Financial Report 2022

syngenta

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Selected Financial Data

Syngenta AG has prepared the consolidated financial statements in US dollars ($) and in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS). Financial figures are presented in millions of dollars ($m) except where otherwise stated. The basis of preparation of the consolidated financial statements and the key accounting policies are discussed in Note 1 and in Notes 2 and 26, respectively, to the consolidated financial statements.

The selected financial highlights information in accordance with IFRS presented below has been extracted from the consolidated financial statements of Syngenta AG. Investors should read the entire consolidated financial statements and not rely on the summarized information. The information includes the results of operations and the net assets of FarmShots, Inc. from February 1, 2018, Nidera Seeds Holdings B.V. from February 6, 2018, Abbott & Cobb from March 30, 2018, Strider Desenvolvimento de Software Ltda from April 30, 2018, Icepage Limited from July 26, 2018, The Cropio Group from August 30, 2019, Sanbei Seeds Co. Ltd. from November 1, 2019, Woodbridge Seed, LLC. from July 24, 2020, Sensako (Pty) Ltd. from August 14, 2020, Valagro S.p.A. from October 1, 2020, Progeny Advance Genetics, Inc. from December 3, 2020, Hollar & Co., Inc. from December 16, 2020, Dipagro Ltda. and Vipagro Ltda. from October 7, 2021, Semillas Ceres, S.A. de C.V. from July 5, 2022 and Agro Jangada Ltda. from November 1, 2022.

Financial highlights

	Year ended December 31,				
($m)	**2022**	2021	2020	2019	2018
Amounts in accordance with IFRS					
Income statement data:					
Sales	**19,963**	16,733	14,287	13,582	13,569
Cost of goods sold	**(11,640)**	(9,623)	(8,113)	(7,383)	(7,288)
Gross profit	**8,323**	7,110	6,174	6,199	6,281
Operating expenses	**(5,473)**	(4,982)	(4,067)	(4,272)	(4,151)
Operating income	**2,850**	2,128	2,107	1,927	2,130
Income before taxes	**2,242**	1,688	1,610	1,503	1,731
Net income	**1,907**	1,442	1,422	1,456	1,451
Net income attributable to Syngenta AG shareholder	**1,909**	1,443	1,421	1,450	1,447
Cash flow data:					
Cash flow from operating activities	**1,071**	2,060	2,050	838	1,367
Cash flow used for investing activities	**(1,308)**	(1,455)	(1,337)	(248)	(1,641)
Cash flow from/(used for) financing activities	**166**	(1,566)	(124)	(204)	(350)
Capital expenditure on tangible fixed assets	**(705)**	(629)	(555)	(521)	(448)
Balance sheet data:					
Current assets less current liabilities	**3,720**	3,469	3,556	3,799	3,828
Total assets	**30,440**	25,914	25,283	22,397	21,182
Total non-current liabilities	**(9,530)**	(9,784)	(10,547)	(9,181)	(9,073)
Total liabilities	**(23,517)**	(20,329)	(20,793)	(17,926)	(17,038)
Share capital	**(6)**	(6)	(6)	(6)	(6)
Total shareholders' equity	**(6,877)**	(5,529)	(4,434)	(4,397)	(4,118)

All activities were in respect of continuing operations.

Introduction

In the following discussion, references to “Syngenta” incorporate Syngenta AG and all of its subsidiaries globally and its interests in associates and joint ventures.

The following discussion includes forward-looking statements subject to risks and uncertainty. See “Forward-looking statements” at the end of this document. This discussion also includes non-GAAP financial data in addition to GAAP results. See Appendix A to this section for a reconciliation of this data and explanation of the reasons for presenting such data.

Constant exchange rates

Approximately 39 percent of Syngenta’s sales and 60 percent of Syngenta’s costs in 2022 were denominated in currencies other than US dollars. Therefore, Syngenta’s results were significantly impacted by movements in exchange rates. Sales in 2022 were 19 percent higher than 2021 on a reported basis, 22 percent higher when calculated at constant rates of exchange. The Company therefore provides analysis of results calculated at constant exchange rates (“CER”) and also actual results to allow an assessment of performance before and after taking account of currency fluctuations. To present CER information, current period results for entities reporting in currencies other than US dollars are converted into US dollars at the prior period’s exchange rates, rather than the exchange rates for this year. An example of this calculation is included in Appendix A of this section.

Overview

Syngenta is a world leading agribusiness operating in the crop protection, seeds, professional solutions and flowers markets. Crop protection includes chemicals such as herbicides, insecticides, fungicides and seed treatments to control weeds, insects and diseases in crops, as well as biological products, and are essential inputs enabling growers around the world to improve agricultural productivity and food quality. In Seeds, Syngenta operates in the high value commercial sectors of field crops (including corn, oilseeds, and cereals) and vegetables. The Professional Solutions business provides turf and landscape and professional pest management products, and the Flowers business provides flower seeds, cuttings and young plants to professional growers and consumers.

Syngenta’s results are affected, both positively and negatively, by, among other factors: general economic conditions; weather conditions, which can influence the demand for certain products over the course of a season and the quantity and cost of seeds supply; commodity crop prices; and exchange rate fluctuations. Government measures, such as subsidies or rules regulating the use of agricultural products, genetically modified seeds, or areas allowed to be planted with certain crops, also can have an impact on Syngenta’s industry. Syngenta’s results are also affected by the growing importance of biotechnology to agriculture and the use of genetically modified crops. In future years, climate change may have both positive and negative impacts on Syngenta’s results. Climate change may make growing certain crops more or less viable in different geographic areas, but is not likely to reduce overall demand for food and feed. Syngenta currently sells and is developing products to improve the water productivity of plants and increase tolerance to drought and heat. Legislation may be enacted in the future that limits carbon dioxide emissions in the manufacture of Syngenta’s products or increases the costs associated with such emissions. Syngenta works actively to make its production operations more energy efficient and to reduce the rate of carbon dioxide emissions per unit of sales revenue.

Syngenta operates globally to capitalize on its technology and marketing base. Syngenta’s largest market in 2022 was Latin America, which represented approximately 39 percent of consolidated sales (2021: 33 percent), followed by North America at 24 percent (2021: 24 percent), Europe, Africa and the Middle East at 23 percent (2021: 27 percent), and Asia Pacific (including China) at 14 percent (2021: 16 percent). Markets for agricultural products in Europe, Africa and the Middle East and North America are seasonal resulting in both sales and operating profit for Syngenta in these markets being weighted towards the first half of the calendar year, which largely reflects the northern hemisphere planting and growing cycle. Latin America has its main selling season in the second half of the year due to its location in the southern hemisphere. Asia Pacific sales and operating profit are more uniform throughout the year.

Syngenta’s most significant manufacturing and research and development sites are located in Switzerland, the United Kingdom (“UK”), the United States of America (“USA” or “US”) and China. Syngenta has major research centers focused on identifying new active ingredients in Stein, Switzerland and Jealott’s Hill, UK. Syngenta’s primary center for agricultural genomics and biotechnology research is in the USA.

References in this document to market share estimates are based where possible on global agrochemical and biotechnology industry information provided by a third party or on information published by major competitors and are supplemented by Syngenta marketing staff estimates.

The consolidated financial statements are presented in US dollars, as this is the major currency in which revenues are denominated. However, significant, but differing proportions of Syngenta’s revenues, costs, assets and liabilities are denominated in currencies other than US dollars. Approximately 11 percent of sales in 2022 were denominated in Euros, while a significant proportion of costs for research and development, administration, general overhead and manufacturing were denominated in Swiss francs and British pounds sterling (approximately 15 percent in total). Sales in Swiss francs and British pounds sterling together made up approximately one percent of total sales. Marketing and distribution costs are more closely linked to the currency split of the sales. As a result, operating profit in US dollars can be significantly affected by movements in exchange rates, in particular movements of the Swiss franc, British pound sterling, Euro and Brazilian real, relative to the US dollar, and the relative impact on operating profit may differ from that on sales. Sales in emerging markets are over 58 percent of Syngenta’s total sales. Where it is not commercially disadvantageous, Syngenta sets sales prices in these markets in US dollars, particularly in parts of Latin America, Russia and the Ukraine. However, in many emerging territories Syngenta sells in the local currency of the countries in the territory and as a result has a long exposure to multiple emerging market currencies. The effects of currency fluctuations within any one year have been reduced by risk management strategies such as hedging and the aforementioned US dollar sales pricing. For further information on these strategies please refer to Note 24 of the consolidated financial statements.

The consolidated financial statements are based upon Syngenta’s accounting policies and, where necessary, the results of management estimations. Syngenta believes that the critical accounting policies and estimations underpinning the financial statements are in the areas of (i) royalty and license income, (ii) capitalization of development costs, (iii) impairment, (iv) acquisition accounting, (v) adjustments to revenue and trade receivables, (vi) deferred tax assets, (vii) uncertain tax positions, (viii) seeds inventory valuation and allowances, (ix) environmental provisions and (x) defined benefit post-employment benefits. These policies are described in more detail in Notes 2 and 26 to the consolidated financial statements.

Summary of results

Net income in 2022 attributable to Syngenta's shareholder was $1,909 million, compared to $1,443 million in 2021.

Sales in 2022 were 19 percent higher than 2021, 22 percent higher at constant exchange rates, with a seven percent increase in sales volumes and a further 15 percent increase in local currency sales prices. Currency movements decreased reported sales by three percent due to the weakness of many currencies against the US dollar, particularly in Europe, Africa and Middle East and Asia Pacific. Sales of Crop Protection products increased by 21 percent, 24 percent at constant exchange rates and Seeds sales were 12 percent higher than 2021, 16 percent at constant exchange rates. The performance of both businesses benefitted from good farm economics, underpinned by generally strong crop prices, which both drove both growth in sales volumes and supported sales price increases to recover the impact of increased raw material and other costs.

The conflict between Russia and the Ukraine affected operations in both countries; in Russia operations continued subject to significant logistical and financial constraints, while in Ukraine operations were largely suspended for a period and later resumed when it was feasible and safe. During 2022 sales in Russia and Ukraine combined represented a mid-single digit percentage of Syngenta's total sales. Bad debt and inventory provision expenses for 2022 were less than one percent of Syngenta's total operating costs. At December 31, 2022, combined balance sheet exposures for these countries, include inventory stocks of approximately $230 million and advance payments received from customers of approximately $200 million. Trade receivables, net of bad debt provision, were not significant at the end of 2022. The total exposure is not considered material to Syngenta´s operations.

Operating income as a percentage of sales was 14 percent in 2022. Excluding restructuring costs, operating income as a percentage of sales increased by two percent in 2022 compared with 2021; sales price rises offset the impact of higher raw material and other production costs, though with some reduction in gross margin as a percentage of sales and increased operational leverage, higher capitalization of development costs and the impact of a litigation settlement in 2021 more than offset a higher charge for doubtful receivables and increased employee incentive costs. Including costs reported in cost of goods sold, restructuring and impairment charges were $249 million in 2022 before related taxation, compared to $240 million in 2021. Currency exchange rate impacts reduced operating income by approximately $54 million.

Cash flow from operating activities before change in net working capital was $801 million higher than in 2021, including the payment in 2021 of $188 million for the above mentioned litigation settlement, largely due to increased operating income. Change in net working capital was an outflow of $1,680 million compared to an inflow of $110 million in 2021, with a significant increase in inventories to support business growth and due to the higher product costs only partly offset by increased trade payables. Cash flow used for investing activities in 2022 was $1,308 million compared to $1,455 million in 2021, with a lower spend on business acquisitions and marketable securities, partly offset by higher capitalized development costs. Cash flow from financing activities was $166 million in 2022 ($1,566 million outflow in 2021), with a stable dividend at $400 million and a net increase in interest bearing debt to finance the higher working capital.

Gross profit margin was approximately one percentage point lower in 2022, also at constant exchange rates. Higher sales prices more than offset increased raw material and other product costs in absolute dollars, but with a reduction in margin as a percentage of sales.

Marketing and distribution expenses increased by 16 percent, 21 percent at constant exchange rates, with increases in bad debt provisions in 2022 in Russia and Ukraine; otherwise, higher expenses reflected salary cost inflation and increased resource to support the higher sales volumes. Research and development expense was 12 percent lower than 2021, 6 percent at constant exchange rates, due to the increase in capitalized development costs, partly reflecting process and system improvements enabling Syngenta to reliably measure, and therefore capitalize, costs of genetically modified development projects where traits were being used that no longer required any further regulatory approval. Capitalized development costs increased by $256 million, of which $242 million related to these development projects.

General and administrative, including restructuring and impairment, the components of which are described under the Restructuring and impairment heading below, increased by $231 million compared with 2021. General and administrative excluding restructuring and impairment was $212 million higher than 2021, including foreign exchange hedging losses of $164 million in 2022 compared with $44 million in 2021. Excluding all currency effects, General and administrative excluding restructuring and impairment was $92 million higher in 2022. The costs in 2021 included a charge of $188 million relating to a litigation settlement but were net of a past service gain due to changes made to the Swiss pension plan. Accruals for employee incentives were higher in 2022 due to the strong business performance.

Restructuring and impairment expenses in 2022, including $7 million reported in cost of goods sold, were $249 million (2021: $240 million, including $17 million reported in cost of goods sold). Cash restructuring costs were $125 million (2021: $182 million) and non-cash impairments (including reversal of inventory step ups reported in cost of goods sold) were $124 million (2021: $58 million). These costs are described in more detail in Note 6 to the consolidated financial statements.

Financial expense, net was $173 million higher than 2021, due largely to increased interest expense from the higher interest rates through 2022, and higher net currency losses reflecting the increased costs of hedging particularly Latin American currencies against the US dollar. The tax rate remained flat to 2021 at 15 percent.

Acquisitions, divestments and other significant transactions

2022

On November 1, 2022, Syngenta acquired 100 percent of the issued shares of Agro Jangada Ltda., a distributor of agricultural products in the Mato Grosso do Sul state of Brazil. The acquisition enables Syngenta to strengthen its presence in this key agricultural region and use the distribution management expertise of Agro Jangada Ltda. to further enhance the Syngenta's commercial operations within Brazil.

On July 5, 2022, Syngenta acquired 100% of the issued share capital of Semillas Ceres S.A. de C.V., a white seed corn company in Mexico. The acquisition will increase Syngenta's market share in the Mexico's corn seed market and grant Syngenta access to white corn seeds germplasm.

2021

On October 7, 2021, Syngenta acquired 100% of the issued share capital of Dipagro Ltda. and Vipagro Ltda (together "Dipagro"). Dipagro is a distributor of agricultural products in Brazil. The acquisition will expand Syngenta's distribution base in Brazil.

Restructuring programs

Restructuring costs are discussed in further detail in "Restructuring" below.

Results of operations

2022 compared with 2021

Sales commentary

Syngenta's consolidated sales for 2022 were $19,963 million, compared with $16,733 million in 2021, an increase of 19 percent year on year. At constant exchange rates sales increased by 22 percent. The analysis by product line is as follows:

($m, except change %)			Change				
Product line	2022	2021	Volume %	Local price %	CER %	Currency %	Actual %
Selective herbicides	**3,999**	3,218	+11	+17	+28	-4	+24
Non-selective herbicides	**2,470**	1,244	+15	+82	+97	+2	+99
Fungicides	**4,253**	3,904	+3	+9	+12	-3	+9
Insecticides	**2,601**	2,422	+2	+7	+9	-2	+7
Seedcare	**1,544**	1,356	+12	+6	+18	-4	+14
Professional solutions	**585**	550	+1	+9	+10	-4	+6
Biologicals	**348**	312	+22	+2	+24	-13	+11
Other crop protection	**336**	295	+36	-22	+14	-	+14
Total Crop Protection	**16,136**	13,301	+8	+16	+24	-3	+21
Corn and soybean	**2,335**	1,953	+11	+10	+21	-2	+19
Diverse field crops	**756**	684	+7	+11	+18	-7	+11
Vegetables	**706**	699	-	+8	+8	-7	+1
Flowers	**197**	227	-11	+4	-7	-6	-13
Total Seeds	**3,994**	3,563	+7	+9	+16	-4	+12
Elimination[1]	**(167)**	(131)	n/a	n/a	n/a	n/a	n/a
Total Syngenta	**19,963**	16,733	+7	+15	+22	-3	+19

1 Crop Protection sales to Seeds

Crop Protection

Selective herbicides: major brands ACURON®, AXIAL®, CALARIS®, DUAL GOLD®, ELUMIS®, GESAPRIM®, HALEX®, LUMAX®

Sales increased by 24 percent, 28 percent at constant exchange rates, with local currency price increases broadly across the range to offset higher product costs and double-digit volume growth in the Americas and Asia Pacific.

Non-selective herbicides: major brands GRAMOXONE®, REGLONE®, TOUCHDOWN®

Sales nearly doubled, driven by price increases in both GRAMOXONE® and TOUCHDOWN® due to very tight supply across the market and compounded by sales volume growth in TOUCHDOWN® in Brazil and GRAMOXONE® in the USA.

