

Financial Statements of Account 2019

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The European Centre for Medium-Range Weather Forecasts

The European Centre for Medium-Range Weather Forecasts (ECMWF) is an independent intergovernmental organisation supported by 22 Member States and 12 Co-operating States. It was created by a Convention that came into force on 1 November 1975 and was amended on 6 June 2010. The governing bodies are the Council, the Director-General, and the Council's advisory committees, whose functions are defined in the Convention.

ECMWF is both a research institute and a 24/7 operational service, producing and disseminating numerical weather predictions to its Member States. This data is fully available to the national meteorological services in the Member States. The Centre also offers a catalogue of forecast data that can be purchased by businesses worldwide and other commercial customers. Other strategic activities include maintaining a data archive, assistance in advanced education and assistance to the World Meteorological organization (WMO) in implementing its programmes. The supercomputer facility (and associated data archive) at ECMWF is one of the largest of its type in Europe.

ECMWF was established as a major initiative in European scientific and technical co-operation in meteorology, based on a high-performance computing facility (HPCF), a scientific and technical workforce, the production of medium-range weather forecasts, and related research and development. The collaborative aspect of ECMWF remains to this date a key to its success; our staff of around 360 are from over 30 countries, and developing effective partnerships with meteorological services, space agencies, academia, and other organisations that help ECMWF to achieve its targets is a key priority. Establishing closer and more effective collaborations with leading institutions is helping the Centre to continue to develop its models and satisfy its users' increasing requirements.

ECMWF's key duty to its Member and Co-operating States is to deliver timely, reliable and accurate global numerical weather predictions that meet each country's requirement.

Since 2014, ECMWF also operates two services from the EU's Copernicus Earth observation programme, the Copernicus Atmosphere Monitoring Service (CAMS) and the Copernicus Climate Change Service (C3S). It also contributes to the Copernicus Emergency Management Service (CEMS), through flood and fire predictions.

Audit Opinion of the External Auditor

Opinion

We have audited the Financial Statements of ECMWF for the financial year ended 31 December 2019, consisting of the Statement of Financial Position; the Statement of Financial Performance; the Statement of Cash Flow; the Statement of Changes in Net Assets & Equity; Notes and schedules to the Financial Statements, including a summary of significant accounting policies.

In the opinion of the OAGN, the Financial Statements give a true and fair view of the financial position of ECMWF as at 31 December 2019; its financial performance as disclosed and specified in the 2019 accounts and principal notes; its cash flow for the financial year then ended, in accordance with International Public Sector Accounting Standards (IPSAS) and the Financial Regulations of ECMWF.

Basis for Opinion

We conducted our audit based on internationally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Financial Statements are free of material misstatement. The OAGN believes that the audit evidence it has obtained is sufficient and appropriate to provide a basis for its opinion.

Responsibilities of Management and those charged with governance

The management of ECMWF is responsible for preparing Financial Statements in accordance with introduced IPSAS standards and ECMWF Financial Regulations. Management is also responsible for establishing adequate and functioning internal control systems to ensure that the Financial Statements are free of material misstatement due to fraud or error.

Auditors responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes its opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISSAI's 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 aggregated, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISSAI's, the OAGN exercises professional judgment and maintains professional scepticism throughout the audit. It also:

- Identifies and assesses the risks of material misstatement of the financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence that is sufficient and appropriate to provide a basis for its opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtains 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 Organization's internal control.
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Director-General.

- Concludes on the appropriateness of Director-General's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on ECMWF's ability to continue as a going concern
- Evaluates the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events, in a manner that achieves fair presentation.

The OAGN communicates with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that it identifies during its audit.

Specific observations and recommendations are set out below in our Annual Report for 2019, which we issue in accordance with Article 2 (1.b) of the External Audit Agreement.

Signed at the Office of the Auditor General of Norway, Oslo, 01.04.2020

Tora Jarlsb

Director General

Johannes Heltne Hu

Assistant Director General

Arild Anstensrud Senior Audit Adviser

Director-General's Statement

The European Centre for Medium-Range Weather Forecasts (ECMWF) is an intergovernmental organisation whose primary purposes are the development of a capability for medium-range weather forecasting and the provision of medium-range weather forecasts to its Member and Co-operating States. ECMWF is supported by 34 States.

An amended Convention was entered into force on 6 June 2010, allowing new Member States to join ECMWF. Several Co-operating States have started the procedure to become a Member State, with a number of conversions occurring in the past few years. During 2019, Council voted for Estonia's accession and this is expected to proceed in the near future.

In 2017, ECMWF Member States have approved the proposal by the Italian Government and the Emilia Romagna Region to host ECMWF's new data centre in Bologna. The construction is ongoing and the project is progressing. Prior to the Coronavirus crisis, the schedule indicated that the building will be delivered to ECMWF by the second quarter of 2020. We are closely monitoring the situation with the Italian authorities, as the situation evolves. The Bologna premises will host the Centre's new supercomputers, whilst the Centre's headquarters are to remain in the UK. ECMWF has been discussing with the UK the provision of a new office building, with plans and tentative budgets being drawn and presented to Council in June 2019.

In December 2019, ECMWF Council has approved the establishment of a New ECMWF Facility in a location compliant with European Union funding policies, and the competitive process for deciding among ECMWF Member States where the facility will be hosted.

Since June 2018, both the C3S and CAMS Copernicus services operated by ECMWF on behalf of the EU have been fully operational. Member States and the European Commission have regularly expressed their satisfaction about how the services are being run and their strong support to ECMWF in its role of Entrusted Entity.

This document contains the financial statements of ECMWF for the year ending 31 December 2019. It details the 2019 financial results, reconciliation of results between IPSAS and cash accounting and the auditors' opinion.

Exchange rates during the year continued to have a high degree of volatility and in particular rates for Euro compared to Sterling fluctuated considerably during 2019. This was managed closely by the Centre and resulted in an overall deficit in the year. This will continue to be closely monitored during future years.

