

Science for Communities

HALF-YEARLY REPORT

for the six months ending 31 December 2019



HEALTHIER
COMMUNITIES



SAFER
COMMUNITIES



SAFER FOOD



A CLEANER
ENVIRONMENT



DIRECTORY

ESR Board of Directors

Denise Church QSO *Chair*
Quentin Hix *Deputy Chair*
Dr Helen Darling *(Term ended September 2019)*
Richard Gill
Dr Andy Shenk
Dr Cristin Print
Kate Thomson

ESR Senior Leadership Team

Dr Keith McLea *Chief Executive*
Trish Bolger *General Manager, People, Culture & Communications*
John Bone *General Manager, Forensic*
Dr Libby Harrison *General Manager, Health and Environment*
Brett Cowan *Chief Scientist*
Amber McEwen *General Manager, Business Services*

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Auditor

Chris Ussher of PricewaterhouseCoopers on behalf of the Auditor-General

Banker

ANZ Bank New Zealand Limited

Solicitor

Buddle Findlay



Science for Communities

The Institute of Environmental Science and Research Limited (ESR) is a Crown research institute. It was incorporated in June 1992 and is wholly owned by the New Zealand Government. The two shareholding Ministers appoint a Board of Directors to govern the organisation. ESR has science facilities in Auckland, Wellington (Porirua and Wallaceville) and Christchurch.

CHAIR'S REPORT

Harnessing the power of research and innovation to advance the wellbeing of all New Zealanders is embedded in ESR's Statement of Core Purpose. We are the CRI whose science brings together the health and wellbeing of people and the environment.

From managing novel infectious diseases (such as COVID-19), to forensic services support for significant national events (such as Whakaari/ White Island and the attacks on Christchurch Mosques on 15 March 2019), to ensuring safe food to eat and water to drink, ESR's research and applied science services are there to support New Zealanders' wellbeing.

In the half year to 31 December 2019, we have continued to actively transform to meet New Zealand's emerging science needs, respond to disruptive change and deliver on our core purpose.

Key areas of focus in the six months to 31 December 2019 include:

- Ensuring that New Zealanders continue to benefit from research and applied science services in our key science domains by progressing a comprehensive review of our science. The review indicates that to, we will need to:
 - continue to embed higher levels of indigenous knowledge to underpin true partnership with, and impact for, Māori
 - continue to embrace digital data, analytics and predictive modelling to underpin our work
 - be driven by closer relationships with collaborators and communities.
- Growing our impact with Māori by building our internal capability and identifying partnering opportunities to leverage our science to further advance social, cultural and economic development. ESR recently appointed an interim 'Principal Lead Māori Impact' reporting to the Chief Executive to support this mahi.
- Protecting New Zealanders during a measles outbreak by providing vital epidemiological, data analysis and public health intelligence support to the Ministry of Health's Incident Management Team. We are now providing extensive support for the response to COVID-19 and looking to grow our research to support the domestic and international response to this novel virus.
- Extending understanding of community health to inform policy development and possible preventative action through our work on Wastewater Epidemiology. This involves increasing our capability to measure chemical and biological markers of human activity in wastewater. We are exploring options to measure antimicrobial resistance and alongside developed methodologies for detecting cannabis (THC) and synthetic cannabinoids.

We are the CRI whose science brings together the health and wellbeing of people and the environment

- Lumi Drug Scan, a real-time screening solution for Police to reduce time processing drug seizures and supports early intervention and diversion of drug users into non-judicial pathways. In early 2020, ESR and the Evidence Based Policing Centre will undertake a field pilot to trial the new service.
- Leading new research through the WellKiwis study, which follows newborns over multiple years to see how a child's first encounter to the flu virus or vaccine influences their immune responses to subsequent flu exposures as the child grows. Over the coming months the ESR-led WellKiwis study will continue to engage the Wellington community to recruit around 20 mother-infant pairs per month.
- Progressing the Detailed Business Case for the replacement of ESR's ageing science facilities in Kenepuru. We are now preparing to begin high-level design and will engage staff in the design of our new laboratories and offices. This will build work spaces and laboratories that are best suited to ESR and New Zealand's future needs enabling agile, connected and flexible working environments.