Fungicides: major brands ALADE®, AMISTAR®, BRAVO®, ELATUS®, MIRAVIS® (based on ADEPIDYN™ fungicide), MODDUS®, PRIORI® Xtra, REVUS®, RIDOMIL GOLD®, SCORE®, SWITCH®, TRIVAPRO®

Fungicide sales increased by 9 percent, 12 percent at constant exchange rates, again with broad based higher prices supplemented by volume growth of ADEPIDYN™ in the USA and China.

Insecticides: major brands ACTARA®, AMPLIGO®, ENGEO®, FORCE®, KARATE®, MINECTO™, PROCLAIM®, VERTIMEC®, VIRTAKO®, VOLIAM®

Sales were 7 percent higher, 9 percent at constant exchange rates, driven by broad based price increases, with volume growth in ENGEO® in Brazil and growth in China offset by weaker sales elsewhere in Asia Pacific.

Seedcare: major brands AVICTA®, CRUISER®, DIVIDEND®, CELEST®/MAXIM®, FORTENZA®, SALTRO®, VIBRANCE®

Seedcare sales were 14 percent higher, 18 percent higher at constant exchange rates, with broad based growth in price and volumes.

Biologicals:

Biologicals sales were 11 percent higher, 24 percent higher at constant exchange rates with growth driven by cross-selling of Valagro portfolio, increased grower demand for Biological products and geographical expansion.

Seeds

Corn and soybean: major brands DuracadeViptera™, GOLDEN HARVEST®, NK®, Nidera

Sales increased by 19 percent, 21 percent at constant exchange rates with sales price increases to offset the higher product costs and double-digit volume growth in corn in Latin America and Asia Pacific and in soybean in the USA.

Diverse field crops: major brands SYNGENTA® Seeds

Sales increased by 11 percent, 18 percent at constant exchange rates, again with broad price increases and supplemented by double digit volume growth in sunflowers in Europe.

Vegetables: major brands ROGERS™, S&G®

Vegetables sales increased by 1 percent, 8 percent at constant exchange rates, with growth driven higher sales prices in all regions except China.

Flowers: major brands SYNGENTA® Flowers

Flowers sales were 13 percent lower, 7 percent lower at constant exchange rates, with difficult markets leading to lower volumes in all regions.

Sales by region for Crop Protection are as follows:

($m, except change %)			Change				
Region	**2022**	2021	Volume %	Local price %	CER %	Currency %	Actual %
Europe, Africa and Middle East	**3,188**	3,024	+4	+12	+16	-11	+5
North America	**3,587**	3,037	+7	+11	+18	-	+18
Latin America	**6,530**	4,578	+11	+28	+39	+4	+43
Asia Pacific	**1,821**	1,768	+3	+9	+12	-9	+3
China	**504**	416	+21	+1	+22	-1	+21
Other	**506**	478	n/a	n/a	n/a	n/a	n/a
Total Crop Protection	**16,136**	13,301	+8	+16	+24	-3	+21

Europe, Africa and Middle East

Sales increased by 5 percent, 16 percent at constant exchange rates with broad sales price increases to offset higher product costs and volume growth particularly in France and Germany offsetting a decline in non-selective herbicide sales in Russia and Ukraine.

North America

Sales increased by 18 percent, with higher sales prices and strong growth in volumes in herbicides and seedcare.

Latin America

Sales increased by 43 percent, 39 percent at constant exchange rates. In addition to strong price increases in a market where demand was stretching supply, there was double digit volume growth in Brazil and Argentina with particular growth across non-selective herbicides.

Asia Pacific

Sales increased by 3 percent, 12 percent at constant exchange rates with price increases supplemented by higher selective herbicide volumes and growth in the new MIRAVIS® fungicide, more than offsetting a decline in non-selective herbicides.

China

Sales increased by 21 percent higher, 22 percent at constant exchange rates. Sales prices were flat in comparison with other regions, but volume growth was strong, with particular increase in sales of the new MIRAVIS® fungicide.

Sales by region for Seeds are as follows:

($m, except change %)			Change				
Region	**2022**	2021	Volume %	Local price %	CER %	Currency %	Actual %
Europe, Africa and Middle East	**1,149**	1,081	+5	+12	+17	-11	+6
North America	**953**	851	+3	+9	+12	-	+12
Latin America	**1,149**	907	+13	+11	+24	+3	+27
Asia Pacific including China	**484**	437	+14	+4	+18	-7	+11
Other	**62**	60	n/a	n/a	n/a	n/a	n/a
Flowers	**197**	227	-11	+4	-7	-6	-13
Total Seeds	**3,994**	3,563	+7	+9	+16	-4	+12

Europe, Africa and Middle East

Sales increased by 6 percent, 17 percent at constant exchange rates, higher local currency prices and increased volume of sunflower seeds in South East Europe and Russia more than offsetting lower volumes in Ukraine.

North America

Sales increased by 12 percent, with price increases supplemented by volume growth in soybean.

Latin America
Sales were 27 percent higher, 24 percent at constant exchange rates, price increases and strong volume growth in corn in Brazil and Argentina.

Asia Pacific including China
Sales increased by 11 percent, 18 percent at constant exchange rates, driven by growth in corn.

Operating income

Variances in the tables below reflect the profit impact of changes year on year. For example, an increase of sales or a decrease in costs is a positive variance and a decrease in sales or increase in costs is a negative variance.

Syngenta Operating Income	Total as reported under IFRS		Change		Restructuring and impairment		Before restructuring and impairment[1]		Change before restructuring and impairment[1]	
($m, except change %)	2022	2021	Actual %	CER %	2022	2021	2022	2021	Actual %	CER %
Sales	**19,963**	16,733	**+19%**	+22%	**-**	-	**19,963**	16,733	**+19%**	+22%
Cost of goods sold	**(11,640)**	(9,623)	**-21%**	-24%	**(7)**	(17)	**(11,633)**	(9,606)	**-21%**	-24%
Gross profit	**8,323**	7,110	**+17%**	+20%	**(7)**	(17)	**8,330**	7,127	**+17%**	+19%
as a percentage of sales	**42%**	43%					**42%**	43%		
Marketing and distribution	**(2,826)**	(2,431)	**-16%**	-21%	**-**	-	**(2,826)**	(2,431)	**-16%**	-21%
Research and development	**(977)**	(1,112)	**+12%**	+6%	**-**	-	**(977)**	(1,112)	**+12%**	+6%
General and administrative:										
Restructuring	**(242)**	(223)	**-8%**	-11%	**(242)**	(223)	**-**	-	**n/a**	n/a
Other general and administrative	**(1,428)**	(1,216)	**-17%**	-13%	**-**	-	**(1,428)**	(1,216)	**-17%**	-13%
Operating income	**2,850**	2,128	**+34%**	+36%	**(249)**	(240)	**3,099**	2,368	**+31%**	+33%
as a percentage of sales	**14%**	13%					**16%**	14%		

Syngenta has five operating segments, which have been aggregated into the global Crop Protection segment, including Professional Solutions and the global Seeds segment, including Field Crops, Vegetables and Flowers.

Operating Income

($m, except change %)	2022	2021	Change %
Crop Protection	**2,736**	2,240	+22%
Seeds	**363**	128	+184%
Total segments	**3,099**	2,368	+31%
Restructuring	**(249)**	(240)	-4%
Syngenta	**2,850**	2,128	+34%

The two tables above do not represent income statements prepared under IFRS. Please refer to the information reported in the consolidated financial statements.

1 Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description

Overall Syngenta operating income
Operating income in 2022 was 34 percent higher than 2021. Restructuring charges including reversals of inventory step-ups charged to cost of goods sold were $249 million in 2022 and are described in detail in the Restructuring and Impairment section below and in Note 6 to the consolidated financial statements.

Excluding restructuring and impairment, operating income in 2022 was $3,099 million compared to $2,368 million in 2021. Sales were 19 percent higher than 2021, 22 percent at constant exchange rates and are explained in more detail above. Excluding restructuring and impairment, the gross profit margin was one percentage point lower, also at constant rates of exchange; higher sales prices more than offset the increased raw material and other production costs in dollars, but did not fully mitigate the impact on gross profit as a percentage of sales.

Marketing and distribution costs in 2022 increased by 16%, 21% at constant exchange rates, to $2,826 million. Provisions for bad debts included within Marketing and distribution were approximately $170 million higher in 2022, $187 million at constant exchange rates, due partly to the impacts of the conflict in Ukraine and also the impact of volatile farm economics in parts of Latin America. Otherwise, costs increased to support the increased sales volumes and estimated market share growth and excluding the provisions for bad debts were more than 1 percentage point lower relative to sales.

Research and development costs were 12 percent lower in 2022 compared with 2021. 2022 included $669 million capitalized development costs (2021: $413 million). Excluding the impact of capitalized development costs, research and development costs increased slightly as a percentage of sales, with increased investment in sustainable agriculture and to support future growth in Seeds.

Higher other general and administrative costs included currency hedging costs of $164 million in 2022 compared to $44 million in 2021. Increased employee incentive costs in 2022 offset the non-recurrence of one-off costs from 2021; 2021 reported costs included approximately $188 million coming from a litigation settlement, net of a $72 million gain from changes to the Swiss pension plan.

Currency exchange rate movements reduced 2022 operating profit by an estimated $54 million, including the above-mentioned hedging losses.

For further discussion on Syngenta operating income, see Summary of results above.

Operating income by segment

Crop Protection	Total as reported under IFRS		Change	
($m, except change %)	2022	2021	Actual %	CER %
Sales	**15,969**	13,170	**+21%**	+24%
Cost of goods sold	**(9,476)**	(7,705)	**-23%**	-26%
Gross profit	**6,493**	5,465	**+19%**	+21%
as a percentage of sales	**41%**	42%		
Marketing and distribution	**(1,982)**	(1,677)	**-18%**	-23%
Research and development	**(651)**	(631)	**-3%**	-11%
General and administrative:				
Other general and administrative	**(1,124)**	(917)	**-23%**	-13%
Operating income	**2,736**	2,240	**+22%**	+26%
as a percentage of sales	**17%**	17%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements.

Reported sales were 21 percent higher than 2021, 24 percent at constant exchange rates with sales volumes eight percent higher and local currency prices averaging 16 percent higher. See the Sales commentary section above for further information on sales.

Gross profit margin was one percentage point lower in 2022, also at constant exchange rates, with higher sales prices offsetting increased product costs as noted above.

Marketing and distribution costs as a percentage of sales were flat from 2021 to 2022. Bad debt charges increased by approximately $150 million, partly due to the conflict in Ukraine. Other marketing and distribution costs increased due to inflation and to support volume and market share growth. The impact of cost inflation globally was largely offset by efficiencies and cost control.

Research and development costs were 3 percent higher, 11 percent at constant exchange rates, remaining relatively flat as a percentage of sales. Increased expenditure on new products supporting sustainable agriculture and the impact of inflation were partly offset by favorable currency impacts.

Other general and administrative costs were $207 million higher than 2021, with currency hedging costs of approximately $131 million in 2022 compared to approximately $35 million in 2021. 2021 included $188 million related to a litigation settlement and approximately $66 million of gains from a pension plan amendment. The non-recurrence of these items was offset by higher employee incentive costs due to the strong business performance and the impact of salary inflation.

Seeds	Total as reported under IFRS		Change	
($m, except change %)	2022	2021	Actual %	CER %
Sales	**3,994**	3,563	**+12%**	+16%
Cost of goods sold	**(2,157)**	(1,901)	**-13%**	-17%
Gross profit	**1,837**	1,662	**+10%**	+14%
as a percentage of sales	**46%**	47%		
Marketing and distribution	**(844)**	(754)	**-12%**	-17%
Research and development	**(326)**	(481)	**+32%**	+27%
General and administrative:				
Other general and administrative	**(304)**	(299)	**-2%**	-13%
Operating income	**363**	128	**+184%**	+158%
as a percentage of sales	**9%**	4%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements.

Sales were 12 percent higher in US dollars, 16 percent higher at constant exchange rates, with sales volumes seven percent higher and local currency sales prices nine percent higher. See the Sales commentary section above for further information on Seeds sales.

Gross profit margin was one percentage point lower in 2022, also at constant exchange rates. Sales price increases offset the adverse impact on cost of goods sold of higher seed purchase costs, but at a lower gross profit percentage to sales and there was some increase in inventory provisions partly due to the conflict in Ukraine.

Marketing and distribution costs were 12 percent higher in US dollars, 17 percent higher at constant exchange rates, remaining flat as a percentage of sales despite an increase of $23 million in charges for doubtful receivables due to continued productivity improvements.

Research and development expense was $155 million lower in 2022 compared with 2021. In 2022, capitalized development costs were approximately $230 million higher; excluding this impact, research and development costs were flat as a percentage of sales.

Other general and administrative costs were two percent higher in 2022, 13 percent at constant exchange rates, with currency hedging costs of approximately $33 million in 2022 compared to approximately $10 million in 2021. The increase at constant exchange rates was driven by higher performance-based employee incentive costs.

Defined Benefit Pensions

Defined benefit pension expense was $103 million in 2022 compared with $44 million in 2021. The increase is due to a plan amendment gain recognized in 2021 reflecting revised rules adopted by Syngenta's Swiss pension fund.

Syngenta contributions to defined benefit pension plans were $121 million in 2022 compared with $140 million in 2021. In 2023, Syngenta expects contributions to defined benefit pension plans, excluding early retirement contributions associated with restructuring actions, to be approximately $122 million.

Restructuring and impairment

Restructuring and impairment charges for the years ended December 31, 2022 and 2021, broken down into the main restructuring initiatives, consist of the following:

($m)	**2022**	2021
Productivity programs and other restructuring costs:		
Cash costs	**30**	85
Other non-current asset impairments	**127**	41
Acquisition, divestment and related costs:		
Cash costs	**95**	97
Non-cash items	**(3)**	17
Total	**249**	240

In 2022, $7 million for the reversal of inventory step ups reported on acquisitions is presented within Cost of goods sold in the consolidated income statement (2021: $17 million). The other costs above for the years ended December 31, 2022 and 2021 are presented within Restructuring in the consolidated income statement. See Note 6 to the consolidated financial statements for analysis of restructuring costs.

Financial expense, net

Financial expense, net increased by $173 million in 2022 to $613 million. Net interest expense at $445 million was $68 million higher than 2021, with the increase in US dollar interest rates through the year and significantly higher interest rate in Argentina. Currency-related financial expenses in 2022 of $119 million were $94 million higher than 2021, with a higher cost of hedging the Brazilian real and Russian ruble.

Taxes

In 2022, Syngenta recorded a net tax expense of $335 million on a profit before taxes of $2,242 million, an effective tax rate of 15 percent. The effective tax rate in 2021 was 15 percent, based on $246 million net tax expenses and $1,688 million profit before tax.

The Swiss tax rates range from 13 to 19 percent. In Basel-Stadt, the canton where Syngenta has its headquarters, the ordinary effective tax rate is 13 percent in 2022 (2021: 13 percent).

Income taxed at different rates increased the effective tax rate by 1 percent in 2022 (2021: increase of 7 percent). The impact of increased profits in jurisdictions with higher tax rates was greater in 2021 than in 2022 and is partly offset due to certain intellectual property income being subject to tax at a reduced rate.

Higher non-taxable income and less non-tax-deductible expenditures born by in-market distribution companies in 2022 did result in a 1 percent net effective tax rate decrease compared to a 1 percent increase in 2021.

Changes to prior year income tax estimates and other tax items decreased the effective tax rate by 2 percent in 2022 (2021: decrease of 4 percent) mainly due to the closure of previous tax periods on a more favorable basis than previously expected.

The effect of non-recognition of deferred tax assets increased the effective tax rate by 4 percent in 2022, compared with an increase of 1 percent in 2021. The principal jurisdictions where deferred tax assets have not been recognized in 2022 are USA, Brazil and Argentina (2021: USA) based on forecasts prepared to determine the recoverable amount of deferred tax.

The effective tax rate on restructuring and impairment was 15 percent in 2022 compared with a tax rate of 17 percent in 2021. Most charges were tax deductible and mainly related to expenses in Switzerland. Future rates applicable to restructuring and impairment will be dependent on the nature and size of the charges and may vary from year to year.

Syngenta is closely monitoring the OECD initiatives for the avoidance of base erosion and profit shifting ("BEPS"), however during 2022 there were no legislative changes having a material impact on the tax filing position of Syngenta.

Net income for the period and other supplementary income data

Net income attributable to Syngenta's shareholder in 2022 was $1,909 million, compared to $1,443 million in 2021.

Sales in 2022 were 19 percent higher than 2021, and operating income margin was one percentage point higher. After the higher financial expense, income before taxes was 33 percent higher in 2022. The 2022 tax rate was 15 percent, remaining flat to 2021. As a result, net income attributable to Syngenta's shareholder in 2022 was 32 percent higher than 2021.

After related taxation, restructuring and impairment expense was $12 million higher at $212 million in 2022 compared with $200 million in 2021.