In order to comply with IPSAS 39, the Statement of Financial Position includes as a liability, the present value of £398.3m (2018: £339.2m) of any future pension and post-employment medical costs as calculated by the Centre's actuaries. This liability is partly offset by the Pension Investment Accounts of £58m and the whole of the liability is guaranteed by the Member States of the Centre.

In 2019, under IPSAS, the Centre produced an operating deficit of £2.9m and when the net finance costs are excluded, the Centre had a net accounting surplus for the period of £2.8m.

ECMWF's budget is still set on a cash basis and the Financial Statements include a reconciliation of the results under IPSAS and in cash terms. Under cash accounting, I note that the Centre generated a surplus of £913k in 2019, which is available either for future investment or distribution to Member States according to a decision to be made by the Council in 2020.

Florence Rabier Director-General

01 April 2020

Statement on Internal Financial Control

This Statement represents my assurance to Council that, as Director-General, I am satisfied that the Centre's finances are adequately controlled.

The Senior Management Team ensures an appropriate control environment is in place by clearly defining management responsibilities and powers, evaluating the systems in place to ensure compliance with those policies, plans, procedures, laws and regulations which could have significant impact on the organisation, formally monitoring progress against objectives and risk exposure relating to achievement of objectives and making informed decisions if necessary to steer performance back on track, keeping proper records, and safeguarding the assets of the organisation.

The system of internal financial control is based on a framework of regular management information, administrative procedures including segregation of duties, and a system of delegation and accountability. It includes a comprehensive zero-based, bottom-up annual budget which is reviewed and agreed by the Council, and regular reviews by the Senior Management Team of quarterly Management Information Reports and annual financial reports which indicate performance against key financial and non-financial objectives.

ECMWF has a co-sourced internal audit function, which reports directly to the Audit Committee. This committee meets on a biannual basis to review reports prepared by Internal Audit and other departments. The head of Internal Audit in turn keeps the Centre's Management Team informed of the matters that have been considered, and day-to-day operations are reported to me as the Director-General.

The internal audit function operates in accordance with the "International Standards for the Professional Practice of Internal Auditing". An Internal Audit plan is approved by the Audit Committee. The work plan takes account of areas of potential risk identified.

The Internal Auditor provides the Audit Committee with biannual reports on assignments carried out. These reports highlight deficiencies or weaknesses, if any, in the system of internal financial control and the recommended corrective measures to be taken where necessary. They also include an overview of all audit recommendations and the progress in their implementation.

The Senior Management Team's monitoring and evaluating the effectiveness of the system of internal financial control is informed by the Internal Audit function and by the work of the Audit Committee.

Florence Rabier Director-General

01 April 2020

Statement of Financial Performance for the year ended 31 December 2019

	Notes	2019	2018
		£	
Revenue			
Member & Co-operating States' contributions		47,986,948	43,454,007
Revenue Taxes		10,106,288	9,483,674
Externally funded revenue		54,739,386	55,537,895
Sales of forecasts and data		10,265,249	9,528,449
Other operating revenue		(714,446)	(217,319)
Total Operating revenue	-	122,383,425	117,786,706
Expenditure			
Personnel costs ^{1,3}	15	33,452,042	31,791,600
Pension and post-employment benefits	12 & 15	5,630,792	12,753,982
Buildings expenditure	15	5,856,242	4,727,172
Computer expenditure	15	20,149,300	18,162,280
Other operating expenditure	15	4,149,622	4,575,938
Externally funded expenditure ^{1, 2}	15	50,180,990	50,605,934
Total operating expenditure	-	119,418,988	122,616,906
Operating surplus for the year from continuing	operations	2.964.437	(4,830,200)
Finance income	16	100,405	605,032
Finance costs	16	(5,955,845)	(7,958,618)
Net deficit for the year from continuing operatio	ns -	(2,891,003)	(12,183,786)
Net deficit for the year	-	(2,891,003)	(12,183,786)

¹ These items of expenditure are inclusive of tax

² Externally funded expenditure includes optional programmes

³ Personnel costs exclude staff whose posts are fully or partially directly externally funded. These costs are included in externally funded expenditure

ECMWF's budget is still set on a cash basis and under cash accounting, the Centre generated a surplus of £913k in 2019.

A reconciliation of the cash to IPSAS result is included in Note 18 to the Financial Statements.

Statement of Financial Position as at 31 December 2019

	Notes	2019	2018
		£	£
ASSETS			
Current assets			
Cash and cash equivalents	4	35,818,515	38,929,629
Receivables	5	12,298,994	10,799,595
Prepayments and accrued revenue	6	7,761,252	7,595,873
Inventory	7	785,151	201,531
Total current assets		56,663,912	57,526,628
Non current assets			
Property, plant and equipment	8	11,547,255	11,617,767
Pension investment accounts	12	58,008,940	49,593,925
Total non current assets		69,556,195	61,211,692
TOTAL ASSETS		126,220,107	118,738,320
LIABILITIES			
Current Liabilities			
Payables	9	19,704,522	20,779,805
Pre-financing	10	14,655,425	14,420,547
Deferred revenue	11	1,802,885	1,956,650
Total current liabilities		36,162,832	37,157,002
Non current liabilities			
Employee benefits	12	398,355,032	339,234,527
Total non current liabilities		398,355,032	339,234,527
TOTAL LIABILITIES		434,517,864	376,391,529
NET LIABILITIES		(308,297,757)	(257,653,209)
NET ASSETS / (EQUITY)			
General Reserve	13	2,394,996	2,394,996
Retained surpluses		(31,837,606)	(20,409,790)
Net surplus/(deficit) for the year		(2,891,003)	(12,183,786)
Actuarial adjustments		(184,615,289)	(136,105,774)
IPSAS adjustment reserve	14	(91,348,855)	(91,348,855)
TOTAL NET LIABILITIES		(308,297,757)	(257,653,209)

