

Research for a better future



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IFE Annual Report. IFE bears no responsibility for printing errors. Graphic design and print: CopyCat AS

About IFE

The Institute for Energy Technology (IFE) conducts research for a better future. Since 1948, we have been a frontrunner in international energy research. The knowledge we have developed has saved the petroleum industry several hundred billion kroner. We have contributed to the development of ground-breaking cancer medicine, new solutions in renewable energy, more energy-efficient industrial processes, zero-emission transport solutions and future-oriented energy systems.

At IFE, we build bridges between research, education and industry. We have extensive infrastructure and full-scale laboratories where theoretical models are transformed into commercial activities. IFE has unique expertise and systems within radiation protection and environmental monitoring of radioactive and chemical emissions. This makes us an important partner for companies that want to research, develop and produce new solutions for renewable energy and medicine using radioactive sources.

The digitalisation of society is seeing the emergence of a new era. IFE has broad digital expertise and contributes to quality assurance and efficiency improvements for customers in the public sector and in trade and industry. When the next chapter in Norway's history is written, it will be about how we adapt. We must create new and sustainable jobs. At IFE we have already begun – we are conducting research for a better future.

Income statement

Parent company Group				
Figures in NOK thousand Figures in NOK thousand				
2020	2019	Income statement per 31.12.	2020	2019
650 259	621 285	Contract revenues	650 259	621 362
413 011	407 113	Government grants	413 011	407 113
44 571	42 132	Contributions from international partners at Halden	44 571	42 132
728	1 439	Other operating income	728	7 461
1 108 569	1 071 970	Total operating revenues	1 108 569	1 078 068
602 581	598 513	Payroll and personell expenses	604 282	600 098
96 060	62 968	Cost of sales	96 060	62 938
349 360	336 223	Other operating expenses	349 779	336 841
26 750	22 468	Depreciation, fixed and intangible assets	26 750	22 468
395	6 235	Write-down of fixed assets	395	6 235
1 075 147	1 026 377	Total operating expenses	1 077 266	1 028 580
33 423	45 593	Operating profit	31 303	49 489
2 739	3 482	Financial income	3 066	13 894
3 147	1 900	Financial expenses	299	14 050
-408	1 581	Net financial items	2 767	-156
33 015	47 175	Profit before tax	34 070	49 333
0	0	Tax	677	709
33 015	47 175	Net profit for the year	33 394	48 624
		Allocation of net profit for the year		
33 015	47 175	Other equity		

Report of the Board of Directors

General information about the foundation

The Institute for Energy Technology (IFE) was established in 1953. The foundation's objective is to work on a not-for-profit basis for the public good by conducting research and development in the field of energy and other areas where the foundation's expertise is of particular relevance. The Annual Report provides a consolidated income statement for the IFE foundation and the group, which comprises IFE and IFE Invest AS. IFE's activities focus on three main areas: nuclear technology, radiopharmacy and research. The foundation's headquarters are at Kjeller in the municipality of Lillestrøm. The business is run from our premises at Kjeller and in Halden.

IFE is a research institute for technology and industrial development and receives core funding from the Research Council of Norway. IFE conducts applied research within the fields of energy, the environment and digitalisation and it is Norway's largest centre of excellence for nuclear technology.

Principal activities

IFE has formulated a new strategy for the period 2020 to 2024. IFE's vision is 'research for a better future'. The new strategy is based on the UN sustainable development goals and the EU aim of targeting research and innovation at addressing global societal challenges. At the start of the new strategy period, IFE has two important social missions: One is research for a better future and economic growth in Norway. The other is safe waste management and clean-up after 70 years of nuclear activities in Norway. The government has set up the Norwegian Nuclear Decommissioning Authority (NND) as an administrative agency under the Ministry of Trade, Industry and Fisheries to oversee the decommissioning of the nuclear facilities. In 2020, IFE negotiated with the government to agree the rules for transferring all nuclear activities from IFE to the NND. The agreement is expected to be finalised in 2021. IFE and NND have jointly set a target date of 1 January 2024 for all nuclear activities to be transferred. The foundation will change considerably in the course of the next few years as nuclear licences, facilities and organisation are transferred to the state.