Foreign operations and foreign currency transactions

Syngenta's subsidiaries use their local currency as their functional currency for accounting purposes except where the use of a different currency more fairly reflects their actual circumstances.

Syngenta operates worldwide and its business has grown significantly in emerging markets over the last years, with a broadening of the currency effects that need to be closely monitored. Syngenta regularly analyzes how currency fluctuations will impact its operating results and manages the impact with a combination of commercial actions, such as product pricing, and financial risk management strategies, such as hedging. Next to the Euro, the Swiss franc and the British pound sterling, the Brazilian real gives rise to a major currency exposure due to the large size of Syngenta's business activities in Brazil. Sales prices to customers in Brazil largely are linked to the US dollar, which limits the impact of fluctuations in the US dollar/Brazilian real exchange rate, though the extent of the linkage may vary from year to year depending on market conditions and the direction and speed of the exchange rate movement. Similarly, Syngenta manages its currency exposure in Argentina and parts of the CIS, mainly Russia and particularly the Ukraine, by linking local currency sales prices to the US dollar to compensate for the fluctuations in sales value from the currency devaluation. During 2022, the Argentine peso devalued by 73 percent against the US dollar, the Ukrainian hryvnia by 34 percent and the Russian ruble appreciated by three percent. There have been significant exchange movements in the ruble in 2022 due to the conflict with Ukraine and the extent to which sales prices are linked to the US dollar and the ability to hedge the ruble is subject to some uncertainty.

Syngenta regularly monitors receivables exposure in all countries in which it operates. In recent years, Syngenta has increased sales significantly in East Europe where exchange rate volatility and other macroeconomic factors cause overall credit risk to be higher. In Latin America, Argentina continues to experience economic and financial difficulties, which have also impacted Brazil in previous years, and this at times has led to constraints in the availability of credit. In Argentina the economy has been hyperinflationary since the middle of 2018 putting pressure on liquidity. In Venezuela, exchanging local currency into US dollars to pay for imported goods continues to be difficult. Although first the COVID-19 pandemic and then the conflict between Russia and Ukraine have created economic uncertainty impacting global markets, including currency values and commodity prices, agriculture has continued to operate as an essential activity in most countries.

The increase in gross trade receivables for these countries, in spite of a strong collection performance, is due to higher sales in Brazil and Argentina. Gross receivables across Russia and the Ukraine were significantly lower than 2021 due to the majority of sales being made on a prepayment basis in 2022. Receivables past due for more than 180 days were relatively flat and decreased as a percentage of sales with $61 million relating to Venezuela where certain debts have been outstanding for several years and are fully provisioned. The provision for doubtful trade receivables increased in 2022 mainly related to the impacts of the conflict in Ukraine, as well as the increasingly uncertain economic environment and adverse weather conditions in Brazil and Argentina that may impact farmer liquidity.

The following table outlines for the above-named countries the aggregate, gross trade receivables, those past due for more than 180 days and the related provision for doubtful receivables at December 31, 2022 and 2021.

($m)	**2022**	2021
Gross trade receivables	**3,293**	2,679
Past due for more than 180 days	**295**	277
Provision for doubtful trade receivables	**412**	317

At December 31, 2022, approximately 27 percent of Syngenta's cash and cash equivalents was held in US dollars, approximately 17 percent in Brazilian real, approximately 14 percent in Russian rubles, approximately 6 percent in each of Euros and Indian rupees, approximately 5 percent in Chinese yuan, approximately 3 percent in each of Australian dollars and pound sterling and approximately 2 percent in each of Turkish lire and South African rand. No other individual currency made up more than 2 percent.

Liquidity and capital resources

Syngenta's principal source of liquidity consists of cash generated from operations. Syngenta makes use of trade receivable factoring across various regions and reverse factoring arrangements to manage timing of cash flows. Working capital fluctuations due to the seasonality of the business are supported by short-term funding available from a $2.5 billion Global Commercial Paper program, a $1.5 billion revolving short-term credit facility with Syngenta Group (HK) Holdings Company Limited and $4 billion committed credit lines with various financial institutions.

($m)	**2022**	
	Balance outstanding at December 31, 2022	**Average balance outstanding**
Global Commercial Paper program	**-**	**537**
Short-term credit facility with Syngenta Group	**500**	**644**
Committed credit lines	**250**	**462**
Total	**750**	

Long-term capital employed is currently financed through twelve unsecured bonds, two unsecured notes issued under the Note Purchase Agreement in the US Private Placement market, three term loans with financial institutions and three intragroup term loans with Syngenta Group (HK) Holdings Company Limited.

The table below summarizes Syngenta's unsecured notes in issuance at December 31, 2022:

($m)	Issuance date	Carrying amount	Value at issue
4.441% USD bond 2023	April 2018	**997**	**1,000**
1.250% CHF bond 2023	September 2020	**288**	**287**
0.625% CHF bond 2024	November 2021	**244**	**225**
1.625% CHF bond 2024	March 2014	**271**	**283**
4.892% USD bond 2025	April 2018	**674**	**677**
5.350% USD private placement 2025	December 2005	**55**	**55**
3.375% Eurobond 2026	March 2020	**983**	**1,008**
0.700% CHF bond 2026	February 2020	**152**	**145**
1.250% Eurobond 2027	March 2015	**530**	**559**
5.182% USD bond 2028	April 2018	**330**	**336**
2.125% CHF bond 2029	March 2014	**163**	**170**
5.590% USD private placement 2035	December 2005	**11**	**11**
4.375% USD Notes 2042	March 2012	**19**	**20**
5.676% USD bond 2048	April 2018	**150**	**153**
Total		**4,867**	**4,929**

In addition, Syngenta has a long-term USD loan with a floating interest rate which matures in 2024 and 2025, and a long-term fixed rate CHF loan which matures in 2025. The balance at December 31, 2022 for the USD loan was $1,250 million (2021: $1,250 million) and for the CHF loan $306 million (2021: $nil). Intragroup term loans consist of a CNY 3,800 million loan with a floating interest rate based on SOFR that matures in 2025, a $500 million loan with a floating rate interest based on LIBOR that matures in 2025 and a $500 million loan with a 5.05% interest rate that matures in 2026.

For information on Syngenta's funding and treasury policies and objectives in terms of the manner in which treasury activities are controlled, see Note 24 to the consolidated financial statements.

Syngenta reported cash and cash equivalents on December 31, 2022 and 2021 of $1,408 million and $1,523 million, respectively. At December 31, 2022 and 2021, Syngenta had current financial debt of $2,688 million and $1,528 million, respectively, and non-current financial debt of $7,490 million and $7,748 million, respectively.

Absent major acquisitions, Syngenta targets maintaining an investment grade credit rating, as recognized by major third-party rating agencies, which it currently believes provides an optimal balance between financial flexibility and the cost of capital. At December 31, 2022, Syngenta's credit ratings were as follows: Fitch Ratings Ltd BBB+/F2; Standard & Poor's Rating Services BBB/A-2; and Moody's Investors' Services Limited Ba1/NP (December 31, 2021: Fitch Ratings Ltd BBB/F-3; Standard & Poor's Rating Services BBB/A-2; and Moody's Investors' Services Limited Ba1/NP). There are no material legal or economic restrictions on the ability of subsidiaries to transfer funds to the Company in the form of cash dividends except as disclosed in the consolidated cash flow statement.

Other than refinancing future maturing bonds over the short to medium term, management is of the opinion that, absent a major business acquisition or a very significant deterioration in working capital or the rate of receivables collections from that currently expected, the funding available from the sources described above will be sufficient to satisfy Syngenta's working capital, capital expenditures and debt service requirements for the foreseeable future, including cash expenditures relating to restructuring programs. In the event of a major business acquisition, Syngenta would seek additional funding from capital markets or other sources. Syngenta regards as sufficiently remote the likelihood that a very significant deterioration in working capital or unexpected decline in the rate of receivables collections will occur as not to require the development of a detailed contingency funding plan.

Cash flow

The following table sets out certain information about cash flow for each of the periods indicated:

	Year ended December 31,	
($m)	**2022**	2021
Cash flow from operating activities	**1,071**	2,060
Cash flow used for investing activities	**(1,308)**	(1,455)
Cash flow from/(used for) financing activities	**166**	(1,566)

Cash flow from operating activities

2022 compared with 2021

Cash flow from operating activities decreased by $989 million to $1,071 million in 2022, due to a significant increase in inventories. Income before taxes after the reversal of non-cash and other reconciling items was $4,194 million in 2022 compared to $3,340 million in 2021, driven by the increased operating income described above. Cash paid in respect of other provisions was $168 million lower than 2021, which included the litigation settlement noted earlier. Higher net other financial payments reflected both increased hedging costs and increased non-recourse factoring. Change in net working capital was an outflow of $1,680 million in 2022 compared to an inflow of $110 million in 2021. Change in inventories was an outflow of $3,028 million in 2022 compared to $540 million in 2021, with a higher inventory build in Crop Protection in 2022 due both to increased product costs and an increase in inventory volumes; while increased inventories are required to meet higher forecast demand in 2023, a reduction in inventory volume is planned currently by the end of 2023. Change in trade and other working capital assets was an outflow of $695 million in 2022 compared to $971 million in 2021, despite the strong sales growth due to strong cash collections from customers and an increase in non-recourse factoring; year end trade receivables as a percentage of annual sales reduced by 3 percentage points. Change in trade and other working capital liabilities was an inflow of $2,043 million in 2022 compared to $1,621 million in 2021, with a further increase in trade payables as a percentage of sales, reflecting an expansion of supplier financing programs with key suppliers and extension of payment terms.

Cash flow used for investing activities

2022 compared with 2021

Cash flow used for investing activities was $1,308 million in 2022, $147 million lower than in 2021. Additions to property, plant and equipment were $76 million higher, but marginally lower as a percentage of sales. Purchases of intangibles increased by $319 million largely due to the increase in capitalized development costs noted above. Proceeds from disposals of property, plant and equipment were $126 million higher due to the sale and leaseback of buildings in the United States in 2022; proceeds in 2021 included the sale and leaseback of buildings in the Netherlands. Cash paid for business acquisitions was an outflow of $177 million in 2022 including Agro Jangada Ltda in Brazil and further deferred payments for Valagro S.p.A , compared to $439 million in 2021 including the acquisition of Dipagro Ltda. and deferred payments for Valagro S.p.A. and the Chinese corn seed business acquired in 2020.

Cash flow used for financing activities

2022 compared with 2021

Cash flow from financing activities of $166 million in 2022 compared to $1,566 million used for financing activities in 2021. In 2022 Syngenta repaid approximately $710 million of bonds at maturity and $1,000 million of bonds early. Financing raised included approximately $326 million from a term loan from a third party financial institution and $2,045 million from a financing subsidiary of Syngenta Group. In 2021 Syngenta issued $245 million of new bonds, raised a $250 million term loan, repaid $1,333 million of bonds at maturity and $315 million of bonds early. The dividend paid to shareholders in 2022 was $400 million, flat to the $400 million paid in 2021.

Research and development (“R&D”)

Syngenta’s Research and Development organization is dedicated to developing quality crop protection and seeds products, as well as crop-focused solutions which integrate multiple technologies. R&D focuses on taking a holistic approach to help customers grow their specific crop using the best technology to address their needs, be it a single technology, a combination of technologies, or technologies and services.

Syngenta is committed to improving crop yield and quality in a sustainable way and, through its global product safety group and global regulatory team, is committed to developing and registering products that are safe and effective. Syngenta maximizes its innovation potential by leveraging its industry expertise and partnering with other technology leaders across the globe.

The total spent on research and development was $1,646 million in 2022 and $1,525 million in 2021. This included $669 million (2021: $413 million) of internal product development costs that were capitalized. Prior to 2022, any development program involved in the use of genetically modified traits was not capitalized, as it was not possible to reliably estimate an accurate split between traits requiring regulatory approval and those that had been deregulated. However, following process and system improvements, Syngenta was able to measure genetically modified development projects where traits were being used that no longer required any further regulatory approval enabling the costs of these projects to be reliably estimated for the first time. For the year ended December 31, 2022, the value of additional capitalized costs associated with these traits totaled $242 million.

For the attribution of research and development costs to reported operating segments, see Note 4 to the consolidated financial statements.

There are no off-balance sheet financing transactions associated with research and development activity.

Contractual obligations, commitments and contingent liabilities

At December 31, 2022 Syngenta had contractual obligations to make future payments in the periods indicated in the following:

($m)	Notes to the financial statements reference	Total	Less than 1 year	1–3 years	3–5 years	5–10 years	More than 10 years
Financial debt	16, 18	9,286	2,581	3,869	2,163	493	180
Interest on fixed rate financial debt	24	751	164	254	122	66	145
Other liabilities		279	113	165	1	-	-
Capital lease payments	18	892	105	151	85	150	401
Capital expenditures	19	164	115	47	2	-	-
Pension contribution commitments	21	174	45	129	-	-	-
Unconditional purchase obligations	19	2,883	1,685	976	179	43	-
Long-term research agreements and other long-term commitments	19	131	70	47	11	3	-
Total		14,560	4,878	5,638	2,563	755	726

Of the total financial debt, floating rate financial debt is $3,613 million (comprising local bank loans, overdraft facilities and term loans), of which $1,296 million is due within one year, $2,317 million between 1 and 3 years and $nil between 3 and 5 years. No interest obligation in respect of this debt is included in the table above. There is no contractual obligation to renew this debt. The debt amount, and the interest payments associated with it, will vary over time according to Syngenta's funding requirements and future interest rates.

Fixed rate debt of $5,673 million is comprised primarily of the outstanding Eurobonds, Swiss franc domestic bonds, $ bonds and private placement notes. Fixed rate interest payments of $751 million on these are included above.

Other liabilities arise from deferred payments related to acquisitions and license agreements.

Provisions for long-term liabilities totaling $541 million shown in Syngenta's consolidated balance sheet have not been included in the above table because the timing of their payment is not contractually fixed and cannot be estimated with sufficient certainty within the context of the time periods in the table. This applies particularly to those amounts which are not expected to be paid during 2023. Note 19 to the consolidated financial statements presents the components of the estimated $131 million of provisions that are expected to be paid during 2023.

The supply agreements for materials giving rise to the unconditional purchase obligations are entered into by Syngenta to ensure availability of materials meeting the specifications required by Syngenta. Where suppliers have made significant capital investment, these agreements generally provide for Syngenta to pay penalties in the event that it terminates the agreements before their expiry dates.

Pension contribution commitments totaling $174 million represent unconditional fixed payments to the UK pension fund according to the revised schedule of contributions agreed during 2018. Contributions for future service in the UK and Switzerland which are calculated as a fixed percentage of employees' pensionable pay are not included in the above table. The rules of the Swiss pension fund commit Syngenta to contributing a fixed percentage of employees' pensionable pay to the fund.

As disclosed in Note 21 to the consolidated financial statements, Syngenta expects to pay $122 million of contributions to its defined benefit pension plans in 2023, excluding restructuring costs and excluding any accelerated payments which Syngenta may decide to make as business and financial market conditions develop during 2023. $45 million of those contributions are included as commitments in the table above. The remaining $77 million represents 2023 service contributions, which are not included as commitments in the table above.

The above table excludes income tax liabilities of $486 million in respect of uncertain tax positions. These are presented within current income tax liabilities in the consolidated balance sheet because it is not possible to make a reasonably reliable estimate of the actual period of cash settlement with the respective taxing authorities.

Off-balance sheet arrangements

Syngenta had no off-balance sheet arrangements as at December 31, 2022, other than the above contractual obligations, commitments and contingent liabilities. Syngenta has no unconsolidated special purpose entities that are likely to create material contingent obligations.

Critical accounting estimates

Critical accounting estimates and new accounting pronouncements are discussed in Notes 2 and 26 to the consolidated financial statements.

Recent developments

No events occurred between the balance sheet date and the date on which the consolidated financial statements were approved by the Board of Directors that would require adjustment to or disclosure in the consolidated financial statements (see Note 27 to the consolidated financial statements).

Trend and Outlook

Sales in 2022 were 19 percent higher than in 2021, 22 percent at constant exchange rates, with 15 percent from higher local currency sales prices and 7 percent from volume growth. Syngenta estimates to have gained market share in 2022 in both Crop Protection and Seeds, supplementing growth in the underlying markets. Traded prices of key crop commodities, while off their early 2022 peaks, remained robust through the year and to the date of publication of this report. These crop prices underpin farmer profitability and support the usage of crop protection products and high-quality seeds to optimize both crop yield and quality. In this context, Syngenta expects further growth in demand in the crop protection and key global seeds crop markets in 2023, but at more moderate levels than seen in the past two years. Market supply shortages seen in several crop protection products in 2021 and the first half of 2022 led to some pull forward of demand into 2022, that may have a negative impact on growth in 2023. The tight supply situation also led to an increase in product costs from 2020 through 2021 and into 2022. The strong crop prices and the concerns over product availability supported the ability to recover the impact of these cost increases through sales price increases, as shown by the 15 percent local currency sales price increases seen in 2022. Cost increases have slowed in the latter part of 2022 and accordingly Syngenta estimates currently that local currency sales price growth will also slow in 2023. Sales in Russia and Ukraine in total represented a mid-single digit percentage of total Syngenta sales in 2022 and Syngenta continued operations in both countries; the further impact of the conflict and related sanctions on Russia cannot be reasonably estimated at the time of publication.

