
• Short-term (less than 1 year)	8,268	1,055		
	8,268	1,055		
Financial results				
• Income from financial assets	292,442	266,297		
• Income from current assets	82,635	93,108		
• Debt charges	107			

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 EUR 40 million that expired 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 EUR 14 million, 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 : EUR 25 (303)

B. The auditor(s) or associated persons

Audit fees : EUR 39 (000)

Other control missions : EUR 3 (750)

Valuation of the nuclear provisions

The Belgian Law of 11 April 2003 assigns to Synatom management of the provisions for decommissioning of nuclear power plants and for managing the back-end of the irradiated fuel cycle in these plants. Under the same law, Synatom can lend ELECTRABEL an amount corresponding to a maximum of 75% of the amount of the nuclear provisions. The ELECTRABEL debt on the Synatom balance sheet, including trade liabilities, amounted to €10.5 billion at 31 December 2019 (€8.3 billion at 31 December 2018).

Moreover, this legislation has organised establishment of a Nuclear Provisions Commission (NPC), whose mission is to control the process of constitution and management of these provisions.

To enable the NPC to perform its missions in accordance with the law referred to above, Synatom is required to submit, every three years, a file describing the basic features of the constitution of these provisions. In the event that changes are observed between two triennial valuations, which may significantly change the financial parameters, the industrial scenario, the cost estimate or the timetable, the Commission may revise its opinion.

On 12 September 2019, a triennial reassessment of nuclear provisions was sent to the Commission, which issued its opinion on 12 December 2019 based on the opinion expressed by ONDRAF (Belgian National Agency for Radioactive Waste and Enriched Fissile Material). The conclusions of the NPC include :

- the impact of the new baseline scenario for long-term management of nuclear waste in categories B and C (intermediate and high-level) in Belgium, ordered by ONDRAF in June 2018 and measured on a gross estimate of €10.7 billion ;
- ONDRAF recommendations regarding the inclusion of certain proven or probable costs ;
- the scenario developed for the definitive shutdown and decommissioning of nuclear power plants and for management of irradiated fuel based on industrial feedback, especially from dismantling currently under way in Germany ;
- the financial calculation incorporating inclusion of lower discount rates, to conservatively determine the amounts to be provisioned today to cover expenses that will occur in over 70 years in some cases ;
- The decision of the NPC provides, in particular, for lower discount rates that reflect the reduced interest rates environment. This decrease means that more money will be provided from today. Therefore, established at 31 December 2018 at 3.50%, the rate was reduced on 31 December 2019 to 3% for decommissioning, of which the expenses will begin next year, and to 3.25% for irradiated fuel (« back-end »), of which the expenses will occur in the coming decades. It should be noted that the discount rate for decommissioning is to be reduced to 2.7% in 2020 and 2.5% in 2021.

In total, consideration of the opinion of the NPC has led to a revaluation of nuclear provisions of €1.7 billion, beyond the recurring annual undiscounting expense and the allocations for the quantities of fuel consumed during the year.

The provisions have been established considering the current contractual and legal framework that sets the operating life of nuclear units at 50 years for Tihange 1 and Doel 1 & 2 and 40 years for other units.

The provisions incorporate into their assumptions all the environmental regulatory requirements either existing or scheduled for implementation 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, Synatom is not aware of any changes to regulations on the constitution of these provisions that could significantly affect the provisioned amounts.

Evaluation of the provisions incorporates margins to accommodate contingencies and risks in order to take into account the degree of mastery of the decommissioning and irradiated fuel management techniques. The margins to accommodate contingencies relating to disposal of waste are determined by ONDRAF and exceed those incorporated into its fees to make sure that the provisions cover the expenses associated with the back-end of the cycle in the event that the

Additional Notes

optimisations submitted for appraisal do not materialise. Synatom also estimates appropriate margins for each cost category.

Synatom considers, to the best of its knowledge, 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.

Provisions for the backend of the cycle

After being unloaded from the reactor and stored temporarily on site, the spent nuclear fuel should be conditioned, and possibly reprocessed to separate the most active radionuclides, prior to disposal for long-term storage.