Minister of Petroleum and Energy Tina Bru opened IFE's new battery laboratory at Kjeller in August 2020. From left: Hanne Flåten Andersen, Nils Morten Huseby and Tina Bru (photo: IFE / Bo Mathisen)

In 2020, IFE started work on a study to explore the benefits of restructuring the foundation as a corporate group of companies in order to facilitate the development of values and potentials. There is considerable potential for growth in research and in radiopharmaceuticals. Because the foundation's existing divisions have different business models, risk profiles and markets, IFE seeks to establish whether it may be useful to make each division a separate company to facilitate continued growth and development. The study started in 2020 and will continue in 2021.

In 2020, IFE and the NILU, NIVA and NGI research institutes signed a Letter of Intent to commit to exploring appropriate models for closer collaboration, including a potential joint research corporation. The institutes collaborate extensively on various research projects and they complement one another in terms of expertise. The institutes will reach a conclusion to this process in the course of 2021.

IFE owns considerable property at Kjeller, including 38 acres of land, as well as two large commercial properties in Halden. Because parts of the property at Kjeller will be transferred to the state at the same time as the nuclear facilities, the research & development division will have to vacate a number of offices and laboratories. IFE has commenced a comprehensive piece of work on drawing up a masterplan and a structural plan for the construction of new buildings for the research & development and radiopharmaceutical divisions. For a transitional period, IFE has rented premises at the Science Park to secure access to office space in the vicinity of the foundation's other operations at Kjeller.

The global pandemic of 2020 made this an extraordinary year. IFE contributed actively to the national emergency response by introducing a number of infection control measures. Some of IFE's activities are critical to society within nuclear technology, safety and emergency preparedness, and the production and distribution of radiopharmaceuticals. IFE introduced highly comprehensive measures, some of which were stricter than the government-imposed rules imposed nationally to prevent infection.

The coronavirus situation has affected operations in several areas and has caused delays and reduced incomes in some of our current projects. However, IFE has been able to compensate for the loss of income by reducing costs and by coming to an agreement with customers and associates. The Board considers that IFE did well in 2020 despite the demanding working conditions for staff caused by the coronavirus situation, and the directors are highly pleased with the efforts that went into keeping the wheels turning. Government support initiatives have played an important part. Extraordinary allocations of core funding for research were also important contributions that enabled investment in essential infrastructure for IFE's research within green transitioning and digitalisation.

Highlights of the research & development operations in 2020

IFE has seen increasing demand for research in several markets, including renewable energy, energy systems, energy storage and digital systems. There has been a steady flow of researchers recruited to all these areas. Following the shutting down of the research reactors in 2018 and 2019, some nuclear research has continued while other work has been restructured.

Since 1958, IFE has been hosting the Halden Project, which is an international research project run by OECD/NEA (Nuclear Energy Agency). The Halden Project is Norway's largest, longest-lasting and most nationally diverse research project with approx. 100 member organisations from 19 countries. Since the project's inception, Norway has contributed with funding from the state budget. There have been two parts to the project. One activity has been linked to the Halden reactor and involves research on fuels and material safety





For a number of years, IFE has had nationally leading infrastructure and facilities for research and development of batteries and battery materials. Photo: IFE / Bo Mathisen.

at nuclear power plants. The other activity is linked to IFE's large Haldenbased network of specialists in data technology and industrial psychology which enables research on human-technology-organisation (HTO). In 2020, the members agreed to continue the Halden Project for a further 3-year period. A new HTO project was set up, involving 11 member countries, while HRP Fuels and Material was extended by three years in order to complete ongoing activities and establish shared 'data lake' technology for advanced research on data produced over 60 years of running experiments in the Halden reactor. This is probably the largest data lake established at any Norwegian research centre and the technology will be extremely beneficial for Norwegian industry and business.