The impact of exchange rates movements on sales depends on the phasing of sales in addition to the direction of exchange rate movements. Sales in Euros represent 10-15% of total Syngenta sales. Sales in other “developed market” currencies (CAD, AUD, JPY, GBP, CHF) represent 5-10%. Sales in “emerging market” currencies excluding Latin American and certain East European currencies where sales prices are to some extent priced in US dollars (see below) represent a mid-teens percentage of total Syngenta sales. The impact of exchange rate movements on operating income is discussed below.

Research and development expenditure was approximately 8 percent of sales gross, before the capitalization of certain development costs in 2022 and was approximately 9 percent in 2021; overall, before capitalizing development costs, expenditure as a percentage of sales is expected to be broadly within this 8-9 percentage range in 2023 at constant exchange rates. The level of capitalized development cost is expected to be at a similar level to 2022. Marketing and distribution costs in 2022 included charges for doubtful receivables approximately $187 million higher than 2021. There is currently no reason to expect a similar level of charges in 2023. Otherwise, marketing and distribution costs are expected broadly to grow in line with sales, with productivity savings reinvested to support market share growth, particularly in Seeds and further growth in mid-tier markets in Crop Protection in Latin America and China. General and administrative costs (excluding restructuring) in 2022 included an exceptional level of employee incentive bonuses triggered by the very strong business performance.

Restructuring and impairment expenses in 2022, including $7 million reported in cost of goods sold, were $249 million. Cash restructuring costs were $125 million and non-cash impairments (including reversal of inventory step ups reported in cost of goods sold) were $124 million. It is generally not possible to forecast future non-cash impairments. Further productivity and other restructuring programs will continue in 2023 and cash restructuring charges currently are foreseen at a broadly similar level to that of 2022. However, in general, the timing of the recognition of charges for particular restructuring events, which is dependent on when irreversible commitments to the events occur, makes it difficult to predict such costs with certainty.

In 2020, oil prices (Brent) were very volatile and traded in a range from approximately $70 per barrel at the start of the year to below $20 in April, recovering to approximately $50 by the end of the year. In 2021, prices largely moved upwards, with a peak of approximately $87 per barrel, before dropping back to approximately $80 by the year end. Geopolitical issues in 2022 have led to further volatility and increases to above $120, with prices falling back to approximately $85 at the end of the year. The average of monthly prices in 2022 was approximately $96 per barrel, compared to approximately $71 in 2021 and approximately $47 per barrel in 2020. With its current product mix, Syngenta estimates that each $10 movement in the price of a barrel of oil impacts its Cost of goods sold by approximately $40 million. However, due to supplier production chains and Syngenta’s own inventory, it can take from nine to 12 months for movements in the oil price to feed through into Cost of goods sold, so that the impact of oil prices on Cost of goods sold in 2023 is largely driven by changes between 2021 and 2022. Subsequent price movements take time to pass through to Syngenta’s cost of goods but increases ultimately may have an adverse impact if Syngenta is not able to pass on the increase through increased sales prices. In addition to the price of oil, supply constraints, from 2020 through to 2022, particularly for intermediates and active ingredients sourced from China, led to significant increases in purchase costs of the relevant products. The field crop commodity prices noted above have an impact on the product cost of seeds, where the payment to the contract grower is typically linked to the traded price of the relevant crop; however due to both hedges in place and inventory carry forward, the impact on cost of goods sold is delayed relative to the changes in the crop price. As noted above, product cost increases in both Crop Protection and Seeds have slowed in the latter part of 2022 and in the case of some commodity active ingredients, costs have started to reduce at the time of publication.

In 2022, over 58 percent of Syngenta’s sales were in emerging markets. Emerging markets continue to have higher long-term growth potential because significant crop yield gaps exist versus developed markets; this growth potential is further supported by ongoing technology adoption. Managing volatility in such markets, in particular credit and currency exposures, is integral to Syngenta’s business model.

Overall, Syngenta has significant currency exposures, which at a high level can be summarized as:

- a short position against the US dollar in Swiss francs and British pounds;
- a net short position in Euros, with Euro priced product costs and over the course of a full year, relatively minor compared with sales in Euros, but with a long position in the first half selling season and a short position in the second half from more evenly spread Euro-based operating costs including raw material costs;
- a long position in Japanese yen, Australian and Canadian dollars and many emerging market currencies.

In Brazil and Argentina, a significant portion of sales are effectively priced in US dollars, resulting in a net short local currency exposure, though the linkage is not absolute and there can be a time lag before local currency prices are adjusted. Syngenta has also acted to link local currency pricing of sales in Russia and particularly Ukraine (both of which export grain to the global market) to US dollars to reduce the long exposure to these currencies. The impact of both the military conflict in the Ukraine and related sanctions on Russia cannot be reasonably estimated at this point.

Forecast transaction exposures in the major currencies are hedged under a rolling 12-month program, largely through forward contracts.

Appendix A

Reconciliation of non-GAAP measures to equivalent GAAP measures
A non-GAAP measure is a numerical measure of financial performance, financial position or cash flows that either:

- includes, or is subject to adjustments that have the effect of including, amounts that are excluded in the most directly comparable measure calculated and presented under IFRS; or
- excludes, or is subject to adjustments that have the effect of excluding, amounts that are included in the most directly comparable measure calculated and presented under IFRS.

Syngenta uses non-GAAP measures in this report where they are regarded by management as important for the investor to fully understand Syngenta's performance. The non-GAAP measures presented in this report are measures adjusted for exchange rate movements and to exclude restructuring gains and losses, impairment losses and divestment gains and losses. The Company presents these measures because:

- movements in exchange rates historically have had, and in the future are expected to have, a significant impact on sales and operating income from period to period; and
- restructuring and impairment charges historically have fluctuated, and in the future are expected to fluctuate, significantly from period to period and thereby have a volatile impact on results.

Syngenta has been engaged in significant restructuring activities since the formation of the Company in 2000. The incidence of restructuring charges is periodic and volatile, reflecting the timing of irrevocable commitments related to specific sites and operations. Therefore, the impact on reported performance varies from period to period and there is limited continuity in the specific composition or size of such charges. Internal financial reporting and management and employee incentive plans are substantially based on financial measures excluding the charges for restructuring and impairment so that management is incentivized to deliver the benefits of the associated restructuring and not to achieve short-term financial targets by deferring implementation of restructuring plans. Restructuring programs typically deliver benefits with a payback over several years, similar to capital investments, and control over restructuring expenditures is performed on a similar project basis to that applied with capital investments.

Syngenta presents non-GAAP measures on operating income before restructuring and impairment at both the segmental and Syngenta AG group levels. Restructuring and impairment charges have had a material effect on operating income in the period covered by the review. In the opinion of management, reporting operating performance excluding restructuring and impairment in addition to the GAAP measures provides a more thorough understanding of business performance. Together with disclosure of the material elements within restructuring and impairment and of the overall anticipated size and timeframe of restructuring programs, these measures may assist investors in forecasting future operating performance.

Syngenta presents non-GAAP information on income before taxes excluding restructuring and impairment together with income tax expense before restructuring and impairment to assist investors to calculate the Syngenta tax rate both including and excluding the impact of restructuring and impairment charges. The tax rate on restructuring and impairment charges has been volatile and different from the tax rate on income before taxes excluding restructuring and impairment, due in part to many categories of restructuring or impairment charges not being deductible for tax purposes.

In addition to GAAP measures, Syngenta uses these measures excluding restructuring and impairment in internal reporting to management and the Board of Directors, and these measures are used in the incentive plans for Syngenta management and other employees. Restructuring and impairment charges have been incurred in all the periods covered by the review and are expected to continue to arise and have a material effect on operating performance in future periods. Consequently, non-GAAP measures of operating income before restructuring and impairment do not present a complete picture of operating performance and these measures should be seen only as supplementary to the GAAP measures.

For improved clarity, the definitions of these non-GAAP measures and reconciliations of non-GAAP measures to the appropriate GAAP measure are provided below. The tables below are included to show the reconciliation of the GAAP measures to the non-GAAP measures used in the report and do not represent income statements prepared under IFRS.

2022 ($m)	Total	Restructuring and impairment	Before restructuring and impairment
Operating income	2,850	(249)	3,099
Income from associates and joint ventures	5	-	5
Financial expense, net	(613)	-	(613)
Income before taxes	2,242	(249)	2,491
Income tax expense	(335)	37	(372)
Net income	1,907	(212)	2,119
Attributable to non-controlling interests	2	-	2
Net income attributable to Syngenta AG shareholder	1,909	(212)	2,121
Tax rate	15%	15%	15%

2021 ($m)	Total	Restructuring and impairment	Before restructuring and impairment
Operating income	2,128	(240)	2,368
Income from associates and joint ventures	-	-	-
Financial expense, net	(440)	-	(440)
Income before taxes	1,688	(240)	1,928
Income tax expense	(246)	40	(286)
Net income	1,442	(200)	1,642
Attributable to non-controlling interests	1	-	1
Net income attributable to Syngenta AG shareholder	1,443	(200)	1,643
Tax rate	15%	17%	15%

2020 ($m)	Total	Restructuring and impairment	Before restructuring and impairment
Operating income	2,107	(188)	2,295
Income from associates and joint ventures	-	-	-
Financial expense, net	(497)	-	(497)
Income before taxes	1,610	(188)	1,798
Income tax expense	(188)	48	(236)
Net income	1,422	(140)	1,562
Attributable to non-controlling interests	(1)	-	(1)
Net income attributable to Syngenta AG shareholders	1,421	(140)	1,561
Tax rate	12%	26%	13%

2019 ($m)	Total	Restructuring and impairment	Before restructuring and impairment
Operating income	1,927	(337)	2,264
Income from associates and joint ventures	1	-	1
Financial expense, net	(425)	-	(425)
Income before taxes	1,503	(337)	1,840
Income tax expense	(47)	70	(117)
Net income	1,456	(267)	1,723
Attributable to non-controlling interests	(6)	-	(6)
Net income attributable to Syngenta AG shareholders	1,450	(267)	1,717
Tax rate	3%	21%	6%

2018 ($m)	Total	Restructuring and impairment	Before restructuring and impairment
Operating income	2,130	51	2,079
Income from associates and joint ventures	2	-	2
Financial expense, net	(401)	-	(401)
Income before taxes	1,731	51	1,680
Income tax expense	(280)	12	(292)
Net income	1,451	63	1,388
Attributable to non-controlling interests	(4)	-	(4)
Net income attributable to Syngenta AG shareholders	1,447	63	1,384
Tax rate	16%	(24)%	17%

Constant exchange rates

Syngenta compares results from one period to another period in this report using variances calculated at constant exchange rates ("CER"). To present that information, current period results for entities reporting in currencies other than US dollars are converted into US dollars at the prior period's exchange rates, rather than the exchange rates for the current year. See Note 23 to the consolidated financial statements for information on average exchange rates in 2022 and 2021. For example, if a European entity reporting in CHF sold CHF 100 million of products in 2022 and 2021, Syngenta's financial statements would report $105 million of revenues in 2022 (using 0.95 as the rate, which was the average exchange rate in 2022) and $110 million in revenues in 2021 (using 0.91 as the rate, which was the average exchange rate in 2021). The CER presentation would translate the 2022 results using the 2021 exchange rates and indicate that underlying revenues were flat. Syngenta presents this CER variance information in order to assess how its underlying business performed before taking into account currency exchange fluctuations. Syngenta also presents its actual reported results in order to provide the most directly comparable data under GAAP.

Consolidated Income Statement

(for the years ended December 31, 2022 and 2021)

($m)	Notes	**2022**	2021
Sales	4, 5	**19,963**	16,733
Cost of goods sold		**(11,640)**	(9,623)
Gross profit		**8,323**	7,110
Marketing and distribution		**(2,826)**	(2,431)
Research and development		**(977)**	(1,112)
General and administrative:			
Restructuring	6	**(242)**	(223)
Other general and administrative		**(1,428)**	(1,216)
Operating income		**2,850**	2,128
Income from associates and joint ventures		**5**	-
Interest income	25	**79**	53
Interest expense	25	**(524)**	(430)
Other financial expense		**(49)**	(38)
Currency losses, net	25	**(119)**	(25)
Financial expense, net		**(613)**	(440)
Income before taxes		**2,242**	1,688
Income tax expense	7	**(335)**	(246)
Net income		**1,907**	1,442
Attributable to:			
Syngenta AG shareholder		**1,909**	1,443
Non-controlling interests		**(2)**	(1)
Net income		**1,907**	1,442

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Statement of Comprehensive Income

(for the years ended December 31, 2022 and 2021)

($m)	Notes	2022	2021
Net income		**1,907**	1,442
Components of other comprehensive income (OCI)			
Items that will not be reclassified to profit or loss:			
Gains/(losses) on equity investments at fair value through OCI	25	**48**	(11)
Remeasurement of defined benefit post-employment plans	14, 21	**46**	288
Income tax relating to items that will not be reclassified to profit or loss	7	**(40)**	(19)
		54	258
Items that may be reclassified subsequently to profit or loss:			
Unrealized gains on derivatives designated as cash flow and net investment hedges and related hedging costs	24	**42**	32
Currency translation effects		**(289)**	(252)
Income tax relating to items that may be reclassified subsequently to profit or loss	7	**(2)**	(2)
		(249)	(222)
Total OCI		**(195)**	36
Total comprehensive income		**1,712**	1,478
Attributable to:			
Syngenta AG shareholder		**1,722**	1,478
Non-controlling interests		**(10)**	-
Total comprehensive income		**1,712**	1,478

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Balance Sheet

(at December 31, 2022 and 2021)

($m)	Notes	2022	2021
Assets			
Current assets:			
Cash and cash equivalents	25	**1,408**	1,523
Trade receivables	8, 25	**5,220**	4,842
Other accounts receivable	25	**920**	691
Inventories	10	**8,837**	5,841
Derivative and other financial assets	25	**660**	413
Other current assets	9	**558**	581
Income taxes recoverable		**104**	123
Total current assets		**17,707**	14,014
Non-current assets:			
Property, plant and equipment	11	**3,853**	3,799
Right-of-use assets	22	**530**	399
Intangible assets	12	**5,807**	5,273
Deferred tax assets	7	**1,674**	1,366
Financial and other non-current assets	13, 25	**706**	895
Investments in associates and joint ventures	14	**163**	168
Total non-current assets		**12,733**	11,900
Total assets		**30,440**	25,914
Liabilities and equity			
Current liabilities:			
Trade accounts payable	15, 25	**(7,264)**	(5,484)
Contract liabilities	15	**(1,079)**	(1,178)
Current financial debt and other financial liabilities	16, 25	**(3,280)**	(1,867)
Income taxes payable		**(736)**	(627)
Other current liabilities	17, 25	**(1,497)**	(1,251)
Provisions	19	**(131)**	(138)
Total current liabilities		**(13,987)**	(10,545)
Non-current liabilities:			
Financial debt and other non-current liabilities	18, 25	**(7,849)**	(8,008)
Deferred tax liabilities	7	**(1,140)**	(1,016)
Provisions	19	**(541)**	(760)
Total non-current liabilities		**(9,530)**	(9,784)
Total liabilities		**(23,517)**	(20,329)
Shareholder's equity:			
Issued share capital		**(6)**	(6)
Retained earnings		**(6,269)**	(4,749)
Other reserves		**(602)**	(774)
Total shareholder's equity		**(6,877)**	(5,529)
Non-controlling interests		**(46)**	(56)
Total equity		**(6,923)**	(5,585)
Total liabilities and equity		**(30,440)**	(25,914)

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Cash Flow Statement

(for the years ended December 31, 2022 and 2021)

($m)	Notes	2022	2021
Income before taxes		**2,242**	1,688
Reversal of non-cash and other reconciling items	20	**1,952**	1,652
Cash (paid)/received in respect of:			
Interest received		**55**	46
Interest paid		**(446)**	(346)
Other financial receipts		**36**	135
Other financial payments		**(383)**	(385)
Income taxes		**(505)**	(414)
Restructuring costs	19	**(15)**	(54)
Contributions to pension plans, excluding restructuring costs	19	**(121)**	(140)
Other provisions	19	**(64)**	(232)
Operating cash flow before change in net working capital		**2,751**	1,950
Change in net working capital:			
Change in inventories		**(3,028)**	(540)
Change in trade and other working capital assets		**(695)**	(971)
Change in trade and other working capital liabilities		**2,043**	1,621
Cash flow from operating activities		**1,071**	2,060
Additions to property, plant and equipment	11	**(705)**	(629)
Proceeds from disposals of property, plant and equipment		**324**	197
Purchases of intangible assets and capitalized development costs	12	**(794)**	(475)
Purchases of investments in associates and other financial assets		**(49)**	(207)
Proceeds from disposals of intangible and financial assets		**93**	87
Business acquisitions, net of cash acquired	3	**(177)**	(439)
Business divestments		**-**	11
Cash flow used for investing activities		**(1,308)**	(1,455)
Proceeds from increase in third party interest-bearing debt	20	**3,179**	891
Repayments of third party interest-bearing debt	20	**(2,613)**	(2,057)
Distributions paid to shareholders		**(400)**	(400)
Cash flow from/(used for) financing activities		**166**	(1,566)
Net effect of currency translation on cash and cash equivalents		**(44)**	(33)
Net change in cash and cash equivalents		**(115)**	(994)
Cash and cash equivalents at the beginning of the year		**1,523**	2,517
Cash and cash equivalents at the end of the year		**1,408**	1,523

Of total cash and cash equivalents of $1,408 million (2021: $1,523 million), $21 million (2021: $21 million) is required to meet insurance solvency requirements of Syngenta's insurance subsidiaries. These amounts therefore were not readily available for the general purposes of Syngenta. There are no other significant restrictions on Syngenta's ability to use assets or settle liabilities. At December 31, 2022 cash equivalents totaled $597 million (2021: $1,010 million) and consisted of bank and money market fund deposits.