With science and technology changing exponentially, we are committed to delivering excellent, connected science with real impact for the benefit of New Zealand by:

- Undertaking cutting-edge research that will significantly improve our country's wellbeing, productivity and sustainability:
 - Understanding the effect of climate change on human health
 - Antimicrobial resistance
 - Improving water quality
 - Wastewater epidemiology
 - Genomic database for research and personalised medicine purposes.
- Co-designing the next generation of science services with key clients to ensure modern, efficient delivery at the right time and for the right price.
- Creating the next wave of innovative science products and services that meet the specific needs of our customers be they central or local government, businesses or broader communities.

- Build, attract and retain our people to reflect and connect with our diverse communities to bring insight to relevant science questions and the potential solutions.

As ESR's transformation progresses, we remain focused on developing new revenue streams. This is an essential part of the planning underway for the 2020 Statement of Corporate Intent and 2020/21 Business Plan.

We are proud of the big impact we have achieved from the SSIF funding we receive (for example, our world-leading STRmix software). We consider it essential that a greater level of our revenue is directed to lead research in the vital areas of our science that directly touch the lives of New Zealanders on an everyday basis. Increasing our core level of science research funding would support our investment in transformation and enable us to increase the pace with which we can respond to New Zealand's current and future needs.

Revenue for the six months was \$40.0m, below budget but a 10% increase on the same period last year. Operating expenses were \$40.0m, coming in below budget but up on the prior year due to increased investment in our transformation initiatives.

Net profit after tax was \$0.3m for the half year, which is expected to improve to \$0.5m for the full year. This forecast includes substantial investment in our transformation programme to ensure that our science capability, people and infrastructure remain relevant to the communities we serve and ensure ESR's sustainability

With science and technology changing exponentially, we are committed to delivering excellent, connected science with real impact for the benefit of New Zealand.



Denise Church QSO

KEY FINANCIAL PERFORMANCE MEASURES

	6 months ended 31 December 2019 Actual	Year ended 30 June 2020 Plan	Year ended 30 June 2019 Actual	Year ended 30 June 2018 Actual
Revenue	\$40.0m	\$82.9m	\$78.6m	\$76.2m
Operating margin <i>Earnings before interest, tax, depreciation and amortisation (EBITDA) as a percentage of revenue</i>	7.2%	7.8%	9.6%	14.2%
Return on equity <i>Net profit after taxation as a percentage of equity</i>	1.0%	0.4%	3.4%	8.2%
Return on assets <i>Earnings before interest and tax as a percentage of total assets</i>	(0.1%)	(0.6%)	2.4%	7.2%
Acid test, ratio <i>Current assets excluding prepayments and inventory to current liabilities excluding deferred revenue</i>	3.3	2.0	2.6	2.8
Equity ratio <i>Equity as a percentage of total assets</i>	71.5%	72.0%	70.6%	71.4%
Gearing <i>Debt (including finance lease liabilities) as a percentage of debt and equity</i>	2.8%	0.0%	0.0%	0.1%
Annualised operating margin per FTE <i>Earnings before interest, tax, depreciation and amortisation, per average full time equivalent employee for the year</i>	\$14,800	\$14,700	\$19,300	\$28,300

STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

for the six months ended 31 December 2019

	Note	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Operating revenue				
Operating Revenue	2	35,894	69,350	32,483
Strategic science investment funding		4,149	9,234	3,941
		40,043	78,584	36,424
Operating expenses				
Scientific materials		3,082	5,604	2,646
Subcontracting, commissions and royalties		3,817	8,554	3,287
Personnel		22,075	41,566	20,656
Depreciation and amortisation		2,909	5,706	2,822
Other		8,185	15,281	7,216
		40,068	76,711	36,627
Operating (loss) / profit				
Interest income		477	863	426
Interest expense	4	(16)	(10)	(10)
Net finance income				
Share of net loss of associate accounted for using the equity method	3	(28)	(57)	(4)
Profit before income tax expense				
Income tax expense	4	143	811	63
Profit for the period attributable to the Institute's shareholders				
Other comprehensive income		–	–	–
Total profit and other comprehensive income for the period attributable to the Institute's shareholders				
		265	1,858	146

The accompanying notes form an integral part of these financial statements.