IFE has negotiated a partnership agreement with the Paul Scherrer Institute (PSI) in Switzerland, thereby gaining access to their research reactor for the Norwegian neutron researchers who contribute to NcNeutron. NcNeutron is national research infrastructure funded by the Research Council of Norway and it used to be linked to the JEEP II reactor at Kjeller. Neutron research is key to the development of materials technology, renewable energy, and environmental research – or the green transition, in short. IFE's Board is very pleased that the institute has been able to continue and further develop the research that was linked to both reactors after they were shut down.

In 2020, IFE has further strengthened its investment in EU-funded research projects, and is working systematically to develop European consortia. The research & development division is taking a targeted approach to securing research projects in partnership with business enterprises and projects funded by the Research Council of Norway. The Board is pleased with the positive development of IFE's research activities.

In an effort to disseminate knowledge produced by the research & development division, IFE seeks to publish scientific articles in international journals and other publications approved for inclusion in the Norwegian Scientific Index.

In 2020, IFE has actively provided input to the Research Council of Norway, government ministries and Abelia (the association of Norwegian knowledge and technology based enterprises) by proposing support measures to alleviate the effects of the coronavirus pandemic. Representations have also been made in connection with consultations and national strategies for research, innovation, and economic development.

In 2020, there has been a high level of commercialisation activity within the research & development division and IFE's subsidiary company IFE Invest AS. A milestone was reached in March 2020 with a NOK 130 million share issue by Zeg Power AS, whose technology stems from IFE, involving a hydrogen reforming plant with integrated carbon capture. The share issue was addressed at international venture funds that specialise in hydrogen, and Norwegian investors like Nysnø and Nordea. IFE Invest AS has subscribed to shares issue by several of the companies in the portfolio and contributes actively to their development through owner governance.

Highlights of the nuclear technology operations in 2020

The first nuclear research facilities in Norway were set up by the Norwegian state in 1948 and IFE was formed in response to a government initiative designed to develop these research activities further, commissioned by the state. In the post-war period, this was a national, strategically important project that sought to develop the country into a high-tech nation and secure its geopolitical position. Since then, IFE has been running the Norwegian nuclear plants under licences issued by the state.

IFE decided to shut down the Halden reactor in 2018 and the JEEP II reactor at Kjeller in 2019. As a consequence, Norway's nuclear programme involving reactors and a number of other nuclear facilities will be decommissioned, and the nuclear waste must be managed and disposed of. The state formed Norwegian Nuclear Decommissioning (NND) in 2018 to oversee the decommissioning process. IFE and NND have jointly set 1 January 2024 as a target date for the transfer of all nuclear activities from IFE to NND.

In 2020, considerable efforts went into clarifying the process of transferring all nuclear activities, plant, and organisation from IFE to the state. In autumn 2020, the Government published a white paper, Meld. St. 8 (2020–2021) Safe decommissioning of Norwegian nuclear facilities and management of nuclear waste. This presented the Government's nuclear clean-up strategy. The paper was debated by the Norwegian parliament in the spring of 2021.

The white paper gives a good description of the history and general steps involved with the decommissioning process, but provides no clarity with respect to rate of progress, roles and responsibilities. IFE has in 2020 been calling for a national strategy for the transfer in order to ensure its safety and cost effectiveness as well as its rate of progress, management, risks caused by delay, and a concerted approach that takes account of all issues. IFE's research activities are hugely significant, nationally as well as internationally. The Board is concerned that IFE should not be burdened with legal and financial liabilities in connection with the decommissioning that will prevent further development of IFE's other activities.