Statement of Cash Flow for the year ended 31 December 2019

	2019	2018
	£	£
Cash flow from operating activities		
Surplus/(deficit) from ordinary activities	(2,891,003)	(12,183,786)
Depreciation	2,820,690	3,081,260
Profit/(loss) on disposal of fixed assets	-	108,659
Finance costs for post-employment benefit (note 12)	4,789,897	7,934,303
Post-employment benefit	(2,593,922)	5,017,767
(Increase) in receivables	(1,499,399)	(3,360,015)
(Increase) / Decrease in inventories	(583,620)	512,650
(Increase) / Decrease in prepayments and accrued income	(165,379)	(1,649,147)
(Decrease) in payables	(1,075,283)	4,357,965
Increase / (Decrease) in pre-financing	234,878	(7,474,557)
(Decrease) /Increase in deferred revenue	(153,765)	945,403
Net use of Future Accommodation Fund	755,970	248,511
Net cash flow from operating activities	(360,936)	(2,460,987)
Cash flow from investing activities		
Purchase of fixed assets Proceeds from sale of fixed assets	(2,750,178)	(1,125,986) 5,000
Net cash flow from investing activities	(2,750,178)	(1,120,986)
Net increase/(decrease) in cash and cash equivalents	(3,111,114)	(3,581,973)
Cash and cash equivalents at the beginning of the year	38,929,629	42,511,602
Cash and cash equivalents at the end of the year	35,818,515	38,929,629

Statement of Changes in Net Assets/Equity for the year ended 31 December 2019

	General reserve	Retained surplus	Actuarial adjustments	Reserves arising on IPSAS adjustments	Total
	£	£	£	£	£
Balance At 1 January 2019	2,394,996	(32,593,576)	(136,105,774)	(91,348,855)	(257,653,209)
Deficit arising on recognition of employee benefit obligation for 2019	-	-	(48,509,515)	-	(48,509,515)
Transfer of prior year surplus	-	755,970	-	-	755,970
Net surplus/(deficit) for the year	-	(2,891,003)	<u> </u>	<u> </u>	(2,891,003)
Balance At 31 December 2019	2,394,996	(34,728,609)	(184,615,289)	(91,348,855)	(308,297,757)
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1. Statement of Compliance and Basis of Preparation

ECMWF elected to adopt International Public-Sector Accounting Standards (IPSAS) from 1 January 2012. On 11th November 2014, ECMWF signed a Delegation Agreement with the European Commission for provision of Copernicus services. Consequently, ECMWF introduced segmental accounts in 2014, in line with IPSAS 18 in order to separately identify the various streams of income and expenditure relating to Copernicus Services, as this is regarded as a significant segment of activity. For consistency purposes, all externally funded streams of revenue and corresponding costs have also been separated by segment.

2. Accounting judgements and estimates

In the application of ECMWF's significant accounting policies, which are described in note 3, management is required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant.

The estimates and underlying assumptions are reviewed on an on-going basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised, if the estimate affects only that period, or in the period of the revision and future periods, if the revision affects both current and future periods.

The key judgements management has made in preparing these financial statements are as follows:-

- a) Estimated useful lives and depreciation rates of property, plant and equipment.
- b) Actuarial assumptions in respect of the defined benefit pension and post- employment medical care schemes; and
- c) Assessment of contract progression at the year-end date.

Basis of Accounting

The financial statements are prepared in accordance with and comply with International Public-Sector Accounting Standards (IPSAS) issued by the International Public Sector Accounting Standards Board (IPSASB), based on International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB).

When the IPSASB does not prescribe any specific standard, IFRS and IAS are applied.

The financial statements have been prepared on a historical-cost and going-concern basis, and accounting policies have been applied consistently throughout the period. The financial statements have been prepared on an accruals basis.

3. Significant Accounting Policies

The significant accounting policies are set out below:

Foreign Currencies

Assets and liabilities denominated in foreign currencies are translated into the functional currency, Sterling, at the exchange rates prevailing at the date of the Statement of Financial Position. Foreign currency transactions within the ledgers are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Exchange gains and losses resulting from settlement of such transactions and from retranslation at the reporting date of assets and liabilities denominated in foreign currencies, are recognised in the Statement of Financial Performance.

Member and Co-operating States' contributions and contributions to optional programmes are payable in Sterling. Revenue from Externally Funded Projects, Third Party Activities (including Copernicus), Sales of Forecasts and Data and other operating revenue is received in a number of currencies, principally Euro.

Tangible Assets

Property, plant and equipment are stated at historical cost less accumulated depreciation and any impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the assets.

Where an asset (other than land and buildings) is acquired in a non-exchange transaction for a nil or nominal consideration the asset is initially recognised at fair value, where fair value can be reliably determined and as income in the Statement of Financial Performance.

Subsequent costs are included in the asset's carrying value or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to ECMWF and the cost of the item can be reliably measured. The carrying amount of a replaced item is derecognised. All repair and maintenance expenditure is charged to the Statement of Financial Performance during the financial period in which it is incurred.

Project costs relating to the relocation of the Data Centre have not been capitalised and have been recognised in the Statement of Financial Performance as they are incurred.

Depreciation on assets is charged to write off the cost of assets less their residual value, other than land, over their estimated useful economic lives, using the straight-line method on the following basis:

- Building improvements 15 50 years
- Infrastructure, Plant & Machinery
 - Fixtures and fittings 5 10 years
 - \circ Technical equipment 5 10 years
 - Mechanical equipment 5-10 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

The carrying values of tangible assets are reviewed for impairment if events or changes in circumstances indicate that they may be impaired. If any such indication exists, the recoverable amount of the asset will be estimated in order to determine the extent of the impairment loss (if any). Any provision for impairment is charged to the Statement of Financial Performance.

Following the decision to relocate the Data Centre to Bologna, a number of assets have been identified as no longer useful once the relocation has taken place. The useful lives of these assets have been reduced accordingly and the depreciation charge reflects this decreased life.

ECMWF occupies land and buildings provided by the Government of the United Kingdom (UK Government) at no cost under a Headquarters Agreement dated 11 October 1973 and amended 11 July 1997. In June 1999, the terms of the agreement were extended for a further 20 years and in June 2019 the terms were extended for a further 10 years.