The accompanying notes form an integral part of the consolidated financial statements.

Consolidated Statement of Changes in Equity

(for the years ended December 31, 2022 and 2021)

($m)	Par value of ordinary shares	Additional paid-in capital	Fair value reserves	Cumulative translation adjustment	Retained earnings	Total share-holder's equity	Non-controlling interests	Total equity
	Attributable to Syngenta AG shareholder							
January 1, 2021	6	3,416	(89)	(2,326)	3,427	4,434	56	4,490
Net income	-	-	-	-	1,443	1,443	(1)	1,442
OCI	-	-	19	(253)	269	35	1	36
Total comprehensive income	-	-	19	(253)	1,712	1,478	-	1,478
Transactions with owner:								
Distributions paid to shareholder	-	-	-	-	(400)	(400)	-	(400)
Reclassification on disposal of equity investment	-	-	(10)	-	10	-	-	-
Other	-	-	17	-	-	17	-	17
December 31, 2021	6	3,416	(63)	(2,579)	4,749	5,529	56	5,585
Net income	**-**	**-**	**-**	**-**	**1,909**	**1,909**	**(2)**	**1,907**
OCI	**-**	**-**	**83**	**(281)**	**11**	**(187)**	**(8)**	**(195)**
Total comprehensive income	**-**	**-**	**83**	**(281)**	**1,920**	**1,722**	**(10)**	**1,712**
Transactions with owner:								
Distributions paid to shareholder	**-**	**-**	**-**	**-**	**(400)**	**(400)**	**-**	**(400)**
Other	**-**	**-**	**26**	**-**	**-**	**26**	**-**	**26**
December 31, 2022	**6**	**3,416**	**46**	**(2,860)**	**6,269**	**6,877**	**46**	**6,923**

The accompanying notes form an integral part of the consolidated financial statements.

The amount available for dividend distribution is based on Syngenta AG's shareholder's equity determined in accordance with the legal provisions of the Swiss Code of Obligations. On December 7, 2022, a dividend of $400 million ($4.32 per share) was declared. This was paid to Syngenta's parent company, Syngenta Group (NL) B.V. on December 15, 2022. On December 8, 2021, a dividend of $400 million ($4.32 per share) was declared. This was paid to Syngenta's parent company, Syngenta Group (NL) B.V. on December 14, 2021.

There were 92,578,149 ordinary shares of par value CHF 0.10 that were authorized, issued, fully paid and outstanding at December 31, 2022 and 2021. Each ordinary share carries one vote at the shareholder's meetings of Syngenta AG.

Included within the fair value reserves are (i) cash flow hedge reserves, which comprise the effective portion of the cumulative net change in the fair value of cash flow hedging instruments related to hedged items that have not yet been recognized in profit or loss, and (ii) fair value reserves, which comprise the cumulative net change in the fair value of equity investments at fair value through OCI. Movements in the cash flow hedge reserves are shown in Note 24. Movements in the fair value reserves for equity investments are shown in Note 25. Amounts within OCI related to remeasurement of defined benefit post-employment plans are presented within retained earnings.

The cumulative translation adjustment comprises all foreign currency differences arising from the translation of the financial statements of foreign operations, as well as from the translation of long-term monetary items that are part of net investments in foreign subsidiaries.

1. Basis of preparation of the consolidated financial statements

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS or IFRSs) as issued by the International Accounting Standards Board (IASB). The consolidated financial statements have been prepared on a historical cost basis, except for items that are required by IFRSs to be measured at fair value, principally certain financial instruments and biological assets, which are valued at fair value less costs to sell.

The consolidated financial statements incorporate the financial statements of Syngenta AG, a company domiciled and incorporated in Switzerland, and all of its more than 150 subsidiaries globally (together referred to as “the Syngenta AG group”) and the Syngenta AG group’s interests in associates and joint ventures. Approximately 40 subsidiaries are considered to be significant legal entities. There are no material non-controlling interests and no material structured entities. The Syngenta AG group’s main research and development facilities are located in Switzerland, UK and USA and its main production sites are in Switzerland, UK, USA, France, China and Brazil. Syngenta AG’s principal executive offices are at Rosentalstrasse 67, 4002 Basel, Switzerland.

The parent of Syngenta AG is Syngenta Group Saturn (NL) B.V., a private company incorporated in the Netherlands. The ultimate parent of Syngenta AG is Sinochem Holdings Co. Ltd., (Sinochem Holdings), a state-owned enterprise of the People’s Republic of China.

The consolidated financial statements are presented in United States dollars (“$”) as this is the major currency in which revenues are denominated. “$m” refers to millions of United States dollars. The functional currency of Syngenta AG is the United States dollar, which is the main currency in which its funding, receipts and payments are denominated.

The Syngenta AG group is a world leading agribusiness operating in the crop protection, seeds, professional solutions and flowers markets. Crop protection includes chemicals such as herbicides, insecticides, fungicides and seed treatments to control weeds, insects and diseases in crops, as well as biological products, and are essential inputs enabling growers around the world to improve agricultural productivity and food quality. In Seeds, the Syngenta AG group operates in the high value commercial sectors of field crops (including corn, oilseeds and cereals) and vegetables. The Professional solutions business provides turf and landscape and professional pest management products, and the Flowers business provides flower seeds, cuttings and young plants, to professional growers and consumers.

The preparation of financial statements requires management to exercise judgment when applying accounting policies and to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimated. Note 2 below includes further discussion of certain critical accounting estimates.

Significant changes in the current reporting period
On March 11, 2020, the World Health Organization declared the coronavirus disease (“COVID-19”) a pandemic and governments around the world implemented stringent restrictions to limit business operations and movement of people. Restrictions continued in 2021 and 2022 to varying extents in different countries. These measures have not significantly affected Syngenta’s ability to maintain business operations nor resulted in significant adjustments to carrying amounts of assets and liabilities or revisions to critical accounting estimates.

The conflict between Russia and the Ukraine has affected operations in both countries; in Russia operations are continuing subject to significant logistical and financial constraints, while in Ukraine operations were effectively suspended and later resumed where it was feasible and safe. During 2022 combined sales in Russia and Ukraine represented a mid-single digit percentage of Syngenta AG’s total sales, therefore the impact on operations is not considered significant to Syngenta AG from a going concern perspective. Bad debt and inventory provision expenses for 2022 were less than 1% of Syngenta AG’s total operating costs. At December 31, 2022, combined balance sheet exposures for these countries, include inventory stocks of approximately $230 million and advance payments received from customers of approximately $200 million. Trade receivables, net of bad debt provision, are negligible. Therefore, total exposure is not considered significant to Syngenta AG ’s operations.

2. Significant accounting policy changes, judgments and estimates

This note describes the impact on Syngenta’s consolidated financial statements of significant accounting judgments made when applying IFRSs and critical assumptions and accounting estimates.

Application of critical accounting policies

Royalty and license income
Individual agreements licensing to third parties the right to use Syngenta technology can and do have unique terms and, consequently, the accounting judgments required to apply IFRS 15 to each such agreement can differ significantly. Syngenta recognizes revenue for non-refundable lump sum and guaranteed minimum license income at the start of a license only when the license is distinct from any related Syngenta obligations to supply licensed products during the license term and Syngenta has performed any obligations related to the license grant. For licenses of seed germplasm and trait technology, Syngenta considers that these criteria are met when the license has become effective, the licensee either has control of biological material from which it can independently breed, produce and sell seeds containing the technology Syngenta has licensed to it under the agreement or can obtain any seed purchase requirements in the market from producers other than Syngenta. For licenses of crop protection technology, Syngenta considers that these criteria are met when the license grants the right to manufacture and sell chemical products containing the licensed technology, the right to obtain related manufacturing and formulation know-how and the right to use existing regulatory data necessary for the licensee to establish its own independent registration to sell the licensed products.

Research and development expense
Research costs are expensed as incurred. Costs arising from internal product development projects are recognized as intangible assets if, and only if, Syngenta is able to, has sufficient resources to and intends to complete and use or sell the technology or product being developed, and such completion and use or sale is technically feasible and commercially viable. Government grants, including tax credits accounted for as government grants, that are directly related to development projects are accounted for in the same way as the project costs to which they relate. The amount capitalized in the current and prior year is disclosed in Note 12 and is measured by reconciling project cost analyses in development planning systems to actual costs recorded in accounting cost centers in the period.

Costs of projects to develop new crop protection chemical active ingredients that have not yet obtained regulatory approval are expensed as incurred because their technical feasibility and commercial viability cannot be demonstrated until such approval has been obtained. Costs of projects to develop new formulations or extend the use of existing formulations of active ingredients that have regulatory approval, or widen product label indications of existing products already on the market to include additional uses of such products, are capitalized as intangible assets throughout the duration of the projects, which is approximately 3 to 5 years, and are amortized over the useful economic lives of the related new products, starting from the date they are ready for use or sale. Useful economic lives are disclosed under 'Intangible Assets' in Note 26. Costs capitalized for a project are immediately and fully impaired if the project is discontinued before completion. Costs of projects to re-register active ingredients with existing approvals are expensed as incurred because such projects are considered to maintain existing intangible assets rather than create new ones.

Costs of seed breeding programs that include genetically modified traits that require regulatory approval are expensed as incurred because their technical feasibility and commercial viability cannot be demonstrated until such approval has been obtained. Prior to January 1, 2022, any development program involved in the use of genetically modified traits was not capitalized, as it was not possible to reliably estimate an accurate split between traits requiring regulatory approval and those that had been deregulated. However, following an extended data collection exercise associated with the implementation of a new project planning and reporting system during the year ended December 31, 2022, Syngenta was able to measure genetically modified development projects where traits were being used that no longer required any further regulatory approval enabling the costs of these projects to be reliably estimated for the first time. For the year ended December 31, 2022, the value of additional capitalized costs associated with these traits totaled $242 million.

Costs relating to deregulated genetically modified traits and conventional seed breeding programs are capitalized starting from the breeding stage in which new seed hybrids or varieties are identified as potential candidates for commercialization until the launch of the output of the related breeding program, which is approximately 7 years. Breeding costs are recorded by crop, region and, for amortization purposes, by breeding program year. Capitalized costs are impaired before completion of breeding if product launches are no longer expected as a result of major changes to Syngenta's seed crop portfolio. Costs capitalized for a breeding year are amortized over the average commercial life of a new seed product, as disclosed in Note 26, starting from launch.

Impairment
For purposes of testing goodwill for impairment, goodwill is allocated to cash generating units (CGUs). Syngenta generally defines each crop protection product active ingredient and each seed crop as a CGU. However, where one active ingredient is sold in mixture with other active ingredients to a significant extent, the active ingredients concerned are grouped together into a single CGU because independent cash inflows only exist at this higher level. Each CGU is generally defined on a global basis, reflecting the international nature of the business, and contains tangible assets such as property, plant and equipment (PP&E) as well as intangible assets such as product and patent rights.

North America corn and soybean seeds are defined as a single CGU because of common intellectual property and other interdependencies between these two crops, which do not apply to other crops. Goodwill on certain major acquisitions, principally Zeneca agrochemicals business goodwill of $548 million, was allocated to each Syngenta operating segment in proportion to each such segment's relative value at the time Syngenta established its current basis of segmentation, and is tested for impairment at those levels by relating the allocated amount for each segment to the total cash flows of the respective segment. The goodwill amounts allocated to segments and significant other CGUs are disclosed in Note 12.

For CGUs to which no goodwill is allocated, a reduction in latest forecasts of current year gross profit compared with the current year budget, is generally considered an indicator of market related impairment and results in the performance of detailed impairment tests. Syngenta also performs detailed impairment tests when there are asset specific indicators of impairment such as withdrawal of or restrictions placed upon product registrations, plans to divest products or, for property, plant and equipment, plans to restructure or close a site. Higher discount rates are used to test property, plant and equipment for impairment in the case of restructuring because of the higher risk associated with remaining cash flows when operations are being physically relocated. The value in use calculation takes account of cash flows from the remaining period of operations and includes decommissioning costs.

If a CGU becomes impaired, the impairment loss is allocated first to any goodwill in the CGU, and then to reduce the CGU's other assets pro rata.

Critical accounting estimates

Acquisition accounting
Applying the acquisition method of accounting requires significant management judgment to estimate the fair values and useful lives of the acquired assets, in particular intangible assets such as intellectual property (IP) related to currently marketed products and in-process research and development (IPR&D). In 2022, Syngenta recognized new intangible assets, excluding goodwill, of $72 million (2021: $41 million) resulting from acquisitions, principally Agro Jangada Ltda. These acquisitions and the fair values recognized for the acquired intangible assets are set out in Note 3. Key valuation assumptions include market size and share, sales pricing trends and competitors' reaction, cost and efficiency of the production process for the products, and the period over which the products are likely to generate economic benefits. Forecast cash flows for each asset are discounted using a rate developed from the estimated Weighted Average Cost of Capital (WACC) of the acquired company. Where Syngenta considers the risks applicable to an asset are not fully reflected in the forecast data available, it incorporates a risk premium into the discount rate. If actual cash flows are materially different from those used in calculating fair values, this may lead to changes in amortization expense or asset specific impairment losses in future periods.

Adjustments to revenue and trade receivables
Syngenta's products are consumed mainly by growers, but Syngenta invoices the majority of its sales to distributors. The timing and amount of cash inflows received by growers is impacted by a broad range of economic and political risks, including crop yields and prices, the availability of credit, and the cost of agricultural inputs such as the products sold by Syngenta and its competitors. The cash flows of distributors that supply Syngenta's products to growers and represent the majority of Syngenta's customers are also impacted by these factors. These distributors vary in size and nature from large publicly owned entities to small or medium sized owner-managed businesses. Syngenta's customer base reflects the geographical diversity of its operations, which encompass more than 90 countries and all significant agriculture areas. Considerable management effort and judgment is applied to actively manage and mitigate the risks to Syngenta from these factors and to determine the accounting estimates associated with them, which are set out below:

- the estimated cost of incentive programs that provide rebates and discounts is dependent upon achievement of sales targets, as well as cash discounts for punctual payment of accounts receivable. Syngenta records the estimated cost of these programs when the related sales are made, based on the programs' terms, market conditions and historical experience. At December 31, 2022, trade accounts payable include $2,293 million (2021: $1,862 million) of accruals for customer rebates and incentive programs.

- commercial terms in certain markets also provide a right of return, subject to eligibility restrictions by product and either an annual cap equal to a percentage of sales in the immediately prior year, or a return period typically extending up to the end of the agricultural season in which the product was originally sold, which can be 9 months. Accruals for estimated product returns are based on contractual sales terms and on historical experience of actual returns where Syngenta considers these to be reliable estimates of future returns. In accordance with IFRS 15, sales subject to returns are recognized only to the extent that it is highly probable that a significant reversal in the amount of revenue recognized will not occur when the uncertainty associated with the amount of returns is subsequently resolved. At December 31, 2022, trade accounts payable includes $568 million (2021: $333 million) of accruals for sales returns. Actual returns can vary significantly from estimates in market segments where the distribution channel holds several months' sales of Syngenta products at the reporting date; forecast consumption of those products by growers could be materially affected if market or weather conditions after the reporting date were significantly different from those expected and the volume of products returned by distributors varies with changes in grower consumption. This is especially relevant to Brazil and certain other markets in the southern hemisphere given Syngenta's financial reporting year-end falls in the middle of the peak demand season for Syngenta's crop protection products. Actual sales returns in 2021 in Brazil of crop protection products Syngenta sold during 2020 were $35 million, representing 2 percent of relevant sales. This is less than the $72 million provided at December 31, 2020. Actual sales returns in 2022 in Brazil of crop protection products Syngenta sold during 2021 were $57 million, representing 2 percent of relevant sales. This is less than the $71 million provided at December 31, 2021. The primary reason for the lower returns in 2022 relative to our 2021 estimate is the higher than expected demand driven by growers' profitability gains coming from high commodity prices and concerns in the market of lack of supply and increased prices due to the impact of COVID-19 on the global supply chain. At December 31, 2022, Syngenta has recorded a $262 million allowance for sales returns of crop protection products in Brazil, representing 8% percent of relevant sales in 2022. Syngenta expects significantly higher levels of sales return in 2023 compared to 2022 for the following reasons: a build-up of inventory in channel during 2022 driven by concerns in the market due to lack of supply and increasing prices; drought in Southern Brazil; expected adverse weather patterns continuing into the 2022/2023 season in Southern Brazil, and the expected softening of prices of commoditized products in 2023 resulting from market dynamics.
- allowances for doubtful receivables, which are estimated by critically analyzing individual receivable account balances, taking into account historical levels of recovery and the value of any security held or agreed barter programs which mitigate credit exposure, the economic condition of individual customers, and the overall economic and political environment in relevant countries. As shown in Note 8, the provision for doubtful receivables at December 31, 2022 amounted to $620 million, or 11 percent (2021: $459 million or 9 percent) of total trade receivables, of which $381 million, (2021: $289 million) related to sales made in Brazil, Ukraine, Russia, Argentina and Venezuela in current and prior years. In 2022, Syngenta reported $189 million bad debt expense (2021: $17 million). The increase is mainly related to the estimated impacts of the conflict in Ukraine, as well as the increasingly uncertain economic environment and adverse weather conditions in Brazil and Argentina, which may impact farmer liquidity and our ability to collect the receivables.