IFE has been granted a renewed licence to own and operate the nuclear reactor and fuel stores in Halden from 1 January 2021 to 31 December 2030 inclusive, with an option to transfer the facilities to NND from 1 January 2024. The new licence lists 25 general conditions and 15 supplementary conditions. The licence conditions are based on international best practice for the operation of nuclear power plants and represent a further tightening compared to the licensing conditions imposed on IFE for the facilities at Kjeller in the licence granted from 1 January 2019. This means that in the years ahead, IFE will need to spend considerable resources on developing the nuclear technology division by recruiting further expertise and resources in order to meet the new licensing regime before the licence, facilities and organisation are transferred to NND.

In connection with IFE's restructuring activities in Halden, members of staff reported in the spring of 2019 that irregularities had been found in commissioned research that involved the testing of fuels and materials for use in nuclear power plants. IFE hired Kvamme Associates AS to undertake an externally led investigation working in partnership with investigators from the Selmer legal practice.

The investigation has uncovered irregularities in projects undertaken for four different customers at the Halden Reactor. Data or test designs had been altered in breach of IFE's test procedures and the customers' specifications. In these types of test, any departure from the specifications is serious. The investigation concluded that this had been concealed in a way that made it difficult to discover. IFE has reported the matter to the National Authority for Investigation and Prosecution of Economic and Environmental Crime, but it has not yet been confirmed whether they will open a criminal investigation.

IFE's investigation confirms that the irregularities have had no safety implications for the Halden Reactor. The investigators have interviewed customers at length to establish how the data were used in order to clarify whether there are any safety implications for facilities abroad.

IFE has kept the authorities, affected customers and other relevant actors continually informed about the matter. The Norwegian Radiation Protection Authority has closely monitored IFE's investigation. The investigation has found no irregularities in the Halden Project.

Highlights of the radiopharmacy operations in 2020

Our radiopharmacy division has seen considerable growth in the course of only a few years and now accounts for one third of IFE's turnover and staff. This is an autonomous division, and in 2020 a study has been undertaken to examine the potential benefits of a demerger to set the division up as a separate corporation.

IFE works in close partnership with Bayer on contract production of the cancer drug Xofigo and the development of several innovations. In 2020, IFE and Bayer commissioned Menon to analyse the value generated by Xofigo and the Thorium platform. In the period 2010-2018, total value added was NOK 3.6 billion. Per employee, this amounted to NOK 2.4 million, compared to NOK 1.4 million in other parts of the health industry. In 2018, the activity provided 400 jobs of which 130 at IFE. The report showed that IFE has been essential for securing Norwegian production of Xofigo for the global market. In 2020, Xofigo was exported to China for the first time and the drug is expected to generate increased turnover thanks to the opening up of the Chinese market. In the course of 2020, IFE has acquired a number of new customers who wish to develop and produce radiopharmaceuticals. The radiopharmacy division has delivered good results in 2020, despite the demanding situation caused by the pandemic involving lower levels of clinical testing of new drugs at hospitals and logistical challenges due to fewer domestic and international flights.

Therapeutic radiopharmaceuticals represent a global growth market and a niche where Norway is set to develop a health industry that offers high productivity jobs. Norway has a complete value chain ranging from internationally leading research communities to unique start-ups at OUS, UiO, Oslo Cancer Cluster and Radforsk. IFE has a complete infrastructure that offers development and manufacturing expertise as well as facilities, local and global distribution networks, and infrastructure in the form of licences and permits, accreditation, radiation protection, waste management, physical protection and emergency preparedness.

In 2019 and 2020, IFE has completed a NOK 50 million investment programme in order to expand the development and production of radiopharmaceuticals, to facilitate an increased customer base and contribute to the development of a Norwegian export industry in radiopharmaceuticals in partnership with established pharmaceutical companies and start-ups.

Continued operation

The Board confirms, pursuant to section 3(3)(a) of the Norwegian Accounting Act, that the criteria for continued operation are present and that the annual accounts for 2020 have been prepared on a going concern basis.

The annual financial statements

In 2020, the group's consolidated turnover amounted to NOK 1 108 million (NOK 1 078 million in 2019) while the IFE foundation's revenue amounted to NOK 1 108 million (NOK 1 071 million in 2019).