STATEMENT OF CHANGES IN EQUITY

for the six months ended 31 December 2019

Note	Share capital \$'000s	Retained earnings \$'000s	Total \$'000s
Balance at 1 July 2018	8,494	45,776	54,270
Change in accounting policy	–	186	186
Restated total equity at the beginning of the financial year	8,494	45,962	54,456
Profit for the period	–	146	146
Other comprehensive income	–	–	–
Total comprehensive income	–	146	146
Transactions with owners:			
Dividend	–	–	–
Balance at 31 December 2018	8,494	46,108	54,602
Balance at 1 July 2019	8,494	47,823	56,317
Profit for the period	–	265	265
Other comprehensive income	–	–	–
Total comprehensive income	–	265	265
Transactions with owners:			
Dividend	–	–	–
Balance at 31 December 2019	8,494	48,088	56,582

The accompanying notes form an integral part of these financial statements.

STATEMENT OF FINANCIAL POSITION

as at 31 December 2019

	Note	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Non-current assets				
Property, plant and equipment		29,349	29,933	29,047
Intangible assets		8,008	8,485	8,774
Right of use assets	1	1,607	–	–
Investments accounted for using the equity method	3	414	442	246
Investment cash		–	8,000	–
Other investments		30	30	30
		39,408	46,890	38,097
Current assets				
Cash and cash equivalents		1,467	509	2,190
Investment cash		27,000	22,000	24,000
Trade and other receivables		9,493	8,680	8,702
Contract assets		736	626	666
Income tax receivable		178	–	597
Inventories		894	1,042	1,110
		39,768	32,857	37,265
Current liabilities				
Trade and other payables		6,440	7,659	6,679
Contract liabilities		5,481	6,439	5,086
Employee benefits		3,971	3,778	3,822
Lease liabilities	1	564	–	–
Income tax payable		–	479	–
		16,456	18,355	15,587
Net current assets / (liabilities)		23,312	14,502	21,678
Non-current liabilities				
Employee benefits		1,702	1,688	1,520
Lease liabilities	1	1,049	–	–
Deferred taxation		3,387	3,387	3,653
		6,138	5,075	5,173
Net assets		56,582	56,317	54,602
Equity				
Share capital		8,494	8,494	8,494
Retained earnings		48,088	47,823	46,108
Total equity		56,582	56,317	54,602

STATEMENT OF CASH FLOWS

for the six months ended 31 December 2019

	Note	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Cash flows from / (used in) operating activities				
<i>Cash was provided from:</i>				
Customers		39,673	81,830	40,244
Interest received		323	598	280
		39,996	82,428	40,524
<i>Cash was applied to:</i>				
Suppliers and employees		(38,459)	(70,141)	(35,447)
Interest paid		–	(9)	(9)
Income tax paid		(800)	(1,573)	(1,635)
		(39,259)	(71,723)	(37,091)
Net cash inflow from operating activities	5	737	10,705	3,433
Cash flows from / (used in) investing activities				
<i>Cash was provided from:</i>				
Term deposit maturities		9,000	20,000	4,000
		9,000	20,000	4,000
<i>Cash was applied to:</i>				
Purchase of property, plant and equipment		(2,270)	(3,820)	(1,836)
Purchase of intangible assets		(499)	(1,028)	(336)
Investments		–	(240)	–
Investment in term deposits		(6,000)	(26,000)	(4,000)
		(8,769)	(31,088)	(6,172)
Net cash outflow from investing activities		231	(11,088)	(2,172)
Cash flows from / (used in) financing activities				
<i>Cash was provided from / (applied to):</i>				
Dividends paid		–	–	–
Repayment of lease liabilities		(10)	(68)	(31)
Net cash outflow from financing activities		(10)	(68)	(31)
Net increase / (decrease) in cash held		958	(451)	(1,230)
Cash and cash equivalents at the beginning of the period		509	960	960
Cash and cash equivalents at the end of the period		1,467	509	2,190

The accompanying notes form an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

1. Statement of significant accounting policies

Reporting entity

These financial statements of the Institute of Environmental Science and Research Limited and its subsidiaries ('ESR' and the 'Group') are for the six months ended 31 December 2019.