The UK Government has sole title to the original land and buildings and under the terms of the agreement has responsibility for the maintenance of the exterior of the buildings with ECMWF responsible for the maintenance of the interior of the buildings. ECMWF has therefore, not recognised any value of these buildings in the Statement of Financial Position.

ECMWF have built extensions to the existing buildings, financed by Member States' and Co-operating States' contributions. The Headquarters Agreement provides for the payment of a sum equivalent to the difference between the value of the premises with any new additions and new buildings and the value of the premises without the same at the end of the term of occupation. Therefore, depreciation on building improvements is based upon residual (estimated) values when the current Headquarters Agreement expires in 2019.ECMWF is current in discussions with the UK Government to extend this agreement.

Inventories

Inventories are stated at the lower of cost and net realisable value on a first in first out (FIFO) basis. Cost comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realisable value represents the estimated selling price less the estimated costs of completion and costs to be incurred in marketing, selling and distribution for those asset items that may be sold to third parties. These inventories relate to the stock of unused tapes which will form part of the Centre's data archive and which, once used, are expensed in the Statement of Financial performance.

Receivables

Receivables are stated at their nominal value as reduced by appropriate allowances for estimated irrecoverable amounts. No allowances are made for loss with regards to contributions receivable from Member and Co-operating States, except for exceptional and/or technical reasons sanctioned by the Council. For all other receivables, an allowance for irrecoverable amounts will be based on a review of outstanding amounts at the reporting date.

Cash and cash equivalents

Cash and cash equivalents comprise cash in hand and cash at bank and term deposits.

Provisions

Provisions exist when a liability arising from a past event exists, for which it is probable that an economic outflow will occur. Provisions are calculated using the management's best estimation of the expenditure required to settle the obligation at the reporting date.

Employee benefits/pension obligations

ECMWF operates two defined-benefit pension schemes and a post-employment medical care scheme. The International Service for Remunerations and Pensions (ISRP), in its capacity as the Centre's actuary, performs annual calculations of liabilities for the defined benefit and post-employment medical care schemes, which are recognised in the financial statements.

The annual actuarial valuations are carried out using the Projected Unit Credit Method, which attributes an additional unit of benefit entitlement for each period of service. Each unit is measured separately until the final obligation is constituted.

ECMWF's employee benefit obligations are partially funded by assets held separately and are distinct from all other assets of ECMWF. Historically, the cost of pensions was provided for each year on a pay-as-you-go basis, in common with many public-sector bodies across Europe. However, since 2011, the Centre has set aside funds each year to cover the full cost of its pension obligations for that year as determined by its actuaries, as well as some additional funds to reduce its overall long-term liability. The remainder of benefit is supported by Member States' obligations under the ECMWF convention.

Actuarial gains and losses are accounted for in compliance with IPSAS 39 and are recognised in the period during which they occur. They are recognised as a separate item directly in the Net Assets/Equity as per IPSAS 39.

Revenue recognition

ECMWF has several sources of revenue, which are accounted for as follows:

- Member and Co-operating States' contributions:
 Member and Co-operating States' contributions are recognised in the period to which they relate.
- (b) Other income from Member and Co-operating States: Other income from Member and Co-operating States is recognised in the period to which it relates. This includes income from Optional Programmes.
- Income from Sales of Forecast and Data:
 Income from the sales of forecasts and data is recognised in the period to which the revenues relate.
- Income from Externally Funded Projects (EFP) and Third-Party Activities (TPA) excluding Copernicus (COP):
 Income from Externally Funded Projects is recognised in line with contractual arrangements. For contracts spanning more than one accounting/reporting period, income is recognised based on costs incurred in the period plus associated contracted mark-up.
- Income from Third Party Activities: Copernicus (COP):
 Income from Copernicus Third Party Activity is recognised in line with the signed Delegation Agreement.
 Income related to industrial activities is recognised based on associated direct costs incurred in the period, and fee income in line with that agreed in the Delegation Agreement.

Leases

Assets acquired under finance leases are included in fixed assets at the total of the lease payments due over the life of the lease discounted at the rate of interest inherent in the lease. Lease payments are apportioned between the finance element, which is charged in the Statement of Financial Performance, and the capital element, which reduces the lease creditor. ECMWF did not have any finance leases in the period.

Leases in which a significant proportion of the risks and rewards are retained by the lessor are classified as operating leases. Operating lease rentals are recognised as an expense in the Statement of Financial Performance on the basis at which value is received by the organisation.

Should ECMWF invoke a liquidated damages clause in a contract, the costs of the lease for the period are reduced by the amount receivable/received.

Financial risk management

ECMWF seeks to minimise its exposure to financial risk and has developed risk-management strategies in accordance with its Financial Regulations. ECMWF is exposed to a variety of financial risks, including foreign exchange, interest rate, liquidity and credit risks. ECMWF does not make use of financial derivatives to hedge foreign exchange risk exposures.

(a) Foreign exchange risk

ECMWF receives income from Externally Funded Projects, Sales of Forecast and Data and third-party activities in currencies other than Sterling and is, therefore, exposed to foreign exchange risks arising from fluctuations in currency rates.

Foreign exchange gains and losses resulting from settlement, or translation of year end monetary balances denominated in foreign currencies are recognised in the Statement of Financial Performance.

Foreign exchange gains and losses are presented within other finance costs in the Statement of Financial performance.

The delegation agreement signed with the European Commission for the provision of Copernicus Services is agreed in Euro. In order to minimise foreign exchange risk, all third-party procurements agreed are denoted in Euro and this accounts for just over 70% of the total project income over the seven year period. Furthermore, costs incurred by ECMWF are reimbursed on a regular basis to minimise large fluctuations on foreign exchange rates between the date incurred and the date reimbursed.

(b) Interest rate risk

Interest rate risk arises from the impact of changes in the interest rates on the value of financial assets and obligations. ECMWF's exposure to interest rate risk is limited to

- the interest receivable on its bank deposits, pension assets and Member and Co-operating States' contributions.
- interest chargeable on Euro holdings

Whilst Euro deposits are unavoidable, ECMWF minimises these as much as possible to avoid unnecessary costs.