On 9 February 2018, ONDRAF proposed geological disposal 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 the FANC (Federal Agency for Nuclear Control).

In addition, Synatom considers in its assessment that the « mixed » scenario chosen by the NPC continues to apply : some of the fuel, that containing the most active radionuclides, is reprocessed and the rest is disposed of directly, without being reprocessed.

The provisions for the back-end of the cycle cover all of the costs associated with this « mixed » scenario : on-site warehousing, transport, reprocessing, conditioning, warehousing and geological disposal. They are determined based on the following principles and parameters :

- the costs of temporary storage, mainly including the costs of construction and operation of additional dry storage facilities, as well as the operation of existing installations, and the costs for purchasing containers ;
- some of the irradiated fuel is transferred for reprocessing. The plutonium and uranium produced by reprocessing are sold to a third party ;
- the irradiated, non-reprocessed fuel is conditioned, which requires the construction of conditioning installations according to the acceptance criteria issued by ONDRAF. The ONDRAF recommendations relating to the cost of this facility have been fully taken into account ;
- the residues of reprocessing and the irradiated fuel are transferred to ONDRAF; the costs of disposal in deep geological formations are estimated by ONDRAF and evaluated not at the value of the fees established by ONDRAF in 2018 but using a « virtual prudential tariff » established by ONDRAF upon request from the NPC, based on a total cost of the disposal facility of €10.7 billion₂₀₁₇ excluding the optimisation options subject to appraisal. The estimated cost of the preliminary recommendation of the FANC concerning an additional shaft has also been added on the basis of ONDRAF recommendations ;
- the forward commitment is calculated on the basis of estimated internal costs and external costs evaluated from bids received from third-parties ;
- the new baseline scenario incorporates the updated ONDRAF scenario delayed by around 30 years compared to the scenario adopted in 2016, with the beginning of geological storage in around 2070, closing in around 2135, with the intermediate

storage and reprocessing and conditioning activities postponed accordingly ;

- the discount rate is reduced to 3.25%. It takes into account (i) an analysis of the evolution and the historical and prospective average of the reference rates in the long term, (ii) the extension of the duration of liabilities in light of the new ONDRAF scenario, and (iii) the commitments relating to financing of these provisions made by ELECTRABEL to Synatom ;
- an inflation assumption of 2.0% (an actual rate of 1.25%).

The costs actually borne in the future could, however, differ from these estimates given their nature and their due dates. ONDRAF, in its opinion to the NPC, in particular pointed to elements of uncertainty on some costs, in principle covered by the margins for contingencies, but for which the NPC will develop a work programme and additional analyses from 2020. The amount of these provisions could be adjusted at a later date depending on changes to the parameters presented above and the estimations of associated costs. More specifically, the current regulatory framework in Belgium does not allow partial reprocessing and has not yet confirmed adoption of geological disposal as a policy for managing intermediate-level and high-level nuclear waste.

Regarding the partial reprocessing scenario, following a resolution passed by the House of Representatives in 1993, reprocessing contracts that were not running were suspended and then terminated in 1998. The scenario retained is based on the assumption that the Belgian Government will authorise Synatom to reprocess spent fuel and that an agreement between Belgium and France will be signed in order to allow Orano (formerly Areva) to carry out this reprocessing. A scenario based on direct disposal of waste, without prior reprocessing, would lead to a provision lower than that resulting from the « mixed » scenario retained today and approved by the NPC.

Furthermore, the Belgian government has not yet made a decision regarding the management of waste, either in deep geological repositories or in long-term storage above ground. For this reason, the European Commission sent a reasoned opinion to Belgium on 27 November 2019 within the framework of the infringement proceedings of Article 258 of the Treaty on the Functioning of the European Union, on the grounds that it has not adopted a national radioactive waste management programme that complies with certain requirements of the Directive on spent fuel and radioactive waste (Council Directive 2011/70/Euratom). At this stage, there is therefore only a national programme that confirms safe temporary storage of spent fuel followed by its reprocessing or 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 « waste plan », extrapolated to a deep site to be identified and qualified in Belgium.