ESR is a Crown Entity incorporated and based in New Zealand. Its registered office is at 34 Kenepuru Drive, Porirua.

ESR is a Crown research institute that provides specialist scientific services and research, particularly to the public health, food safety, security and justice systems, and the environmental sector.

Statement of compliance

The interim financial statements have been prepared in accordance with the requirements of the Crown Entities Act 2004, the Crown Research Institutes Act 1992, the Companies Act 1993 and the Financial Reporting Act 2013.

Basis of preparation of half yearly report

This condensed consolidated interim financial report for the half year reporting period ended 31 December 2019 has been prepared in accordance with Accounting Standard IAS 34 Interim Financial Reporting.

The interim report does not include all the notes of the type normally included in an annual financial report. Accordingly, this report is to be read in conjunction with the annual report for the year ended 30 June 2019.

The accounting policies adopted are consistent with those of the previous financial year and corresponding interim reporting period, except for the estimation of income tax and the adoption of new and amended standards as set out below.

The financial statements are prepared on the basis of historical cost, except for financial instruments, certain leased assets and long service leave.

The financial statements are presented in New Zealand dollars and all values are rounded to the nearest thousand dollars (\$000).

The results for the six months ended 31 December 2019 and comparative period figures presented in these financial statements are unaudited.

New and amended standards adopted by the group

NZ IFRS 16 Leases

NZ IFRS 16 replaces NZ IAS 17 Leases, NZ IFRIC 4 Determining whether an Arrangement contains a Lease, NZ SIC-15 Operating Leases-Incentives and NZ SIC 27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease. The new Standard has been applied using the modified retrospective approach. There was no adjustment required to the opening balance of retained earnings for the current period when adopting NZ IFRS 16. Prior periods have not been restated.

For contracts in place at the date of initial application, the Group has elected to apply the definition of a lease from NZ IAS 17 and NZ IFRIC 4 and has not applied NZ IFRS 16 to arrangements that were previously not identified as a lease under NZ IAS 17 and NZ IFRIC 4.

The Group has elected not to include initial direct costs in the measurement of the right-of-use asset for operating leases in existence at the date of initial application of NZ IFRS 16, being 1 July 2019. At this date, the Group has also elected to measure the right-of-use assets at an amount equal to the lease liability adjusted for any prepaid or accrued lease payments that existed at the date of transition.

Instead of performing an impairment review on the right-of-use assets at that date of initial application, the Group has relied on its historic assessment as to whether leases were onerous immediately before the date of initial application of NZ IFRS 16.

On transition, for leases previously accounted for as operating leases with a remaining lease term of less than 12 months and for leases of low-value assets the Group has applied the optional exemptions to not recognised right-of-use assets but to account for the lease expense on a straight-line basis over the remaining lease term.

On transition to NZ IFRS 16 the weighted average incremental borrowing rate applied to lease liabilities recognised under NZ IFRS 16 was 1.7%.

The Group has benefited from the use of hindsight for determining lease term when considering options to extend and terminate lease. The lease liabilities as at 1 July 2019 can be reconciled to the operating lease commitments as of 30 June 2019 as follows:

	\$'000s
Operating lease commitments as at 30 June 2019	454
Weighted average incremental borrowing rate as at 1 July 2019	1.7%
Discounted operating lease commitments at 1 July 2019	446
Add: Leases not recognised as at 30 June 2019	1,447
Lease liabilities as at 1 July 2019	1,893

Summary of new accounting policies

Set out below are the new accounting policies of the Group upon adoption of NZ IFRS 16, which has been applied from the date of initial application:

Right-of-use assets

The Group recognises right-of-use assets at the commencement date of the lease (i.e. the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. The recognised right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life and the lease term. Right-of-use assets are subject to impairment.

Lease liabilities

At the commencement date of the lease, the Group recognises lease liabilities measured at the present value of lease payments to be made over the lease term.

In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term or a change in the in-substance fixed lease payments.