(c) Liquidity risk

ECMWF's Financial Regulations permit it to utilise bank credit facilities in case of liquidity requirements.

(d) Credit risk

Credit risk is the risk that one party to a financial instrument will fail to discharge on obligations and cause the other party to incur a financial loss. ECMWF is exposed to credit risk in its accounts receivable.

ECMWF has limited credit risk as its exposure is principally to sovereign states, the European Union and other international organisations.

4. Cash and cash equivalents	2019	2018
	£	£
Cash in hand	50	7,017
Current accounts	3,590,277	300,523
Deposit accounts	11,208,310	10,373,306
Project bank accounts	198,198	1,069,090
Third Party activity bank account*	20,821,680	27,179,693
	35,818,515	38,929,629

*Cash received in advance from the European Commission for Copernicus Services

5. Receivables*	2019	2018 (restated)
Contributions	74,293	178,463
Sales of forecast and data debtors	2,998,657	4,633,711
VAT and other taxes	6,623,317	3,232,343
External project funding receivables	2,366,502	2,512,594
Miscellaneous receivables	236,225	242,484
	12,298,994	10,799,595

*Receivables shown are net of debt provision ** 2018 figures have been restated to be consistent with 2019 presentation

6. Prepayments and accrued revenue	2019	2018
Other prepaid expenses	7,597,639	7,589,836
Accrued revenue; forecasts and data	163,613	6,037
	7,761,252	7,595,873

7. Inventories	2019	2018
Archive data media	785,151	201,531
	785,151	201,531

8. Property Plant & Equipm	ent			
	Land	Building Improvements	Infrastructure, Plant & Machinery	2019
	£	£	£	£
Cost				
At 1 January 2019	750,000	7,869,173	28,415,837	37,035,010
Re-categorisation*		(184,000)	184,000	-
Additions	-	-	2,750,178	2,750,178
Disposals	-	<u> </u>	(38,528)	(38,528)
At 31 December 2019	750,000	7,685,173	31,311,487	39,746,660
Accumulated Depreciation				
At 1 January 2019	-	2,502,261	22,914,982	25,417,243
Re-categorisation*		(106,526)	106,526	-
Disposals	-	-	(38,528)	(38,528)
Charge for the period	-	196,807	2,623,883	2,820,690
At 31 December 2019	-	2,592,542	25,606,863	28,199,405
Net book value				
At 1 January 2019	750,000	5,366,912	5,500,855	11,617,767
At 31 December 2019	750,000	5,092,631	5,704,624	11,547,255

9. Payables	2019	2018
	£	£
Suppliers and accrued charges	15,190,434	20,779,805
Members States' Fund	3,479,665	3,638,444
Provisions	676,403	574,829
Other payables	358,020	314,019
	19,704,522	20,779,805

10. Pre-financing	2019	2018
External project funding received in advance	5,120,059	4,666,840
Externally funded projects provisions	278,101	211,220
Externally funded projects - coordinator account	146,385	972,544
Third Party Copernicus funding received in advance*	9,110,880	8,569,943
	14,655,425	14,420,547

*relates to pre-finance monies received from European Commission for provision of Copernicus Services, net of costs incurred

11. Deferred revenue	2019	2018
Deferred revenue; sales of forecasts and data	1,802,885	1,956,650
	1,802,885	1,956,650

12. Employee benefits

Defined-benefit schemes

At 31 December 2018, the main actuarial assumptions used to calculate the defined-benefit liability (expressed as weighted averages) were:

	Pension benefits	Post-employment medical care
	%	%
Discount rates	2.08	2.16
Future salary increases	2.39	0.00
Future pension scheme increases	2.39	0.00
Medical costs inflation	0.00	4.15

	Pension benefits	Post-employment medical care	Total
	£	£	£
Present value of obligation at 01/01/2019	299,459,737	39,774,790	339,234,527
Interest cost	8,257,545	1,132,129	9,389,674
Current service cost	17,905,408	3,236,152	21,141,560
Past service cost	(12,559,781)	-	(12,559,781)
Benefits paid	(6,980,787)	(379,676)	(7,360,463)
Actuarial (gains)/ losses on obligation	40,292,312	8,217,203	48,509,515
Actuarial Model changes			
Net liability recognised in Statement of Financial Position	346,374,434	51,980,598	398,355,032

The pension actuarial loss of £40,292,312 in 2019 is explained by several factors, the most significant of which is the decreased discount rate.

The table below shows the impact of these changes to the overall liability at the end of 2019:

		Pension scheme		Post-employment	healthcare
	Type of		% of 2019		% of 2019
Impact of change in:	(gain)/loss	Amount	liability	Amount	liability
Population	Experience	(11,040,897)	(3.2%)	(1,208,711)	(2.3%)
Financial assumptions	Assumption	51,333,207	14.80%	9,425,914	18.10%
TOTAL		40,292,310	11.60%	8,217,203	15.80%

12. Employee benefits (continued)

In accordance with IPSAS 39, a sensitivity analysis of the main actuarial assumptions is also included in the table below:

	Pension scheme	Post- employment healthcare
Discount rate -0.25%	6%	8%
Discount rate 0.25%	(5%)	(7%)
Inflation rate -1%	(19%)	(26%)
Inflation rate +1%	25%	37%
Mortality - 1 year	3%	5%
Mortality + 1 year	(3%)	(5%)

Movement in Pension Investment Accounts

Return on investment during the period Contributions by employer during the period	4,599,777 7,774,247
Contributions by staff & validation of pension rights during the period	2,806,904
Monies owed to ECMWF	214,874
Benefits paid during the period	(6,980,787)
Net asset recognised in Statement of Financial Position at 31/12/2019	58,008,940

Amounts recognised in the Statement of Financial Performance are as follows:

	Pension benefits	Post- employment medical care	Total
Pension and post-employment benefits	£	£	£
Current service cost	17,905,408	3,236,152	21,141,560
Past service cost	(12,559,781)	-	(12,559,781)
Staff contributions	(2,768,780)	-	(2,768,780)
Validation of pension rights	(38,124)	-	(38,124)
Benefits paid	-	(379,676)	(379,676)
Insurance premium paid	-	235,593	235,593
	2,538,723	3,092,069	5,630,792
Finance costs for post-employment benefit			
Interest on obligation	8,257,545	1,132,129	9,389,674
Decrease in value of scheme assets in the year	(4,599,777)	-	(4,599,777)
	3,657,768	1,132,129	4,789,897

Current service cost is the increase in the present value of the defined benefit obligation resulting from employee services in the current period.