Syngenta records these estimates as separate allowances, but its estimation process recognizes their interdependency, as the level of credits to accounts receivable for discounts and product returns may affect the probability of receiving full payment of the net receivable balances.

Income Taxes

Deferred tax assets

At December 31, 2022, Syngenta's deferred tax assets are $1,674 million (2021: $1,366 million), as further analyzed in Note 7. Included in this balance are deferred tax assets for unused tax losses and tax credits of $52 million (2021: $115 million), of which $30 million (2021: $61 million) relates to tax losses. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible or in which tax losses can be utilized. The tax effect of unused tax losses is recognized as a deferred tax asset when it becomes probable that the tax losses will be utilized. In making assessments regarding deferred tax assets, management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies.

At December 31, 2022, based upon the level of historical taxable income and projections for future taxable income over the periods in which deferred tax assets are deductible, management believes that it is more likely than not that Syngenta will realize the benefits of these deductible differences. The amount of deferred tax assets considered realizable could however be reduced in subsequent years if estimates of future taxable income during their carry forward periods are reduced, or rulings by the tax authorities are unfavorable. Estimates are therefore subject to change due to both market-related and government-related uncertainties, as well as Syngenta's own future decisions on restructuring and other matters. Syngenta is unable to accurately quantify the future adjustments to deferred income tax expense that may occur as a result of these uncertainties.

The principal jurisdictions where deferred tax assets have not been recognized at December 31, 2022 are the USA, Brazil and Argentina (2021: USA).

At December 31, 2022, Syngenta has recognized $231 million (2021: $254 million) of net deferred tax assets in the USA, and has not recognized $71 million (2021: $74 million) of deferred tax assets relating to a temporary difference for interest carryforwards. Syngenta has prepared an analysis in order to determine the amount of deferred tax asset it should recognize, taking into account the current plans for financing Syngenta's US subsidiaries.

At December 31, 2022, Syngenta has recognized $229 million (2021: $130 million) of net deferred tax assets in Brazil and has not recognized $61 million (2021: $nil) of deferred tax assets relating to temporary differences and tax loss carryforwards. Syngenta has prepared a five-year forecast to determine the amount of deferred tax recoverable.

At December 31, 2022, Syngenta has recognized $135 million (2021: $122 million) of net deferred tax assets in Argentina, and has not recognized $22 million (2021: $nil) of deferred tax assets relating to overall temporary differences. Syngenta has prepared a five-year forecast analysis to determine the amount of deferred tax recoverable.

Uncertain tax positions

Syngenta estimates and accrues taxes that will ultimately be payable when reviews or audits by tax authorities of tax returns are completed. These estimates include significant management judgments about the eventual outcome of the reviews and audits of all open years based on the latest information available about the positions expected to be taken by each tax authority. Actual outcomes and settlements may differ significantly from the estimates recorded in these consolidated financial statements. This may affect income tax expense reported in future years' consolidated income statements.

Syngenta has a global supply chain, and intellectual property rights owned by Syngenta are used internationally within the Syngenta AG group. Transfer prices for the delivery of goods and charges for the provision of services, which include contract research and development, contract manufacturing and internal financing arrangements, by one Syngenta subsidiary to another may be subject to challenge by the national tax authorities in any of the jurisdictions in which Syngenta operates. Syngenta has a global transfer pricing policy in place and applies, to the maximum extent possible, a consistent methodology on a global basis. Transfer pricing determination in general, and the benchmarking process in particular, involve significant judgment and therefore a certain level of uncertainty remains as to whether tax authorities will challenge the pricing applied according to the applicable complex and judgmental transfer pricing regulations.

At December 31, 2022, Syngenta's balance sheet includes assets of $104 million (2021: $123 million), and liabilities of $736 million (2021: $627 million), for current income taxes. These liabilities include $486 million in respect of the uncertain tax positions described above (2021: $481 million).

Releases of uncertain tax liabilities during 2022 and 2021 related to changes in tax legislation, closure of previously open tax matters through expiry and settlement of tax audits. The liability for uncertain income tax positions that Syngenta expects will be resolved in 2023 is approximately 12% percent of total recognized current income tax liabilities.

Significant management judgment has been required to estimate the income tax benefits associated with the $1,500 million Viptera litigation settlement payments made in 2018 and 2019 because the Syngenta entities named as parties to the litigation are incorporated in different tax jurisdictions. Syngenta's estimates at December 31, 2022 and 2021 assume that all of the Viptera settlement costs will be deductible for income taxes but that deductions will be claimed in more than one jurisdiction. Syngenta estimated the benefit using an average of the tax rates of the relevant jurisdictions and the amounts it has recorded in 2022 and 2021 for both current and deferred income taxes reflect this estimate. The ultimate benefit realized may be different from this estimate and this difference may have a material effect on Syngenta's income tax expense for 2023 and/or future periods.

In Brazil, Syngenta received adverse rulings at administrative court level in transfer pricing disputes for fiscal years 2003 and 2011 and has filed appeals at civil court level. Additionally, Syngenta has appealed at administrative level against transfer pricing assessments for fiscal years 2013 to 2015 and won in first degree of administrative level cancelling those assessments. In 2021 Syngenta received a transfer pricing assessment for 2016 and filed an appeal at administrative court level requiring the cancellation of this assessment. Syngenta believes it will succeed and has recognized no liability for the estimated aggregate $246 million (2021: $213 million) contingent liabilities in these disputes.

Syngenta is closely monitoring the legislative developments in each jurisdiction in which the Syngenta AG group operates, including the OECD initiatives for the avoidance of base erosion and profit shifting ("BEPS"). At December 31, 2022 none of the major jurisdictions in which the Syngenta AG group operates had enacted or substantially enacted significant legislative changes having a material impact on the tax filing position of Syngenta.

Seeds inventory valuation and allowances

Inventories of $8,837 million (2021: $5,841 million) reported in Note 10 include $1,470 million (2021: $1,280 million) of seeds, which are subject to the risk of loss through physical deterioration at all stages of the operating cycle. Syngenta accounts for normal losses that occur during production, both in the pre-harvest growing and the post-harvest processing stages, as part of the cost of inventories of in-process and finished seeds. Normal losses in production, which include the cost of seeds discarded before processing because they do not meet Syngenta's quality standards, are therefore expensed when the related finished seed is sold to customers. Losses of finished seeds are expensed as incurred. Syngenta records allowances against the cost of seeds inventories for both quality and obsolescence. Syngenta records allowances for quality for finished seed which is currently of defective quality and for finished seed which is expected to deteriorate physically before sale, based on past experience. Syngenta records allowances for obsolescence for excess seed for which there is insufficient forecast customer demand over the expected remaining commercial life of each seed variety. For excess seeds that Syngenta is likely to be able to sell in the commodity market, the allowance is the cost of the seed minus its net realizable value, which is estimated as the expected net proceeds of commodity sale. If commodity sale is not probable, the allowance is the full cost of the excess seed inventories.

To determine the allowances required, management effort and judgment is applied to analyze at crop, variety and batch level seed inventory quantity, quality and forecast sales data, developing commercial practices, available markets and the speed of expected product portfolio changes. The rapidly evolving combination of corn seed genetics and trait stacks in North America and Latin America result in shorter commercial lives of a typical hybrid seed variety than in other crops and regions, with variation between actual and previously forecast sales and consequent greater risk of excess seed at individual hybrid level. Excess seed quantities are also affected by harvest yield, which is influenced by unpredictable weather and growing conditions. Seeds inventory allowance expense for 2022 was $152 million (2021: $124 million), with the increased provision expense driven largely by the conflict in Ukraine. The allowance balance at December 31, 2022 was $309 million (2021: $273 million), reflecting the increase in total seeds inventory.

Impairment review

At December 31, 2022, Syngenta has reported intangible assets of $2,456 million (2021: $2,483 million) for goodwill and $3,351 million (2021: $2,790 million) for intangible assets other than goodwill, as reported in Note 12. The recoverable amount for goodwill has been determined based on value in use of the relevant operating segment, CGU or group of CGUs to which the goodwill is allocated. The recoverable amounts of all material intangible assets and property, plant and equipment (PP&E) have also been assessed for indicators of impairment.

The main assumptions used in determining the recoverable amounts for operating segments and other CGUs include market size and Syngenta's market share, future sales prices and volumes, future development expenditures required to maintain products' marketability and registration in the relevant jurisdictions, and products' lives. At operating segment level, the key assumptions related to sales volume and value are expressed separately for each product line, market segment and crop. At CGU level, assumptions are expressed by product. The assumptions are reviewed annually as part of management's budgeting and strategic planning cycles. These assumptions can be subject to significant adjustment from such factors as changes in crop growing patterns in major markets (for example, as a result of movements in crop prices), changes in product registration, or pressure from competitor products. With the exception of CGUs relating to Syngenta's seeds business, and CGUs connected with acquired businesses where the majority of their growth is expected to occur in periods beyond the normal forecast horizon, estimated cash flows for operating segments and other CGUs were based on Syngenta management forecasts, generally covering a four-year horizon, and included a terminal value which assumed a 2.0 percent long-term growth rate. For CGUs relating to Syngenta's seeds business a nine-year forecast horizon was used for the majority of CGUs, with one CGU using a fourteen-year forecast horizon, and terminal values assumed long-term growth rates of between 2.0 and 3.5 percent. The Seeds CGUs' longer forecast horizon and higher long-term growth rates are considered to better reflect these higher-growth business streams and the length of the product development cycle for the development and introduction of new products in these business streams which are in excess of four years.

Management believes, based on recent and expected future growth in agricultural markets, that there are long-term prospects for continued growth in Syngenta's business.

The key inputs used to calculate the pre-tax discount rates used to discount the estimated future cash flows included in the value in use calculations are as follows:

- post-tax weighted average cost of capital: 7.8 percent (2021: 7.5 percent);
- risk-free rate: 3.8 percent (2021: 2.0 percent) equal to market yields on 30-year government bonds at the date of performing the annual impairment test;
- equity risk premium: 6.5 percent (2021: 5.8 percent).

The discount rate is considered to include market estimates of an industry sector risk premium. Syngenta's CGUs generally reflect the global nature of its Crop Protection and Seeds product sales. The equity risk premium was increased to 6.5 percent in 2022 as a result of the decline in the macro-economic outlook throughout 2022 following the ongoing conflict in Ukraine and the rise in inflation and interest rates throughout the world. This has led to higher implied equity returns, despite there also being higher risk-free rates. The pre-tax discount rates used for all segments, CGUs and groups of CGUs ranged from 5.7 percent to 17.3 percent (2021: 8.1 percent to 10.3 percent), with the general increase primarily being driven by increases in the risk-free rate as a result of global inflationary pressures.

At December 31, 2022, the largest amounts of goodwill were allocated to the Crop Core operating segment ($1,208 million), the North America corn and soybean CGU ($316 million) and the Rest of World (excluding North America) corn and soybean CGU ($455 million) and the pre-tax discount rates used were 9.4 percent for Crop Core, 9.1 percent for the North America corn and soybean CGU and 9.0 percent for the Rest of World corn and soybean CGU. At December 31, 2021, the largest amounts of goodwill were allocated to the Crop Core operating segment ($1,240 million), the North America corn and soybean CGU ($316 million) and the Rest of World (excluding North America) corn and soybean CGU ($445 million) and the pre-tax discount rates used were 8.8 percent for Crop Core, 8.7 percent for the North America corn and soybean CGU and 8.6 percent for the Rest of World corn and soybean CGU. For December 31, 2022, the forecast terminal growth rates used were 2.0 percent for Crop Core, 2.6 percent for the North America corn and soybean CGU and 2.9 percent for the Rest of World corn and soybean CGU. For December 31, 2021, the forecast terminal growth rates used were 2.0 percent for Crop Core, 2.6 percent for the North America corn and soybean CGU and 2.9 percent for the Rest of World corn and soybean CGU.

The use of a nine-year forecast horizon (fourteen-year for a portion of one seeds CGU) for CGUs relating to Syngenta's seeds business exposes the recoverability of the CGUs to additional risk from changes in the discount rate. The estimated recoverable amount of the Rest of World (excluding North America) corn and soybean CGU, which is part of the Field Crops operating segment, exceeded its carrying amount by approximately $1,330 million (2021: $1,373 million). The pre-tax discount rate applied to this CGU was 9.0 percent (2021: 8.6 percent) and would need to increase to 11.8 percent (2021: 11.3 percent) for the estimated recoverable amount to be equal to the carrying amount. The estimated recoverable amount of the Field Crops operating segment, which includes several seeds CGUs, exceeded its carrying amount by approximately $2,396 million (2021: $2,256 million). The pre-tax discount rate applied to this operating segment was 8.9 percent (2021: 7.8 percent) and would need to increase to 11.4 percent (2021: 9.7 percent) for the estimated recoverable amount to be equal to the carrying amount. Management believes that any other reasonably possible change in key assumptions described above would not cause the aggregate carrying amount of the CGUs to exceed their recoverable amounts.

For the year ended December 31, 2022, impairment losses for intangible assets were $99 million, of which $60m relates to the Core Crop CGU where further development of certain technologies held by Syngenta is not considered cost effective and activities have been suspended. At December 31, 2022, the recoverable amount of this CGU was $38,926 million and its carrying amount included non-current assets of $5,173 million. A further $39m of impairment losses relates to the Field Crops CGU where, similarly, the further development of certain technologies held by Syngenta is not considered cost effective and activities have also been suspended. At December 31, 2022, the recoverable amount of this CGU was $5,851 million and its carrying amount included non-current assets of $2,705 million.

For the year ended December 31, 2021, impairment losses for intangible assets were $40 million, of which $24 million relates to the Core Crop CGU where further development of certain technologies held by Syngenta was not considered cost effective and activities have been reduced. At December 31, 2021, the recoverable amount of this CGU was $37,187 million and its carrying amount included non-current assets of $5,184 million.

For the year ended December 31, 2022, impairment losses for property, plant and equipment were $11 million (2021: $1 million) relating to the consolidation of a number of research and development sites.

Environmental provisions

At December 31, 2022, Syngenta reported in Note 19 provisions for environmental remediation of $170 million (2021: $179 million), some of which are included within restructuring provisions. Remediation of environmental damage at sites with which Syngenta is associated typically takes a long time to complete due to the substantial amount of planning and regulatory approvals normally required before remediation activities can begin. The assumptions used by Syngenta to estimate its environmental provisions may change significantly before or during the remediation period due to changes in the extent of remediation required or the method used to remediate the damage. In addition, increases in or releases of environmental provisions may be necessary whenever new developments occur or additional information becomes available. The major uncertainties that impact the outcome of remediation are:

- the extent of the contaminated land area, which is not always limited to land occupied by the Syngenta site. Ongoing monitoring or remediation work may identify changes in the area believed to be contaminated;
- the nature of the work Syngenta will be obliged to perform or pay for. This depends upon the current or proposed use of contaminated land, substantively enacted legislation, and land zoning by and negotiation with the relevant regulatory authorities. In Switzerland, proposed remediation plans at certain sites may be subject to public referenda;
- sharing of costs with other past and present occupiers of Syngenta's sites. At certain shared sites, Syngenta is responsible for an agreed proportion of remediation costs, which may change following discussions with authorities and the affected third parties. At other sites, third parties have agreed to reimburse Syngenta for some or all of the costs it incurs.

Consequently, environmental provisions can change significantly. Because of the inherent uncertainties in estimating such long-term future obligations, Syngenta periodically supplements its internal expertise with external expertise when determining environmental provisions.