Amounts recognised in the statement of financial position and profit or loss

	Right-of-use assets		Total	Lease Liabilities
	Buildings	Motor Vehicles		
	\$'000	\$'000	\$'000	\$'000
As at 1 July 2019	1,838	55	1,893	1,893
Additions	–	–	–	–
Depreciation expense	(271)	(15)	(286)	–
Interest expense	–	–	–	16
Payments	–	–	–	(296)
As at 31 December 2019	1,567	40	1,607	1,613

2. Revenue

a) Total operating revenue

	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Revenue from contracts with customers	35,894	68,850	32,482
Other revenue	–	500	1
	35,894	69,350	32,483

b) Revenue from contracts with customers

i) Disaggregated revenue information

Group – year ended 30 June 2019	Domestic \$'000s	International \$'000s	Total \$'000s
Core government contracts	47,068	–	47,068
Research	4,430	1,630	6,060
Commercial products and services	4,981	10,741	15,722
	56,479	12,371	68,850
Group – 6mths ended 31 December 2019	Domestic \$'000s	International \$'000s	Total \$'000s
Core government contracts	24,214	–	24,214
Research	3,051	1,081	4,132
Commercial products and services	3,525	4,023	7,548
	30,790	5,104	35,894

Note that the overall research output of the Group includes activity funded by \$4,149,000 of Strategic Science Investment Funding. This funding is accounted for as a government grant and not included in the table above.

3. Investment in associates

The carrying amount of equity accounted investments has changed over the reporting period as below:

	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Beginning of the period	442	250	250
Additions	–	249	–
Profit / (loss) for the period	(28)	(57)	(4)
End of the period	414	442	246

ESR's equity accounted investment is in AuramerBio Limited, a start up company focussed on the development of DNA aptamer sensors.

AuramerBio Limited has not completed any further investment rounds year to date to which ESR is committed (2019:\$240,000).

4. Other profit and loss information

(a) Interest expense

	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Lease liability interest	16	–	–
Other interest	–	10	10
	16	10	10

(b) Income tax

Income tax expense is recognised based on management's estimate of the weighted average effective annual income tax rate expected for the full financial year. The estimated average annual tax rate used for the six months to 31 December 2019 is 35%, compared to 30% for the six months ended 31 December 2018.

5. Reconciliation of profit / (loss) after taxation to cash flows from operating activities

	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Profit for the period	265	1,858	146
Non-cash items:			
Depreciation, amortisation and depreciation on right-of-use assets	3,194	5,706	2,822
Equity accounted earnings from associate company investment	28	57	4
Transition to IFRS15	–	189	–
Bad debts written off	–	7	–
Increase/(decrease) in provision for doubtful debts	1	(36)	3
Increase / (decrease) in deferred tax liability	–	(266)	–
Fair value (gain) / loss on derivative financial instruments	(6)	(5)	(1)
Other Non cash items	–	(9)	1
	3,217	5,643	2,829
Items classified as investing and financing activities:			
Loss on disposal of property, plant and equipment	4	5	1
Decrease/(Increase) in payables related to property, plant & equipment	632	104	909
Finance charge on leases	16	1	1
	652	110	911
Changes in working capital:			
Decrease / (increase) in trade and other receivables and contract assets	(924)	987	896
Decrease / (increase) in inventories	148	37	(31)
(Decrease) / increase in income tax payable	(657)	(424)	(1,500)
(Decrease) / increase in employment benefits	207	648	524
(Decrease) / increase in trade and other payables and contract liabilities	(2,171)	1,846	(528)
Increase in net working capital attributable to the adoption of IFRS 15	–	–	186
	(3,397)	3,094	(453)
Net cash inflow / (outflow) from operating activities	737	10,705	3,433

6. Capital commitments

The following amounts have been committed to by ESR, but have not been recognised in the financial statements.

	Group unaudited 6 months ended 31 December 2019 \$'000s	Group audited 12 months ended 30 June 2019 \$'000s	Group unaudited 6 months ended 31 December 2018 \$'000s
Property, plant and equipment	750	653	310
Intangibles assets – software	3	258	–
Investment in associate company	–	–	240
Total capital commitments	753	911	550

7. Contingent liabilities

ESR is subject to a legal claim in the United States of America which alleges patent infringement related to aspects of the Group's commercial operations in that country. The Group is defending the action. The impact of these proceedings cannot be reliably quantified due to uncertainty around the outcome.