Interest on obligation is the increase during the period in the present value of the defined-benefit obligation which arises because the benefits are one period closer to settlement.

2019

13. General Reserve		
	Opening Balance	Closing Balance
	£	£
General Reserve	2,394,996	2,394,996
14. IPSAS adjustment reserve		
		2012
The surplus arising from IPSAS adjustments are analy	sed as follows:	£
Net book value of infrastructure, plant and machinery a	at 1 January 2012	9,497,464
Net book value of land and buildings at 1 January 2012		7,439,160
		16,936,624
Net book value of inventories at 1 January 2012		530,430
Provision for leave not taken at 1 January 2012		(355,612)
Net employee benefits at 1 January 2012		(108,460,297)
		(91,348,855)

15. Expenditure	2019	2018
	£	£
Personnel costs		
Salaries and benefits	22,887,065	21,961,738
Other personnel costs (incl. training)	3,660,058	3,250,532
Taxes	6,904,919	6,579,330
Total personnel costs	33,452,042	31,791,600
Total pension and post-employment benefits	5,630,792	12,753,982
Buildings expenditure		
Installations and alterations	1,084,620	282,450
Rental and local taxes	85,615	295,496
Water, gas and electricity	4,096,964	3,554,018
Maintenance, cleaning and security	589,043	595,208
Total buildings expenditure	5,856,242	4,727,172
Computer expenditure		
Hiring and leasing	11,465,888	12,592,267
Maintenance and repair	3,527,031	3,621,460
Supplies - computer and associated equipment	1,515,289	737,700
Telecommunications network	2,869,904	1,210,853
Other computing expenditure	771,188	-
Total computer expenditure	20,149,300	18,162,280
Other operating expenditure		
Furniture and equipment	67,339	55,743
Stationery, supplies, etc.	80,087	81,189
Postal, delivery, communications, etc.	7,654	54,275
Miscellaneous insurances	182,513	176,210
Publications and training	474,221	610,353
Governing bodies	186,867	170,494
Expert fees	149,094	94,998
Depreciation	2,820,690	3,081,260
Bad debt provision	141,403	60,890
Other expenditure	39,754	190,526
Total other operating expenditure	4,149,622	4,575,938
Externally Funded Projects	4,356,234	3,971,809
Externally Funded Projects tax	1,247,559	1,133,694
Optional Programmes	234,914	161,721
Optional Programmes tax	73,685	63,979
Third Party Activities	1,051,711	920,164
Third Party Activities tax	257,111	231,973
Copernicus	41,336,762	42,647,896
Copernicus tax	1,623,014	1,474,698
Total externally funded expenditure	50,180,990	50,605,934
Total expenditure	110 /19 099	122 616 006
Total expenditure	119,418,988	122,616,906

15. Expenditure (continued)

Internal tax:

Article 15 of the protocol states "......the staff members of the Centre shall, within the limits provided for in this Protocol, be subject to a tax for the benefit of the Centre on salaries, wages and emoluments paid by the Centre". The Centre, therefore, deducts an "internal" tax from all salaries paid to staff. This "internal" tax deducted is treated as income by the Centre.

Staff salaries are quoted net of tax and grossed up prior to payment where upon Centre tax is then deducted. This grossed-up amount is shown in personnel costs (including personnel costs within Externally Funded Projects, Optional Programmes and Third Party Activities).

15. Expenditure (continued)	2019	2018
	£	£
Revenue		
Internal tax	10,106,288	9,483,674
Total tax included in revenue	10,106,288	9,483,674
Expenditure		
Tax included in personnel	6,904,919	6,579,330
Tax included in externally funded projects	1,247,559	1,133,694
Tax included in Optional Programmes	73,685	63,979
Tax included in Third Party Activities	257,111	231,973
Tax included in Copernicus	1,623,014	1,474,698
Total tax included in expenditure	10,106,288	9,483,674

16. Finance Costs	2019	2018
	£	£
Interest income from overdue contributions	17,045	13,712
Interest income from bank	83,360	137,661
Net foreign exchange income	-	453,659
Total finance income	100,405	605,032
Net foreign exchange cost	1,146,624	-
Pension and post-employment benefit costs (note 12)	4,789,897	7,934,303
Bank charges	19,324	24,315
Total finance costs	5,955,845	7,958,618

17. Segment reporting – Statement of Financial Performance

IPSAS 18 'Segment Reporting' requires entities to report on segments on a basis appropriate for assessing the entity's past performance in achieving the objectives and for making decisions about the future allocation of resources.

The Centre has a clear objective to provide the best possible forecast products to its Member States.

The following activities have been separated by segment:

- Core Activities
- Externally Funded Projects
- Optional Programme
- Third Party Activities excluding Copernicus
- Third Party Activities Copernicus only

Additional information is available in Notes 25 & 26.

18. Reconciliation of IPSAS financial reporting to cash results.

The following table combines IPSAS and cash financial reporting. The significant aspect of the financial reporting under IPSAS is the application of the accrual accounting principle with regard to expenses and revenues, pension benefits and other personnel costs, fixed assets and related depreciation. Cash accounting is based on recognition of transactions when there are cash movements.