The turnover is at the same level as last year. Out of the group's consolidated turnover, government subsidies accounted for NOK 413 million. The largest subsidy allocation was for the operation and safeguarding of nuclear facilities, while other items include core funding, support for the Halden Project, etc. Further details are provided in Note 10. The group and the foundation's other operating revenues stem from contracts and contributions from research activities, foreign contributors to the Halden Project and the radiopharmacy business. The research activities conducted by the group and the foundation are part funded by the Research Council of Norway, the EU and other industry partners. A considerable share of the income was generated by radiopharmaceutical production and wholesale operations, which in 2020 amounted to NOK 361 million (NOK 312 million in 2019). The rise in turnover was largely generated by the wholesale operation.

The group accounts show a profit of NOK 33 million (NOK 48 million in 2019), while the foundation's profit amounts to NOK 33 million (NOK 47 million in 2019). The result is due to revenues from the foundation's research contracts and from the radiopharmaceutical business. The nuclear activities break even thanks to government subsidies. The government requires IFE to contribute financially to the nuclear clean-up operation. This reduced the year-end result by NOK 8 million.

The foundation's balance sheet includes a disputed current liability of NOK 12 million. This item is largely associated with disputed accounts payable. The liability has been estimated based on probable outcomes and the true cost may turn out to be higher or lower than the book value.

As of 31 December 2020, the group's consolidated equity amounted to NOK 426 million (NOK 392 million in 2019) while the foundation's equity amounted to NOK 372 million (NOK 339 million in 2019). The equity ratio is 46 per cent, which is considered satisfactory.

The cash-flow statement is positive for the foundation as well as the group. The group's cash balance has been strengthened by NOK 317 million while the foundation's cash balance has been improved by NOK 39.5 million.

Net income from operations amounted to NOK 98 million for the group and NOK 102 million for the foundation. This is considerably higher than the pre-tax profit due to depreciation/ write-downs and reduced net current assets, including a higher volume of early settlement of accounts receivable.

Financial risk

The foundation aims to keep financial risks at the lowest possible level. The liquidity risk is moderated by an overdraft facility agreement with the bank, and a focus on cash-flow in major projects. No hedging instruments were employed in 2020, but this remains a possibility in case of considerable exposure to currency risks.

Liquidity risk

In 2020, the foundation's cash-flow development was positive. Bank deposits less restricted tax withholdings amounted to NOK 296 million at the end of 2020, which is NOK 39 million higher than at the end of 2019. For the foundation's liquidity risk to be acceptable, the available cash balance should be in the range of NOK 100 million in order to cover current liabilities. The foundation has a cash pool agreement with its wholly owned subsidiary IFE Invest AS, and this provides flexibility with regard to short-term liquidity fluctuation. The foundation has agreed with its bank that an overdraft facility will be made available as required.

Market risk

The market risk to which the group and the foundation are exposed is principally associated with currency, partly from income in foreign currencies, and partly from costs in foreign currencies. Measures to reduce exposure to currency risks are implemented with regard to any large individual transaction, but there are no ongoing hedging transactions because the risk is considered to be low. In the course of 2020, the foundation invested NOK 25 million in a low-risk fixed-income fund. The foundation and group are exposed to exchange rate fluctuations in said fund.

At IFE's Battery Materials Laboratory, the researchers work with the production of super pure silicon and advanced silicon materials for use in solar cells, electronics, batteries and medicine. IFE has built up this research area over many years, and is investing strongly on silicon as a material for the technology of the future. Photo: Bo Mathisen /IFE



Credit risk

Both the group and the foundation are exposed to credit risks associated with accounts receivable and lending. The group and the foundation have made provisions for bad debts to the sum of NOK 9 million. There is also a potential credit risk associated with advance payment to suppliers, but such transactions are subject to the provision of a supplier's performance bond.