Sensitivity

The provisions for management of the back-end of the nuclear fuel cycle remain sensitive to assumptions concerning costs, schedule of operations and commitment of expenses and to the discount rate :

- a 10% increase in ONDRAF fees beyond the virtual prudential tariff requested by the NPC for the disposal of high-level and/or long-lived waste would result, for an unchanged amount of uncertainty margin, in an increase in the provisions of about €170 million ;
- the acceleration by 5 years of ONDRAF expenses for temporary storage, conditioning and storage of high-level and/or long-lived radioactive waste would result in a €165 million increase in provisions. Postponing these expenses in the engagement schedule by 5 years would result in less of a reduction ;
- the impact of a variation in the discount rate of 10 basis points is likely to lead to a change in the balance of provisions for processing the back-end of the nuclear fuel cycle in the region of €250 million, upwards if the rate decreases and downwards if the rate increases.

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

Provisions for decommissioning

At the end of their operating life, nuclear power plants must be dismantled. The provisions created in Synatom's accounts 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 irradiated 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 provisions for decommissioning of nuclear power plants are constituted based on the following parameters :

- the amount to be disbursed is ultimately determined by the estimated costs of each nuclear power plant, based on a study conducted by an independent consultancy firm and under the assumption that the plants would be dismantled in series ;
- the fees for the management of category A and B decommissioning waste are determined using the « virtual prudential tariff » established by ONDRAF at the request of the NPC and including margins recommended by ONDRAF for waste reclassification risks given the uncertainties relating to definition of criteria for admission of waste into these categories ;
 - for the different phases, the inclusion of margins for normal contingencies, reviewed by ONDRAF and the NPC, is taken into account ;

- a rate of inflation of 2% is applied until the end of decommissioning for determining the future value of the commitment ;
- a discount rate reduced to 3% (including 2.0% inflation) is applied at 31 December 2019 for the determination of the current value of the commitment (NPV). It differs from that used for the provision for management of the back-end of the nuclear fuel cycle given the significant differences in duration of the two obligations after consideration of the new ONDRAF scenario. It should be noted that this discount rate will be reduced to 2.7% in 2020 and 2.5% in 2021 ;
- the operating life of the nuclear units is 50 years for Tihange 1 and Doel 1 & 2 and 40 years for the other units ;
- the beginning of the technical operations for the final shut-down of the installations depends on the unit concerned and the sequencing of the operations for the entire fleet. They are immediately followed by the dismantling phase.

The costs actually borne in the future could, however, differ from these estimates given their nature and their due dates. ONDRAF, in its opinion to the NPC, in particular pointed to elements of uncertainty on some costs, in principle covered by the margins for contingencies, but for which the NPC will develop a work programme and additional analyses from 2020. The amount of these provisions could also be adjusted at a later date depending on changes to the parameters presented above. However, these parameters are established, and the assumptions are made, based on the information and estimations that Synatom considers to be most appropriate currently, and approved by the NPC.

Moreover, the scenario retained is based on a dismantling plan and schedules that should be approved by the nuclear safety authorities.

Sensitivity

Based on the parameters currently applied for the estimation of costs and the disbursement calendar, a variation in the discount rate of 10 basis points is likely to lead to a change in the balance of provisions for decommissioning in the region of €60 million, upwards if the rate decreases and downwards if the rate increases.

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

Additional Notes

Electrabel commitment

Electrabel, going beyond its legal obligations, committed to fund via Synatom the full amount of the provisions for management of spent fuel by 2025, according to the following schedule :

2020	2021	2022	2023	2024	2025	Total
108	870	894	889	931	1,071	4,763

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

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.

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 (backend 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 2019 - 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 report includes our report on the annual accounts and the other legal and regulatory requirements. These parts should be considered as integral to the report.