In order to reconcile this to the cash results, differences between accrual and cash accounting need to be taken into account. These differences can be attributable to timing, or they can constitute permanent differences. The most significant of these differences are the following:

- (a) In cash accounting, revenue is required to cover all committed expenditures. In accrual accounting, revenue and expenses include amounts accruing for the reporting period, other committed expenses or revenue are treated as deferred.
- (b) In cash accounting, capital expenditures are recorded as current-year expenses. In accrual accounting, the expense is capitalised and depreciated over the useful lives of the assets. The capital expenditure and associated depreciation are recorded at their net value as assets in the Statement of Financial Position. Depreciation expense in the year is recorded in the Statement of Financial Performance.
- (c) In accrual accounting, the expense for both pensions and post-employment health cover is estimated by an actuary in accordance with a methodology set out in accounting standard IPSAS 25. The pension and post-employment medical care benefits obligation is reported in the Statement of Financial Position as detailed in note 12.

In cash accounting, pension and post-employment medical care scheme expenditure is accounted for on a payas-you-go basis. For pension benefits, the budgetary contributions are estimated on an actuarial basis to represent the long-term cost of the benefits provided.

The following table shows the reconciliation of IPSAS financial reporting to cash results:

	2019	2018
	£	£
Net deficit for the year from continuing operations as per the Statement of Financial Performance	(2,891,003)	(12,183,786)
Adjustment for assets capitalised in the year	(2,750,178)	(1,125,986)
Adjustment for depreciation in the year	2,820,690	3,081,260
Adjustment for spend against commitments brought forward from 2018	4,880,200	2,878,768
Adjustment for commitments carried forward to 2020	(2,883,109)	(4,880,200)
Adjustment for finance costs for post-employment benefit (note 12)	4,789,897	7,934,303
Adjustment for post-employment benefit	(2,379,047)	5,012,231
Adjustment for accruals	(523,083)	97,081
Adjustment for prepayments	330,851	(588,396)
Adjustment for HPC prepayment	-	1,036,750
Adjustment for change in inventory	(583,620)	512,650
Other IPSAS timing differences	101,574	81,355
Revenue and expenditure account surplus per cash accounts	913,172	1,856,030

19. Contingencies and capital commitments

ECMWF has no contingent assets and no quantifiable contingent liabilities at 31 December 2019. However, in accordance with IPSAS 19: Provisions, Contingent Liabilities and Contingent Assets, ECMWF has an unquantifiable contingent liability relating to a claim received from a company which was previously a customer, and the claim is currently being dealt with by the organisation.

ECMWF has contracted capital expenditure of £524,973 in 2019 (2018: £706,268) but not yet incurred as at 31 December 2019.

20. Operating lease commitments	2019	201
	£	;
Vithin 1 year		
HPC service contract ¹	9,338,280	11,451,040
ATOS Implementation ²	3,055,854	-
Konica Minolta Business Solutions ³	10,468	7,706
Konica Minolta Business Solutions ³	3,086	3,203
Konica Minolta Business Solutions ⁴	3,686	4,424
Interoute Communications - One Video Connect ⁵	-	3,605
Interoute Communications - SmartPoint Screen ⁵	-	390
Portakabin Ltd ⁶	34,580	34,580
Bologna Office Rental & Car Parking ⁷	11,522	-
2 to 5 years inclusive		
HPC service contract ¹	2,060,000	8,588,28
ATOS Implementation ²	716,075	
ATOS Service Contract ²	13,573,335	
SocGen Operating Lease ²	39,766,964	
Konica Minolta Business Solutions ³	7,589	
Konica Minolta Business Solutions ³	2,238	
Konica Minolta Business Solutions ⁴	-	3,68
Portakabin Ltd ⁶	100,858	135,43
	68,684,535	20,232,352

1. A contract was entered into with Cray UK Ltd to cover the operational period of the High-Performance Computer from 1 October 2014 to 30 September 2018 (initially agreed as 1 July 2014 - 30 June 2018 and subsequently moved by 3 months). In 2015, this lease was extended until 30 September 2020 with a further planned extension of 11 months to 31st August 2021.

2, A contract was signed in December 2019 for a new High-Performance Computer with ATOS and SocGen replacing the Cray HPC. Service contract and operation lease planned commencement from September 1st 2021 following implementation and acceptance testing of the HPC.

3. Two lease agreement entered into during 2016 with Konica Minolta Business Solutions Ltd for 36 months were extended for 24 months from 13th September 2019 to 12th September 2021. One for photocopier rental and the other for cards readers and print management software.

4. Two lease agreements entered into during 2016 with Interoute Communications Ltd for two Video Conferencing SmartPoint Screens were completed during 2019.

5. One lease agreement for photocopier rental was entered into during 2017 with Konica Minolta Business Solutions Ltd, for 36 months from 1st November 2017 to 31st October 2020.

6. A 5-year lease was entered into during 2018 with Portakabin Ltd to accommodate staff moving from Reading Enterprise Centre to the main Shinfield site, and covers the period from December 2018 to November 2023.
7. A short term agreement was entered into with Regus for office rental and car parking from 1st October 2019 to 31st May 2020.

21. Personnel

The average number of personnel employed by the Centre in 2019 was 357 (2018: 348).

22. Key management personnel

ECMWF was established by a Convention that entered into force on 1 November 1975 (amended June 2010). The organisational structure of ECMWF comprises the Council and the Director-General with six committees assisting this structure.

In accordance with IPSAS 20 'Related Party Disclosures' key management personnel have been identified as follows:

- Director-General and other directors
- Senior managers

The aggregate remuneration for those key management personnel was as follows:

	Number of individuals 2019	Aggregate 2019	Number of individuals 2018	Aggregate 2018
		£	£	
The Director-General and other directors	7*	1,172,335	7*	1,139,083
Senior managers	9*	1,375,033	9	1,493,026
Total key management personnel	16	2,547,368	16	2,632,109

There was no other remuneration or compensation to key management personnel or their close family members. * The number of both senior managers and directors in 2019 and directors in 2018 reflects an overlap between the outgoing senior managers and directors and their replacements.

23. Related party transactions

There were no material transactions with related parties during the year 2019.

There were no loans to key management personnel or their close family members that were not available to other categories of staff.

Due to its status as an international organisation and the rules of its Convention, the Centre does not consider its Member States to be related parties.