Governance

IFE's external directors are appointed by the Norwegian Ministry of Trade, Industry and Fisheries, while the Kjeller and Halden organisations are each represented on the Board by two directors, with deputies, elected by employees. In 2020, the Board of Directors held six board meetings and discussed 47 agenda items.

The IFE foundation's activities comprise nuclear technology, research & development, and radiopharmacy. The President monitors the business through all-inclusive management meetings and meetings with the management teams for each division.

IFE received considerable government funding in 2020 to subsidise operations, the safety and security of its nuclear facilities and the management of nuclear waste. IFE's nuclear activities are subject to a management control system (MCS) designed by the Norwegian Ministry of Trade, Industry and Fisheries. IFE's management dialogue with the government, as represented by the ministry, involves two management dialogue meetings per annum, to be attended by the Chairman of the Board, the President, and other relevant members of IFE's management team. In 2020, officials from the ministry met with IFE's Board in order to inform the directors about the management dialogue and the government's priorities for the year's nuclear activities.

Staff

As of 31 December 2020, the foundation employs 592 permanent staff and 37.5 per cent are women. Of these, 409 have a higher education, and 37 per cent of these are women. A total of 105 permanent and temporary members of staff hold a PhD, and 29 of these are women.

The working environment

The work situation for many members of staff has been significantly impacted by the coronavirus pandemic. Some of IFE's activities are essential to society and IFE has therefore introduced measures that in some instances are stricter than the nationally imposed rules and guidelines for infection control. The measures have worked well, and the organisation has only seen a few isolated cases of infection. IFE has made arrangements to facilitate working from home and managers have given special attention to staff follow-up and accommodating social contact between colleagues, albeit confined to digital channels. The company health service has offered counselling sessions and inspections have been conducted to survey the working environment with particular attention to any adverse effects caused by the coronavirus situation.

The working environment is considered to be good. In 2020, IFE introduced an annual survey of job satisfaction among employees. Staff satisfaction rates have increased steadily in recent years and the 2020 survey showed a marked improvement compared to similar surveys carried out in 2019, 2017 and 2015. The organisation is currently following up on the staff survey in order to continue improving the working environment.

In 2020, IFE employed permanent and temporary staff from 38 different nations. The resulting diversity enriches the organisation both professionally and socially. The mix of many nationalities makes it easier for new staff with less experience of Norwegian culture to adapt to working life in Norway. IFE has found that this is a competitive advantage when it comes to recruitment.



IFE's research director Tomas Nordlander and CEO of Smart Innovation Norway, Kjell Reidar Mydske welcomed AI plus 2021. The conference focuses on the theme "applied artificial intelligence" and was held for the first time 15-17. September 2020. Photo: Smart Innovation Norway

In 2020, total sick leave was 4.1% which is higher than the 4% target. It is particularly long-term sick leaves that have seen an increase. IFE has been an IA (Inclusive Workplace Agreement) company since 2010 and work areas and tasks are adapted to suit individual employees. Employees on sick leave receive a close follow-up to ensure that a speedy return to work is facilitated through an early introduction of good adaptive measures.

In 2020, there were ten incidents involving personal injury, of which one resulted in a short sick leave.

In 2020, IFE reported eight incidents to the Norwegian Radiation and Nuclear Safety Authority (DSA) and one incident to the Norwegian Directorate for Civil Protection. All incidents were handled in a way that ensured any negative impact was avoided and several incidents have formed a basis for long-term measures introduced to benefit organisational learning.

Social responsibility and ethics

IFE strengthened the foundation's focus on ethics in 2020. The ethics efforts have been reorganised and ethical responsibilities have been clarified at all levels. The ethical guidelines and other policy documents have been updated and improved. IFE's ethics efforts focus on research ethics, corruption, money laundering and the use of middlemen, export controls, guidelines for ethical trade, accounting and reporting, fair competition and whistleblowing.