We were appointed in our capacity as statutory auditor by the shareholders' meeting of 8 May 2019, in accordance with the proposal of the board of directors. Our mandate will expire on the date of the shareholders' meeting deliberating on the annual accounts for the year ending 31 December 2021. Due to a lack of online archives dating back prior to 1997, we have not been able to determine exactly the first year of our appointment. We have performed the statutory audit of the annual accounts of Société Belge des Combustibles Nucléaires Synatom SA for 22 consecutive periods.

Report on the annual accounts

Unqualified opinion

We have audited the annual accounts of the company, which comprises the balance sheet as at 31 December 2019 and the income statement for the year then ended, as well as the explanatory notes. The annual accounts show total assets of 13 797 147 (000) EUR and the income statement shows a profit for the year ended of 533 (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 2019 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 Standards on Auditing approved by the IAASB applicable to the current financial year, but 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.

Emphasis of matter

Without questioning the unqualified opinion expressed above, we draw attention to appendix C6.20 Point 2 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 preparation of 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.

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 the performance of our audit, we comply with the legal, regulatory and normative framework as applicable to the audit of annual accounts in Belgium. The scope of the audit does not comprise any assurance regarding the future viability of the company nor regarding the efficiency or effectiveness demonstrated by the board of directors in the way that the company's business has been conducted or will be conducted.

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 the board of directors ;
- conclude on the appropriateness of the use of the going concern basis of accounting by the board of directors and, based on the audit evidence obtained, whether 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 the documents to be filed according to the legal and regulatory requirements, 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, the Code of companies and associations 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 to the International Standards on Auditing (ISA) as applicable in Belgium, our responsibility is to verify, in all material respects, the director's report on the annual accounts, those documents to be filed according to the legal and regulatory requirements and compliance with certain obligations referred to in the Companies Code, the Code of companies and associations 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 that same year and has been established in accordance with the requirements of articles 3:5 and 3:6 of the Code of companies and associations.

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 3:12, § 1, 8° of the Code of companies and associations, includes, both in form and in substance, all of the information required by this Code, including those relating to wages and training, and is free from any material inconsistencies with the information available to us in the context of our mission.

Statements regarding independence

- Our audit firm and our network have not performed any prohibited services and our audit firm has 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 3:65 of the Code of companies and associations, 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 do not have to report any transactions undertaken or decisions taken which may be in violation of the company's articles of association, the Companies Code or, as from 1 January 2020, the Code of companies and associations.

Zaventem, 22 april 2020

The statutory auditor

Deloitte Bedrijfsrevisoren/Réviseurs d'Entreprises CVBA/SCRL

Represented by Laurent Boxus

Electrabel



Use

Desactivation

Fuel assemblies

Spent fuel assemblies

Manufacturing

Intermediate storage

Enriched UF₆

Pu

Reprocessing

Non-reprocessing

Enrichment

U

Waste

Conditioning

Conditioning

UF₆

Conversion

U

Storage

Storage

U308

Extraction & concentration

Final disposal

FRONT-END

BACK-END

FRONT-END

BACK-END

Synatom

ONDRAF/NIRAS

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 85% uranium.

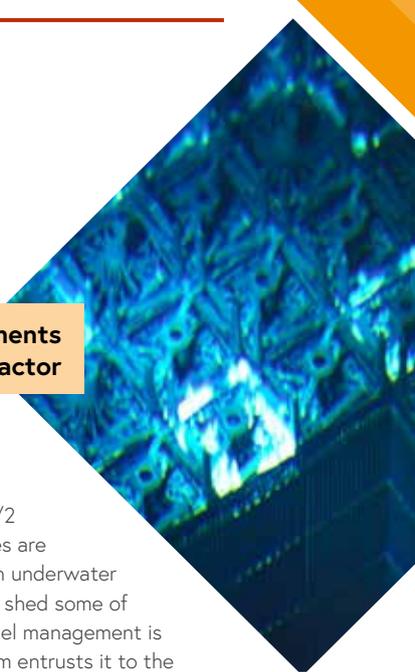
Conversion : The uranium concentrate is then refined and processed into a gaseous chemical compound : uranium hexafluoride.