24. Statement of Financial Performance by Segment as at 31 December 2019

		Core Activities		Externally Funded Projects		Optional Programme		Third Party Activities (excluding Copernicus)		Third Party Activities (Copernicus only)		ECMWF Consolidated*	
	Notes	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Revenue		£	£	£	£	£	£	£	£	£	£	£	£
Member & Co-operating States' Contributions		47,986,948	43,454,007									47,986,948	43,454,007
Externally funded revenue				5,662,995	5,271,591	285,069	215,389	1,367,003	1,407,283	44,803,189	46,049,686	52,118,256	52,943,949
Management fee for Copernicus Services**										2,621,130	2,593,944	2,621,130	2,593,946
Sales of forecasts and data		10,265,249	9,528,449									10,265,249	9,528,449
Other operating revenue		(714,446)	(217,319)									(714,446)	(217,319)
Total operating revenue excluding taxes		57,537,751	52,765,137	5,662,995	5,271,591	285,069	215,389	1,367,003	1,407,283	47,424,319	48,643,630	112,277,137	108,303,032
Taxes												10,106,288	9,483,674
Total operating revenue including Taxes												122,383,425	117,786,706
Expenditure													
Personnel costs	15	26,547,123	25,212,270	4,283,098	3,808,989	234.914	161,721	971,112	852,639	5,882,416	5,382,394	37,918,663	35,418,013
Pension and post- employment benefits	12 & 15	5,630,792	12,753,982									5,630,792	12,753,982
Buildings expenditure	15	5,856,242	4,727,172									5,856,242	4,727,172
Computer expenditure	15	17,361,109	15,422,001	1,241	90,871			70,858	67,525	2,793,593	2,749,895	20,226,801	18,330,292
Other operating expenditure	15	4,149,622	4,575,938	71,895	71,949			9,741		64,767	5,212	4,296,025	4,653,099
Procured Industrial Activities										35,384,177	37,250,674	35,384,177	37,250,674
Total expenditure excluding taxes		59,544,888	62,691,363	4,356,234	3,971,809	234,914	161,721	1,051,711	920,164	44,124,953	45,388,175	109,312,700	113,133,232
Taxes												10,106,288	9,483,674
Total operating expenditure including taxes												119,418,988	122,616,906
Operating surplus for the period from continuing operations												2,964,437	(4,830,200)
Finance income												100,405	605,032
Finance costs	16											(5,955,845)	(7,958,618)
Net deficits for the period from continuing operations												(2,891,003)	(12,183,786)
Net deficit for the period												(2,891,003)	(12,183,786)

Notes: Costs which are directly attributable to these activities are allocated to Segments. Support costs are allocated to Core, however the revenue received is still shown in the relevant segment. * Costs are classified according to segment and in some cases may vary in classification to that on the Statement of Financial Performance ** Management fee for Copernicus Services received by ECMWF, to cover support costs in line with the Copernicus Delegation Agreement.

25. Statement of Financial Position by Segment as at 31 December 2019

		Core Activities		Externally Funded Projects		Optional Programme		Third Party Activities (excluding Copernicus)		Third Party Activities (Copernicus only)		ECMWF Consolidated	
	Notes	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
		£	£	£	£	£	£	£	£	£	£	£	£
Assets													
Current Assets	Λ	14 790 124	10 661 000	109 109	1 060 000					20.840.482	27 409 620	25 949 545	28,020,620
Cash & cash equivalents Receivables	4	14,780,134 9,901,474	10,661,900 8,009,769	198,198 2,366,502	1,069,090 2,512,594	27,553		632	137,154	20,840,183 2,833	27,198,639 140,078	35,818,515 12,298,994	38,929,629
	5	9,901,474	8,009,709	2,300,302	2,512,594	27,555		032	137,134	2,033	140,078	12,290,994	10,799,595
Prepayments and accrued revenue	6	2,113,056	2,344,103	15,588				42,185		5,590,423	5,251,770	7,761,252	7,595,873
Inventory	7	785,151	201,531									785,151	201,531
Total current assets	-	27,579,815	21,217,303	2,580,288	3,581,684	27,553	-	42,817	137,154	26,433,439	32,590,487	56,663,912	57,526,628
Non-current assets													
Property, plant and equipment	8	11,547,255	11,617,767									11,547,255	11,617,767
Pension investment accounts	i	58,008,940	49,593,925									58,008,940	49,593,925
Total non-current assets	-	69,556,195	61,211,692				-	-	-			69,556,195	61,211,692
TOTAL ASSETS		97,136,010	82,428,995	2,580,288	3,581,684	27,553	-	42,817	137,154	26,433,439	32,590,487	126,220,107	118,738,320
LIABILITIES													
Current liabilities													
Payables	9	6,880,669	6,809,188	83,151		3,563		7,242		12,729,897	13,970,617	19,704,522	20,779,805
Pre-financing	10	146,385	972,544	5,398,160	4,878,060					9,110,880	8,569,943	14,655,425	14,420,547
Deferred revenue	11	1,802,885	1,956,650									1,802,885	1,956,650
Total current liabilities	-	8,829,939	9,738,382	5,481,311	4,878,060	3,563	-	7,242	-	21,840,777	22,540,560	36,162,832	37,157,002
Non-current liabilities													
Employee benefits		398,355,032	339,234,527									398,355,032	339,234,527
Total non-current liabilities	-	398,355,032	339,234,527	-		-	-	-	-	-	-	398,355,032	339,234,527
TOTAL LIABILITIES		407,184,971	348,972,909	5,481,311	4,878,060	3,563		7,242		21,840,777	22,540,560	434,517,864	376,391,529
NET LIABILITIES	-	(310,048,961)	(266,543,914)	(2,901,023)	(1,296,376)	23,990	·	35,575	137,154	4,592,662	10,049,927	(308,297,757)	(257,653,209)
General reserve	13											2,394,996	2,394,996
Retained surpluses												(31,837,606)	(20,409,790)
Net surplus/(deficit) for the period												(2,891,003)	(12,183,786)
Actuarial adjustments												(184,615,289)	(136,105,774)
IPSAS adjustment reserve	14											(91,348,855)	(91,348,855)
TOTAL NET LIABILITIES												(308,297,757)	(257,653,209)



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