A new Ethics Council was formed in 2020, involving four employees and two external experts in the fields of research ethics and law. IFE has joined the joint research ethics committee run by the association of Norwegian knowledge and technology based enterprises. The committee considers proper conduct in research ethical issues. In 2020, all staff contributed to a survey of ethical awareness and culture, and ethical problems encountered at work. The survey results feed into the development of staff training modules and ethical dilemma exercises. IFE has also developed an intranet ethics portal.

Equal opportunities and discrimination

The company's permanent staff includes a total of 592 employees, of whom 222 are women (37.5%) and 370 are men (62.5%). The company's temporary staff includes a total of 45 employees, of whom 33 are men (73%) and 12 are women (27%). A total of 51 employees work in part-time positions. Of these, 22 are men (43%) and 29 are women (57%).

In 2020, three women and five men sat on IFE's Board of Directors. There were six women and six men in the management group.

In 2020, IFE employed staff from 38 different nations. Among the year's new recruits, 30.5% were women and 69.5% were men.

IFE works actively to prevent discrimination based on disability, ethnicity, nationality, skin colour, religion, or life stance. Activities include recruitment, pay and working conditions, promotion, career development opportunities and protection from bullying and harassment.

IFE plans to conduct a pay survey in 2021. The survey will also seek to identify any instances of involuntary part time working.

IFE has established internal and external whistleblowing channels. The internal whistleblowing channel is handled by the HR department, while the external and anonymous channel is handled by the Grette law firm under a contract with IFE. The whistleblowing rules have been included in IFE's ethical guidelines and form a part of the ethics training programme and all management training.

The foundation's ethical guidelines stipulate that employees must contribute to a fair and inclusive working environment where there is no discrimination on the basis of ethnicity, gender, sexual orientation, religion, political leanings or social background.

Every year, IFE conducts a working environment survey referred to as AMIS. The survey is used to identify areas for concern such as any discrimination or unreasonable bias within the organisation. Questions are asked about bigoted treatment, whether staff have noticed or been exposed to bullying or harassment at work and about general trends in the working environment. Based on the results of the AMIS survey conducted in 2020, there is no feedback to suggest discrimination at IFE.

In the course of 2021, IFE will establish a cross-party group to study and consider whether discrimination occurs. If some environments are found to harbour any form of prejudice, the group will propose measures to address the situation.

IFE's recruitment process is based on demand and on objective criteria. Unless there are compelling reasons, recruitment decisions will never be affected by a candidate's gender, pregnancy, parental leave for childbirth or adoption, care responsibilities, ethnicity, religion, life stance, disability, sexual orientation, gender identity, or gender expression.



The Radio Pharmacy division has almost 70 years of experience in the production of radiopharmaceuticals, and collaborates with some of the world's leading pharmaceutical companies in the development of new, effective cancer drugs. Photo: IFE / Bo Mathisen

IFE's staff includes members of four different trade unions and the parties have jointly drawn up criteria for a gender-neutral pay policy. The pay band of individual employees is determined on the basis of objective criteria such as seniority and level of education (master/bachelor/trade certificate etc.) Terms and conditions such as working hours, welfare schemes, entitlement to leave etc. are formulated to prevent discrimination on grounds of gender or any other parameter.

Promotions are considered and granted on the basis of gender-neutral criteria such as seniority, publication rate, project participation and management, etc.

IFE actively seeks to offer a workplace that furthers the employees' health, environment, and safety. The foundation is working with the company health service to deliver proactive health initiatives for employees.

IFE's arrangements for leave of absence in connection with childbirth or adoption are more beneficial for employees than the current National Insurance scheme. All employees receive their ordinary rate of pay while on leave and they are also entitled to paid leave for up to 2 hours per day for breastfeeding purposes. Based on a risk assessment, pregnant employees who work with radioactive substances and ionising radiation will be transferred to other jobs that involve no occupational exposure for the remaining period of pregnancy.