In 2022, $4 million of environmental provisions were recognized due to updated estimates of costs for remediation activity (2021: $17 million) and $10 million of environmental provisions were recognized in relation to a third party contractor's facility experiencing extensive operational and regulatory issues where regulators have required companies who use the facility to share the costs of remedial action (2021: $10 million). Syngenta has a 16% percent share of the costs. Otherwise, in 2022 and 2021, except for $21 million (2021: $24 million) of cash outflows reflecting remediation activity, there were no significant changes to environmental provisions.

Proposals have been made suggesting remediation of the existing contamination on certain shared sites in preference to monitoring and containment. Syngenta will negotiate the proposals with the relevant authorities but the final adopted solution is subject to regulatory uncertainty and the ultimate liability may be higher or lower than the amount provided. Taken together, the provisions at December 31, 2022, for these shared sites comprise approximately 30 percent of total environmental provisions. The top ten exposures at the end of 2022 comprise approximately 86 percent of the total environmental provisions. In the opinion of management, reasonably possible increases in the provisions related to these top 10 exposures would not exceed 98 percent of the total environmental provision recognized at December 31, 2022.

Defined benefit post-employment benefits

At December 31, 2022, Syngenta has reported other non-current assets of $83 million (2021: $217 million) and provisions of $156 million (2021: $385 million) as net defined benefit (DB) pension assets and liabilities, respectively, as set out in Note 21. These amounts may change significantly from one accounting period end to another due not only to expense recognized in profit and loss and cash payments, but also to changes in the actuarial assumptions used to measure the defined benefit obligation (DBO) and to variances between those assumptions and actual outcomes ("experience variances"), both of which are recognized in OCI. Significant judgment is required when selecting key assumptions for measuring post-employment benefit expense for a period and the DBO at the period end for each defined benefit plan. The specific assumptions used and experience variances are disclosed in Note 21. These variances were caused principally by external financial market movements in corporate bond yields used to benchmark the discount rate, and in asset prices affecting the actual return on assets. These factors are outside Syngenta's direct control, and it is reasonably possible that future variances will be at least as great as past variances.

At December 31, 2022 and 2021, for each of Syngenta's three largest defined benefit pension plans, the sensitivity of the DBO to a change in each significant actuarial assumption is as follows:

($m)	**2022**			2021		
Increase (decrease) in DBO	**Switzerland**	**UK**	**USA**	Switzerland	UK	USA
Discount rate – 25 basis point decrease in rate	**68**	**50**	**12**	108	107	23
Discount rate – 25 basis point increase in rate	**(65)**	**(49)**	**(11)**	(101)	(104)	(22)
Pension increase – 25 basis point increase in rate	**n/a**	**42**	**n/a**	n/a	95	n/a
Pension increase – 25 basis point decrease in rate	**n/a**	**(41)**	**n/a**	n/a	(94)	n/a
Interest credit rate – 25 basis point increase in rate	**10**	**n/a**	**n/a**	20	n/a	n/a
Interest credit rate – 25 basis point decrease in rate	**(10)**	**n/a**	**n/a**	(19)	n/a	n/a
Life expectancy[1]	**51**	**53**	**5**	85	113	7

1 The life expectancy sensitivity is calculated using the difference between the reported DBO amount and the DBO amount projected using a one-year increase, compared with the assumptions actually used, in the life expectancy for each plan member. This alternative projection is calculated using mortality rates that produce an immediate increase of one year for a plan member at normal retirement date, with corresponding changes at other ages.

Each sensitivity amount is calculated assuming that all other assumptions are held constant. It should be noted that economic factors and conditions often affect multiple assumptions simultaneously. For the UK pension plan, the discount rate and pension increase sensitivities shown are relative to price inflation, because limited price indexation of pensions in payment and deferred pension rights is required both by the Syngenta UK pension plan rules and by UK statutory pension regulations. For Syngenta's Swiss and US plans, the sensitivities are for changes in the nominal discount rates, because the rules and statutory regulations applicable to those plans contain no inflation linkage and indexation of benefits to inflation is not general market practice in those countries. Syngenta is not able to predict the extent of likely future changes in the discount rate or life expectancy assumptions, but based on past experience, the discount rate for each plan could change by up to 350 basis points (bp) within a twelve-month period. Pensionable pay is now permanently frozen for the UK DB pension plan as explained below, and the sensitivity of the DBO to the assumed rate of increase in pensionable pay is not material for the Swiss or US plans.

To select the discount rate, Syngenta uses yields of AA rated corporate bonds. The relevant yield is determined either by analyzing a population of bonds whose cash flows collectively approximate the estimated cash flow profile of benefit payments by a Syngenta plan (UK and USA), or by using the yield of a published bond index and adjusting it in line with the relevant market yield curve to the extent that the average maturity of the bonds in the index is different from that of the relevant Syngenta benefits (Switzerland). Nominal discount rates at December 31, 2022 are as follows:

Switzerland	2.30 percent	(2021: 0.33 percent)
UK	4.92 percent	(2021: 1.88 percent)
USA	5.40 percent	(2021: 2.90 percent)

In valuing the UK DBO at December 31, 2022, the UK long-term rate of retail price inflation (RPI) is assumed to be 3.27 percent (2021: 3.37 percent). Future statutory pension increases are based on consumer price inflation (CPI). Most Syngenta UK pension plan members have benefits specifically linked to RPI in accordance with the plan rules, but some members will see increases linked to CPI. CPI is assumed to be 58 basis points (2021: 45 basis points) below RPI. In 2021, the RPI risk premium increased from 0.2 percent to 0.3 percent which resulted in the DBO decreasing by $43 million.

Over the last 20 years, life expectancy estimates steadily increased in all major countries in which Syngenta sponsors pension plans, although available data for the UK and USA for the three most recent years indicates a slight decline compared to previous projections, and Syngenta's projections of future life expectancy improvement have been reduced accordingly. Syngenta sets mortality assumptions after considering the most recent statistics practicable. Syngenta uses generational mortality tables to estimate probable future mortality improvements. These tables assume that the trend of increasing life expectancy will continue, resulting in pension benefit payments to younger members being likely to be paid for longer time periods than older members' pensions, given that assumed retirement ages are those defined in the rules of each plan. At December 31, 2022, the UK DBO was estimated using mortality rates based on the UK Institute and Faculty of Actuaries' CMI

SAPS Pensioner Amounts Light Tables with 1.75 percent per annum long-term trend from 2002-2018 (2021: CMI SAPS Pensioner Amounts Light tables with 1.75 percent per annum long term trend from 2002-2018), with assumed future improvement of 1.25 percent (2021: 1.25 percent) per annum in line with the CMI Core Projections model 2021 (2021: CMI Core Projections model 2020). Syngenta adopts the default value of 7.0 for the default smoothing parameter as mortality experience suggests more weight should be placed on recent data and in 2022, a 5 percent weighting was placed on 2020 and 2021 experience to take into consideration the COVID-19 impact. This change did not materially decrease the DBO. Mortality, commutation and withdrawal assumptions were updated in 2021 following the most recent triennial valuation for UK statutory purposes at March 31, 2021, increasing the DBO by $42 million (1 percent). The next statutory valuation of the plan will be performed at the latest at March 31, 2024.

At December 31, 2022 and 2021, Syngenta valued the defined benefit obligation for its Swiss pension plan using mortality, disability and employee turnover assumptions from the BVG 2020 generational table. When Syngenta began to apply the BVG 2020 table in 2021, the Swiss DBO decreased by $91 million (3.4 percent). At December 31, 2022, Syngenta valued the defined benefit obligation for its US pension plan using mortality assumptions from the PRI-2012 generational mortality table together with Scale MP-2021 mortality improvements starting with base year 2012 (2021: base year 2012).

Syngenta's major pension plans give members lump sum or annuity benefit payment options. Syngenta values its pension liabilities on the assumption that the choices made by members who will retire in the future will be consistent with choices made by members who have retired recently.

For calculating benefits of UK plan members, pensionable pay will remain frozen at January 1, 2016 levels. The plan remains open to benefit accrual for existing members, and pay increases awarded after January 1, 2016, which are not part of defined benefit pensionable pay, are pensionable under the Syngenta Group Personal Pension (GPP), a separate defined contribution plan, for those who choose to join. Employees who choose to leave the defined benefit section of the UK pension plan are able to join the GPP. Recent regulatory changes allow members aged at least 55 to transfer their benefits out of the plan into arrangements which allow flexible cash withdrawals, in contrast to the previous requirement that members take at least 75 percent of their benefit in annuity form. While market conditions in recent years have resulted in transfer values favorable to members, increases in gilt yields in 2022 have reduced transfer values. These factors resulted in $29 million (2021: $51 million) of benefit payments out of the UK plan as some members withdrew all their benefits. Syngenta has not made any allowance for future transfers out in connection with the regulatory changes. Available data indicates that if transfers were to continue at the current rate until the next statutory valuation, this would not cause Syngenta to recognize a material actuarial gain or loss in its consolidated financial statements.

Certain UK pension plans, including the Syngenta UK plan, were required by legislation in force between 1978 and 1997 to accrue part of their members' pension ("GMP") in a way that gave rise to inequalities between men and women, but also had a formula independent of GMP for the total pension, resulting in the non-GMP part of total pension also being unequal. The European Court of Justice in *Barber v Guardian Royal Exchange Assurance Group* [1991] ruled that pensions earned from that point onwards must treat men and women equally. However, given GMP benefits were unequal but were prescribed in legislation, it was unclear what would need to be equalized or how. This remained the case until the October 2018 UK High Court decision in *Lloyds Trustees vs Lloyds Bank PLC and Others* (the Lloyds case), which confirmed that pension plans are required to equalize the non-GMP part of members' benefits earned between 1990 and 1997, when legislation changed so that GMPs ceased to accrue. The Lloyds case decision also indicated that the employers could require the plan trustees to choose a particular approach to equalization, "Method C2", which requires comparison of the pension payable to each member with the pension that would be payable to a notional member identical to the member in all respects except gender, and retrospective payment of accumulated pension equal to the higher of the unequalized male or female benefit, together with interest on the underpaid amount. Syngenta has increased the UK DBO to reflect the effect of applying Method C2 as set out in the Lloyds case decision using estimates based on current aggregate member data. This estimate is subject to significant uncertainty because certain points remain to be clarified following the court judgment, detailed calculations by member are not yet available and the actual effect of equalizing benefits may differ. On November 20, 2020, a further court judgement on the Lloyds case clarified that historical transfers out also require allowance for GMP equalization.

IFRSs require Syngenta to estimate the economic benefit it can obtain from the amount by which the fair value of assets held in a DB plan exceeds the DBO measured in accordance with IAS 19 ("surplus"), and recognize a reduction in the net DB asset to the extent that the future economic benefit is lower than the actual surplus at the reporting date, or an increase in the net DB liability if the future economic benefit is lower than the projected future surplus that would arise when Syngenta meets an existing minimum funding obligation. Accounting recognition of a surplus in Syngenta's UK defined benefit pension plan is supported by the economic benefit of future contribution savings and, when that benefit is less than the surplus, also by the future refund, net of applicable taxes, which will be unconditionally available to Syngenta when all liabilities have been settled. At December 31, 2022, Syngenta recognized $97 million (2021: $nil) reduction to the net surplus to reflect taxes Syngenta would suffer on the portion of the projected surplus supported by Syngenta's refund rights. Benefit accrual for existing members of Syngenta's main US pension plan was frozen as from December 31, 2018, as further described in Note 21 below. At December 31, 2022, the US pension plan was not in a surplus while at December 31, 2021, the surplus of $6 million was not recognized because without future service cost there is no economic benefit from future contribution savings, and US pension regulations do not permit a refund. At December 31, 2022, due to a significant increase in the discount rate assumption, Syngenta's Swiss pension plan had a surplus of $515 million (2021: $202 million recognized). The entire surplus was not recognized because the estimated future employer contributions (minimum funding requirement) exceed service costs, thereby restricting to $nil, the economic benefit arising from the surplus. Swiss pension law does not permit a refund of the surplus.

Litigation provisions

Syngenta's accounting estimates related to provisions for litigation are disclosed in Note 19.

3. Acquisitions, divestments and other significant transactions

The following significant transactions occurred during 2022 and 2021.

2022

Acquisitions

On November 1, 2022, Syngenta acquired 100 percent of the issued shares of Agro Jangada Ltda. (“Agro Jangada”), a limited liability company incorporated in Brazil, for $150 million in cash, plus a final purchase price adjustment depending on net working capital value and other items transferred, both to be determined in accordance with the purchase agreement. Agro Jangada is a distributor of agricultural products in the Mato Grosso do Sul state of Brazil. The acquisition enables Syngenta to strengthen its presence in this key agricultural region and use the distribution management expertise of Agro Jangada to further enhance Syngenta’s commercial operations within Brazil. The acquisition is part of the Crop Core operating segment.

On July 5, 2022, Syngenta acquired 100 percent of the issued shares of Semillas Ceres, S.A. de C.V., ("Semillas Ceres"), a limited liability company incorporated in Mexico, for $14 million in cash, plus a final purchase price adjustment depending on net working capital value and other items transferred, both to be determined in accordance with the purchase agreement. The acquisition will increase Syngenta’s operations in the Mexico’s corn seed market and grant Syngenta access to additional white corn seeds germplasm.

The major classes of assets acquired, and liabilities assumed at the acquisition date, which are still provisional due to the timing of the acquisitions, are:

($m)	Agro Jangada	Semillas Ceres	Total
Cash and cash equivalents	18	-	18
Inventories	39	2	41
Trade receivables and other current assets	74	5	79
Property, plant and equipment	3	4	7
Intangible assets	68	4	72
Trade and other liabilities	(60)	(10)	(70)
Net assets acquired	**142**	**5**	**147**
Purchase price, after agreed-upon adjustments	142	5	147
Goodwill	-	-	-

Cash flow related to these acquisitions was as follows:

($m)	Agro Jangada	Semillas Ceres	Total
Total cash paid	142	3	145
Net cash acquired	(18)	-	(18)
Net cash outflow	**124**	**3**	**127**

Deferred consideration payments of $2 million are included in Financial debt and other non-current liabilities. Payments of deferred consideration related to acquisitions completed in prior periods were $50 million.

For the Agro Jangada acquisition, amounts included in the 2022 consolidated income statement were sales of $21 million and net profit of $2 million. The net profit does not include the purchase accounting impacts for reversal of inventory step up and the amortization of intangible assets both of which had not been determined at the balance sheet date due to the timing of the acquisition. The amounts that would be included in a 2022 consolidated income statement on a pro forma basis, as though the acquisition had occurred on January 1, 2022, are estimated sales of $152 million and net profit of $21 million excluding purchase accounting impacts.

Sale and leaseback transactions

On November 18, 2022, Syngenta completed the sale and leaseback transaction on three of its research and development sites in the United States of America. The total gain on the associated site disposals was $192 million, of which $26 million was recognized as a gain at the disposal date and $166 million, corresponding to the value of the retained leaseback, is deferred in accordance with IFRS 16, through reduction in the amount recognized for the right-of-use asset, and is being amortized over a 24-year period from the disposal date. The proceeds are reported as Proceeds from disposals of property, plant and equipment in the consolidated cash flow statement.

2021

Acquisitions

On October 7, 2021, Syngenta acquired 100 percent of the issued shares of Vipagro Ltda. ("Vipagro"), and 100 percent of the issued shares of Dipagro Ltda. ("Dipagro"), limited liability companies incorporated in Brazil, for $105 million in cash, plus a final purchase price adjustment depending on net working capital value and other items transferred, both to be determined in accordance with the purchase agreement. Additional contingent consideration of $8 million was recognized, to be paid within five years to the extent the Vipagro and Dipagro' performance for the earn-out period exceeds an agreed minimum threshold. The fair value at acquisition was determined using a scenario-based approach which best reflects the characteristics of the earn-out. These acquisitions will expand Syngenta's distribution business in Brazil. Vipagro and Dipagro are part of the Crop Core operating segment.

During 2022, the major assets and liabilities recognized, which were provisional at December 31, 2021, have been finalized as follows:

($m)	Total
Cash and cash equivalents	3
Inventories	21
Trade receivables and other current assets	61
Property, plant and equipment	1
Intangible assets	41
Deferred tax and other non-current assets	5
Trade and other liabilities	(85)
Deferred tax liabilities	(4)
Net assets acquired	**43**
Purchase price	78
Goodwill	**35**

Cash flow related to these acquisitions was as follows:

($m)	Total
Total cash paid	54
Net cash acquired	(3)
Net cash outflow	**51**

The changes in fair values of the net assets acquired and goodwill recognized are not considered material to the 2022 consolidated financial statements and therefore the consolidated balance sheet at December 31, 2021 has not been restated.

Deferred consideration payments of $27 million are included in Financial debt and other non-current liabilities. Payments in 2021 of deferred consideration related to acquisitions completed in prior periods were $388 million.