The directors are satisfied that there are no other claims outstanding that would have a material impact on ESR's financial position as at 31 December 2019 (30 December 2018:Nil).

8. Events subsequent to balance date

There were no events subsequent to reporting date that require disclosure in the financial statements.

Governance

Key Management Personnel Remuneration

Key management personnel are those with responsibility and authority for planning, directing and controlling the activities of the Group. Key management personnel for the Group are considered to be the Directors, Chief Executive and Senior Leadership Team.

The remuneration of the Chief Executive and Senior Leadership Team is determined by a range of factors including advice from external remuneration specialists. The remuneration of our Chief Executive is reviewed annually by the Board.

Total salaries and other employee benefits paid to the Chief Executive and Senior Leadership Team for the six months ended 31 December 2019 was \$1,068,000 (30 June 2019: \$2,248,000).

Employee benefits include short term incentive (STI) payments based on a contribution of key financial and non-financial performance measures. There is no STI for the 2020 financial year as it has been included within the base salaries of the Chief Executive and Senior Leadership Team.

Chief Executive's Remuneration

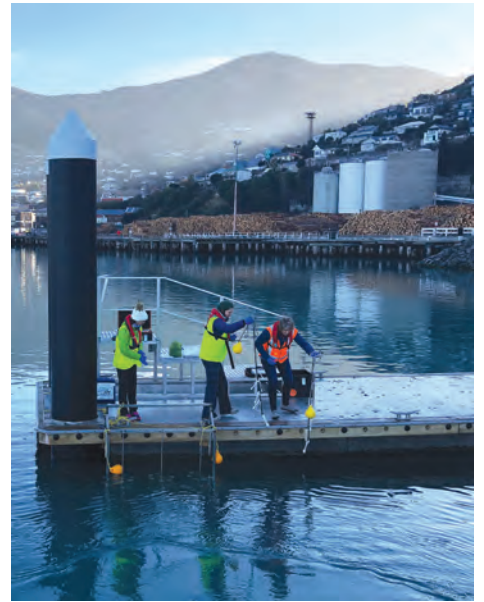
The remuneration of our Chief Executive is reviewed annually by the Board and is determined by a range of factors including advice from external remuneration specialists.

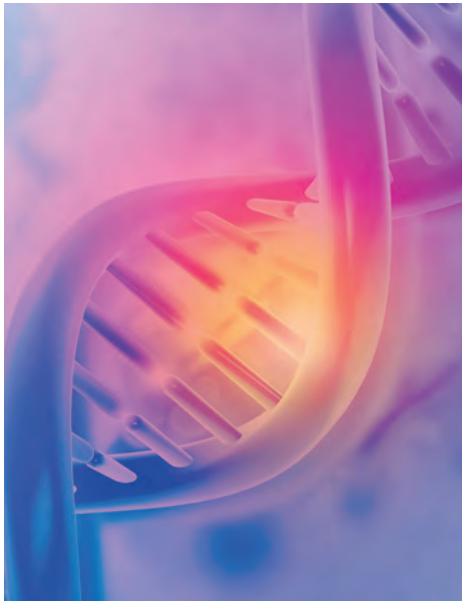
Chief Executive's remuneration (HY2020 and FY2019)

	Salary	STI	Total Remuneration
HY2020	254,250	N/A	254,250
FY2019	388,310	89,200	477,510

Five-year summary – Chief Executive's remuneration

	Total Remuneration Paid	Percentage STI against Maximum
Keith McLea		
HY2020	254,250	N/A
FY2019	477,510	81
FY2018	457,000	73
FY2017	450,000	100
FY2016	398,960	85





The background features a soft-focus, scientific illustration. It includes several molecular models with spheres and connecting rods, and a prominent DNA double helix structure. The color palette is a gradient of light blue and pink, creating a clean, futuristic aesthetic.

E/S/R
Science for Communities