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 nuclear power plant operator, who determines the specific requirements. Synatom's mission is to deliver the enriched uranium hexafluoride to the fabrication plant.

Use in the reactor

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



Fuel elements
inside the reactor

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 disposal : 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.



Yellow cake



Storage building for reprocessed waste -
Site of Belgoprocess in Dessel

1969-2019

50 years

1969 – 2019 : 50 years of excellence

In 50 years, many events have taken place in Belgium and around the world. The energy, electricity and nuclear power sectors have evolved significantly.

Synatom has always been able to adapt by relying on its founding values. Since the beginning of its existence, Synatom has endeavoured to act in a conscientious and appropriate manner, following the path desired by its various stakeholders.

Key dates in half a century of existence ...

... marked by important events that have had a major impact on Synatom's activities.

**29
October
1969**

The founding of Synatom

Synatom was founded to research, build and operate all of Belgium's nuclear facilities.

Construction began at the end of the 1960s on Belgium's first nuclear power plants : Doel and Tihange.

2003

Law to gradually phase out nuclear power

... for industrial electricity production

On 31 January 2003, the Belgian government adopted a law containing the following principles

- to gradually phase out nuclear energy
- to prohibit the building of new nuclear power plants

2013

Amendment to the law to gradually phase out nuclear power

On 18 December 2013, the Belgian government amends the law of 31 January 2003 on phasing-out nuclear power. It authorises Tihange 1 to operate for 50 years instead of the 40 years initially stated in the 2003 law.

1977

The articles of association are amended

The purpose of Synatom becomes the one we know today, namely, to manage front and back end operations in Belgium's nuclear fuel cycle.

2003

Articles of association are amended

The Belgian law of 11 April 2003 makes Synatom Belgium's nuclear provisioning company. It must now manage all the costs related to :

- Decommissioning the nuclear power plants.
- Managing the irradiated fissile materials in Belgium's nuclear power plants.

2015

Amendment to the law to gradually phase out nuclear power

On 28 June 2015, the Belgian government amended the nuclear power phase-out law again. It authorised the Doel 1 and Doel 2 reactors to operate for 50 years instead of the 40 years initially stated in the 2003 law.

1983

The Belgian Federal State becomes a shareholder

The Belgian state acquires a 50% stake in Synatom through the Société Nationale d'Investissement (Belgium's national investment company).

The name changes : Société belge des combustibles nucléaires Synatom (the Belgian Nuclear Fuel Company SYNATOM) is shortened to Synatom.

2003

Creation of Belgium's Nuclear Provisions Commission (NPC)

The Belgian law of 11 April 2003 also established a Nuclear Provisions Commission. The Commission's role is to issue recommendations and monitor Synatom's nuclear provisions or funds.

2018

Repatriation of the last reprocessed nuclear waste to Belgium

On 4 July 2018, the last transfer of reprocessed radioactive waste from spent fuel assemblies from the Doel and Tihange plants.

1994

The Belgian Federal State sells its stock

The Belgian state sells its Synatom stock.

All of the shares, except one, become the property of SUEZ-TRACTEBEL.

The state holds on to one « **golden share** », which gives it the **right to veto** any decision that conflicts with the country's energy policy.

2004

SUEZ-TRACTEBEL sells its stake

SUEZ-TRACTEBEL sells its stake in Synatom to Electrabel.

**29
October
2019**

29 October 2019 : Synatom celebrates its 50th anniversary

Synatom is fully up and running, and ready to carry out its missions over the next few decades.

In accordance with Belgian law,
Synatom publishes its annual report
in French and Dutch.

An English version is also available. You can
also access and download these three versions
at www.synatom.com.

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SYNATOM

Pages 4 to 11 : ACTE 4 SPRL – Jean-Jacques Pleyers

Photos

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- Page 37 below : Storage building for reprocessed waste - Site of Belgoprocess in Dessel. Photo library NIRAS/ONDRAF

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50
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