In 2020, a total of 26 IFE employees took parental leave. Of these, 12 were women and 14 were men. The average period of parental leave was 18 weeks. In total, the men took 185 weeks' leave while the women took 287 weeks' leave.

IFE has introduced flexible working hours for all employees who are not working shifts. Staff are permitted to attend personal appointments during working hours, such as dental and medical appointments and treatments provided by physiotherapists, chiropractors, or acupuncturists.

IFE is working to build robust and gender-neutral systems. There must be no discrimination or other obstacles to equal opportunities.

External environment

In carrying out the foundation's social mission, IFE strives to minimise its environmental footprint and to safeguard all safety aspects. IFE's nuclear technology division works with the Norwegian Nuclear Decommissioning Authority (NND) to ensure that the process of preparing for decommissioning is safe, responsible, and cost-effective. NND is the owner of the project and is responsible for conducting fuel studies and securing the information required for the ongoing decommissioning process. IFE holds a licence to own the fuel, which is managed according to current legislation, and is responsible for projects linked to facilities that operate under licence.

IFE's emissions and safety protocols are rigorously monitored. The institute's compliance with national and international safety regulations is monitored by the Norwegian Radiation and Nuclear Safety Authority (DSA) and the International Atomic Energy Agency (IAEA). The DSA sets the maximum limits for how much radioactive material the institute is allowed to discharge to air and water. The emissions licence sets specific emission limits per radio nuclide. In addition, limits are set for the maximum dose of radiation to which individuals in the most vulnerable population groups can be exposed. The limits have been set at extremely low levels, and IFE's emits only a fraction of what is permissible.

IFE's skills and systems are unique in the areas of radiation protection and environmental monitoring of radioactive and chemical emissions. IFE's laboratories can measure radioactivity in a variety of sample types, for dosimetry and calibration of radiation protection instruments in addition to its own electronics laboratory. The responsibility of the radiation protection department is to ensure that all use of radioactive sources and materials is in accordance with national laws, regulations and guidelines. IFE is working actively to restrict and reduce any radiation doses for employees at work and to check that emissions during normal operations do not exceed the limits set.

IFE's environmental monitoring programme enables us to keep an oversight of our total footprint. This involves environmental monitoring of radioactive emissions at Kjeller and in Halden. IFE is certified under ISO 9001 and 14001:2015, and works continually to record any major environmental issues seen in a lifetime perspective.

The environmental monitoring service regularly collects and analyses samples from the areas surrounding the facilities in Halden and at Kjeller in order to monitor environmental radioactivity levels, so-called recipient control. Area dosimeters have been positioned outside the facility perimeters in order to measure external radiation levels within a radius of five kilometres from the plant. Air filtration stations are working round the clock at IFE's premises, and there are test stations that collect precipitation. IFE regularly tests samples of grass, milk and other agricultural produce, and we collect and analyse samples of water, sediments, aquatic plants and fish from test sites in Nitelva and Tistedalselva rivers and in the Iddefjord.

IFE's nuclear facilities have been operating for 70 years. Routines and procedures for managing radioactive material have changed considerably over time and they are stricter now than when these activities started in the 1950s. In 2020, all historical incidents at the reactors were recorded. It is important that we have as accurate information as possible about levels of pollutants and emissions before decommissioning of nuclear operations commences.

Outlook

In 2020, IFE developed its business and took a systematic approach to implementing a new strategy. The Board finds that the outlook is very good for IFE's R&D and radiopharmaceutical activities. These activities deliver new and sustainable solutions that address societal challenges in areas with large markets, both domestically and globally. IFE keeps winning new markets and projects in Norway and abroad, and is a desirable partner to Norwegian industry, international industrial collaborators, and R&D groups at home and abroad.

The Board of Directors deems the foundation's outlook to be positive.

Kjeller, 20 April 2021

Report of the Board of Directors is electronically signed

Olav Fjell Chairman of the Board Nils Morten Huseby President Sven Ordéus Board Member Ingvill Heskestad Mykland Board Member

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