For the Vipagro and Dipagro acquisitions, amounts included in the 2021 consolidated income statement were sales of $46 million and net loss of $3 million. The net loss includes both the purchase accounting impacts of $2 million for reversal of inventory step up and $1 million of amortization of intangible assets. The amounts that would be included in a 2021 consolidated income statement on a pro forma basis, as though the acquisitions had occurred on January 1, 2021, are estimated sales of $191 million and net profit of $1 million. The total amount of goodwill that is expected to be deductible for tax purposes is $nil. The goodwill arising on these acquisitions is related to growth and support of Syngenta's Crop Protection business in Brazil.

Sale and leaseback transactions

On February 25, 2021, Syngenta completed the sale and leaseback transaction for the Enkhuizen seeds research and development site in the Netherlands. The total gain on the associated site disposal was $107 million, of which $17 million was recognized as a gain at the disposal date and $90 million, corresponding to the value of the retained leaseback, is deferred in accordance with IFRS 16, through reduction in the amount recognized for the right-of-use asset, and is being amortized over a 20-year period from the disposal date. The proceeds are reported as Proceeds from disposals of property, plant and equipment in the consolidated cash flow statement.

4. Segmental breakdown of key figures for the years ended December 31, 2022 and 2021

Syngenta has five operating segments consisting of the Crop Core, Professional Solutions, Field Crops, Vegetables and Flowers businesses. These have been aggregated into the global Crop Protection reporting segment, consisting of Crop Core and Professional Solutions, and the global Seeds reporting segment, consisting of Field Crops, Vegetables and Flowers. Aggregation is based on internal management structures and underlying economic similarity. Crop Core and Professional Solutions have been aggregated because the similarities in their products, production processes, distribution methods and regulatory environments are much more significant than the differences in the market segments to which their respective customer bases sell, and they each have similar economic performance. Field Crops, Vegetables and Flowers have been aggregated because the extensive similarities which each of these businesses has with the others in their products and customers, their production and distribution processes and the regulatory environment for their products are much more significant than their respective differences, which relate to regulatory processes for GM traits used in certain Field Crops products and to the differences in a proportion of their respective customer bases. Also, the economic performance of these businesses is expected to be similar. Segment performance is managed based on segment operating income before restructuring costs and divestments, which is the measure of segment profit or loss presented, and is based on the same accounting policies as consolidated operating income.

Transactions between segments are generally priced based on the third party selling prices achieved by the purchasing segment less an allowance for selling and distribution profit margins for the purchasing segment.

2022 ($m)	Crop Protection	Seeds	Total segments	Restructuring	Syngenta
Product sales - to third parties	15,959	3,663	19,622	-	19,622
Royalty and license income - from third parties	10	331	341		341
Total segment sales	15,969	3,994	19,963	-	19,963
Cost of goods sold	(9,476)	(2,157)	(11,633)	(7)	(11,640)
Gross profit	6,493	1,837	8,330	(7)	8,323
Marketing and distribution	(1,982)	(844)	(2,826)	-	(2,826)
Research and development	(651)	(326)	(977)	-	(977)
General and administrative:					
Restructuring	-	-	-	(242)	(242)
Other general and administrative	(1,124)	(304)	(1,428)	-	(1,428)
Operating income	2,736	363	3,099	(249)	2,850
Included in the above operating income are:					
Personnel costs	(2,656)	(1,241)	(3,897)	(17)	(3,914)
Depreciation of property, plant and equipment and right-of-use assets	(361)	(140)	(501)	(38)	(539)
Amortization of intangible assets	(99)	(139)	(238)	-	(238)
Impairment of property, plant and equipment, right-of-use, intangible and financial assets	(19)	(1)	(20)	(91)	(111)
Other non-cash items including charges in respect of provisions	(138)	(9)	(147)	(53)	(200)
Losses on hedges reported in operating income	(246)	(10)	(256)	-	(256)

Operating income reconciles to consolidated income before taxes as follows:

2022 ($m)	
Operating income	2,850
Income from associates and joint ventures	5
Financial expense, net	(613)
Income before taxes	2,242

2021 ($m)	Crop Protection	Seeds	Total segments	Restructuring	Syngenta
Product sales - to third parties	13,167	3,265	16,432	-	16,432
Royalty and license income - from third parties	3	298	301	-	301
Total segment sales	13,170	3,563	16,733	-	16,733
Cost of goods sold	(7,705)	(1,901)	(9,606)	(17)	(9,623)
Gross profit	5,465	1,662	7,127	(17)	7,110
Marketing and distribution	(1,677)	(754)	(2,431)	-	(2,431)
Research and development	(631)	(481)	(1,112)	-	(1,112)
General and administrative:					
Restructuring	-	-	-	(223)	(223)
Other general and administrative	(917)	(299)	(1,216)	-	(1,216)
Operating income	2,240	128	2,368	(240)	2,128

Included in the above operating income are:					
Personnel costs	(2,289)	(1,100)	(3,389)	(57)	(3,446)
Depreciation of property, plant and equipment and right-of-use assets	(350)	(139)	(489)	-	(489)
Amortization of intangible assets	(110)	(129)	(239)	-	(239)
Impairment of property, plant and equipment, right-of-use, intangible and financial assets	(1)	(3)	(4)	(41)	(45)
Other non-cash items including charges in respect of provisions	(201)	12	(189)	(76)	(265)
Losses on hedges reported in operating income	(174)	-	(174)	-	(174)

Operating income reconciles to consolidated income before taxes as follows:

2021 ($m)	
Operating income	2,128
Financial expense, net	(440)
Income before taxes	1,688

The analysis of revenue by major product line for the years ended December 31, 2022 and 2021 is as follows:

($m)	2022	2021
Selective herbicides	**3,999**	3,218
Non-selective herbicides	**2,470**	1,244
Fungicides	**4,253**	3,904
Insecticides	**2,601**	2,422
Seedcare	**1,544**	1,356
Professional solutions	**585**	550
Biologicals	**348**	312
Other crop protection	**336**	295
Total Crop Protection before interbusiness eliminations	**16,136**	13,301
Elimination of Crop Protection sales to Seeds	**(167)**	(131)
Total Crop Protection	**15,969**	13,170
Corn and soybean	**2,335**	1,953
Diverse field crops	**756**	684
Vegetables	**706**	699
Flowers	**197**	227
Total Seeds	**3,994**	3,563
Total Syngenta	**19,963**	16,733

The analysis of revenue by primary geographical market for the years ended December 31, 2022 and 2021 is as follows:

($m)	2022	2021
Europe, Africa and Middle East (EAME)	**4,645**	4,466
North America	**4,659**	3,998
Latin America	**7,790**	5,595
Asia Pacific	**2,869**	2,674
Total sales	**19,963**	16,733

Summarized additional information on the nature of expenses for the years ended December 31, 2022 and 2021 is as follows:

($m)	2022	2021
Salaries, short-term employee benefits and other personnel expense	**3,716**	3,324
Pension and other post-employment benefit expense	**198**	122
Total personnel costs	**3,914**	3,446
Depreciation of property, plant and equipment and right-of-use assets	**539**	489
Impairment of property, plant and equipment and right-of-use assets	**11**	1
Amortization of intangible assets	**238**	239
Impairment of intangible assets	**100**	40

5. Regional breakdown of key figures for the years ended December 31, 2022 and 2021

The following countries individually accounted for more than 5 percent of one or more of the respective Syngenta totals for the years ended December 31, 2022 and 2021.

($m, except %)	Sales[1]				Total non-current assets[2]			
Country	2022	%	2021	%	2022	%	2021	%
Argentina	**1,168**	**6**	877	5	**504**	**5**	524	5
Brazil	**4,732**	**24**	3,201	19	**1,157**	**11**	886	9
Switzerland	**38**	**-**	39	-	**3,876**	**36**	3,395	34
UK	**169**	**1**	168	1	**703**	**6**	678	7
USA	**4,066**	**20**	3,441	21	**2,269**	**21**	2,159	21
Rest of world	**9,790**	**49**	9,007	54	**2,331**	**21**	2,431	24
Total	**19,963**	**100**	16,733	100	**10,840**	**100**	10,073	100

1 Sales by location of third party customer
2 Excluding deferred tax assets, post-employment benefit assets and derivative financial assets

No single customer accounted for 10 percent or more of Syngenta's total sales.

6. Restructuring

Restructuring for the years ended December 31, 2022 and 2021, broken down into the main restructuring initiatives, consists of the following:

($m)	2022	2021
Productivity programs and other restructuring costs:		
Cash costs		
Charged to provisions	**4**	45
Expensed as incurred	**26**	40
Non-cash items	**127**	41
Acquisition, divestment and related costs:		
Cash costs		
Charged to provisions	**10**	8
Expensed	**85**	89
Non-cash items	**(3)**	17
Total restructuring	**249**	240

In 2022, $7 million for the reversal of inventory step ups reported on acquisitions is presented within Cost of goods sold in the consolidated income statement (2021: $17 million). The other costs above for the years ended December 31, 2022 and 2021 are presented within Restructuring in the consolidated income statement.

Analysis of restructuring costs

2022

Productivity programs and other restructuring costs

Cash costs of $30 million were incurred for productivity initiatives consisting of $10 million for system projects, including digital tools and automation initiatives and an upgraded financial reporting and analytics platform, $14 million relating to transitioning a manufacturing facility acquired in 2020 to optimal capacity and $6 million across a number of individually small initiatives driving operational efficiencies and strategic alignments in the Crop Protection and Seeds businesses.

Non-cash costs consist of $11 million impairment of products rights associated with a mandatory divestment in the Seeds business pursuant to commitments given to the antitrust authorities relating to a previously completed acquisition, $32 million of accelerated depreciation of a manufacturing facility caused by adopting a shorter asset life due to mandatory relocation, $64 million impairment of intangible assets associated with products rights acquired in a business acquisition where future value is expected to be lower than previous projections and $6 million of depreciation relating to the transitioning the manufacturing facility acquired in 2020 to its optimal capacity. The remaining $14 million relates to $16 million for other smaller impairments where asset values are not supported by future business plans and a $2 million gain for reversal of a previously reported inventory write-off.

Acquisition, divestment and related costs

Cash costs include $74 million incurred for merger and acquisition projects and transaction costs, as well as the update of performance-based earn-outs related to previously completed acquisitions, $6 million incurred for integration projects and $15 million of costs related to the formation of the Syngenta Group, consisting of communications, consultancy and project management office expenses. Non-cash costs consist of $7 million due to the reversal of inventory step-ups reported on acquisitions and $10 million divestment gains related to disposal of property, plant and equipment, largely relating to sites disposals under integration and site rationalization plans.

2021

Productivity programs and other restructuring costs

Cash costs of $40 million were incurred for productivity initiatives consisting of $11 million to better align the organization in EAME with the business strategies, $11 million for system projects, including digital tools and automation initiatives and an upgraded financial reporting and analytics platform, $10 million for strategic alignments in the Crop Protection and Seeds businesses, and $8 million across a number of individually small initiatives driving operational efficiencies. Remaining cash costs consist of $18 million related to the closure and clean-up of a manufacturing site in the USA announced in June 2019, $20 million relating to transitioning a manufacturing facility acquired in 2020 to optimal capacity and $7 million of environmental provisions in a non-active US site to account for scope changes to meet regulatory demands.

Non-current asset impairments consist of $25 million for capitalized development costs where future benefits are no longer expected to be achieved, $7 million for exclusive license agreements where future value is expected to be lower than previous projections; $4 million of tangible asset impairments related to assets held-for-sale, and $5 million for other smaller impairments where asset values are not supported by future business plans.

Acquisition, divestment and related costs

Cash costs include $49 million incurred for merger and acquisition projects and transaction costs, as well as the update of performance-based earn-outs related to previously completed acquisitions, $17 million incurred for integration projects and $31 million of costs related to the formation of the Syngenta Group, consisting of communications, consultancy and project management office expenses. Non-cash costs are the reversal of inventory step-ups reported on acquisitions.

7. Income taxes

Income before taxes for the years ended December 31, 2022 and 2021 consists of the following:

($m)	2022	2021
Switzerland	**1,158**	485
Foreign	**1,084**	1,203
Total income before taxes	**2,242**	1,688

Income tax (expense)/benefit on income for the years ended December 31, 2022 and 2021 consists of the following:

($m)	2022	2021
Current income tax (expense):		
Switzerland	**(101)**	(51)
Foreign	**(526)**	(282)
Total current income tax (expense)	**(627)**	(333)
Deferred income tax (expense)/benefit:		
Switzerland	**(58)**	(52)
Foreign	**350**	139
Total deferred income tax benefit	**292**	87
Total income tax (expense)/benefit:		
Switzerland	**(159)**	(103)
Foreign	**(176)**	(143)
Total income tax (expense):	**(335)**	(246)

The components of current income tax (expense)/benefit on income for the years ended December 31, 2022 and 2021 are:

($m)	2022	2021
Current tax (expense) relating to current years	**(685)**	(411)
Adjustments to current tax for prior periods	**58**	78
Total current income tax (expense)	**(627)**	(333)

The components of deferred income tax (expense)/benefit on income the years ended December 31, 2022 and 2021 are:

($m)	2022	2021
Origination and reversal of temporary differences	**405**	89
Changes in tax rates or legislation	**(5)**	27
Other adjustments to deferred tax for prior periods	**(4)**	(1)
Utilization of tax losses previously recognized as deferred tax assets	**(22)**	(35)
Benefit of previously unrecognized deferred tax assets	**5**	18
Non-recognition of deferred tax assets	**(87)**	(11)
Total deferred income tax benefit	**292**	87

OCI and Income tax relating thereto, for each component of equity, for the years ended December 31, 2022 and 2021 are as follows:

	2022			2021		
($m)	Pre-tax	Tax	Post-tax	Pre-tax	Tax	Post-tax
Items that will not be reclassified to profit or loss:						
Fair value reserves: Equity investments at fair value through OCI	**48**	**(5)**	**43**	(11)	-	(11)
Retained earnings: Actuarial gains/(losses)	**46**	**(35)**	**11**	288	(19)	269
Items that may be reclassified to profit or loss:						
Fair value reserves: Cash flow and net investment hedges	**42**	**(2)**	**40**	32	(2)	30
Currency translation effects	**(289)**	**-**	**(289)**	(252)	-	(252)
Total	**(153)**	**(42)**	**(195)**	57	(21)	36

Current income tax (charges)/credits recognized in OCI were $2 million (2021: $(5) million). No income tax was directly (charged)/credited to shareholder's equity for the years ended December 31, 2022 and 2021.

Analysis of tax rate

The table below presents the main elements causing Syngenta's effective tax rate to differ from the statutory tax rate for the years ended December 31, 2022 and 2021. Syngenta's statutory tax rate consists of the ordinary tax rate applicable in the canton of Basel Stadt, where Syngenta is headquartered. Syngenta applies the domestic Swiss tax rate as it believes this is more meaningful than using a weighted average tax rate.

The Swiss domestic rate applicable in the canton of Basel Stadt is 13 percent and has been used for the tax rate reconciliation (2021: 13 percent).

	2022 %	2021 %
Statutory tax rate	**13**	13
Effect of income taxed at different rates	**1**	7
Effect of other disallowed expenditures and income not subject to tax	**(1)**	1
Effect of changes in tax rates and laws on previously recognized deferred tax assets and liabilities	**-**	(2)
Effect of recognition of previously unrecognized tax losses	**-**	(1)
Changes in prior year estimates and other items	**(2)**	(4)
Effect of non-recognition of deferred tax assets	**4**	1
Effective tax rate	**15**	15

Effect of income taxed at different rates includes rate differences from the domestic Swiss tax rate attributable to income generated by in-market companies which is lower compared to prior year mainly driven by rate differences in relation to deferred taxes on intercompany profit eliminations. Changes to prior year income tax estimates and other tax items decreased the tax rate by 2 percent in 2022 mainly due to closures of previous tax periods. Non-recognition of deferred tax assets in Brazil and Argentina increased Syngenta's effective tax rate by 4 percent in 2022.

The movements in deferred tax assets and liabilities during the year ended December 31, 2022 are as follows:

2022 ($m)	January 1	Recognized in net income	Recognized in equity and OCI	Currency translation effects	Other movements and acquisitions	December 31
Assets associated with:						
Inventories	405	220	-	(60)	-	565
Accounts receivable	286	134	-	4	-	424
Pensions and employee costs	106	(11)	(35)	(12)	-	48
Provisions	554	73	-	(6)	-	621
Unused tax losses and tax credits	115	(64)	-	1	-	52
Financial instruments, including derivatives	60	7	(7)	2	-	62
Other	97	41	-	(11)	-	127
Deferred tax assets	**1,623**	**400**	**(42)**	**(82)**	**-**	**1,899**
Liabilities associated with:						
Property, plant and equipment	(262)	(22)	-	7	4	(273)
Intangible assets	(544)	(65)	-	2	-	(607)
Inventories	(42)	(80)	-	1	-	(121)
Financial instruments, including derivatives	(53)	20	(2)	-	4	(31)
Other provisions and accruals	(244)	(28)	-	-	-	(272)
Other	(128)	67	-	-	-	(61)
Deferred tax liabilities	**(1,273)**	**(108)**	**(2)**	**10**	**8**	**(1,365)**
Net deferred tax asset/(liability)	**350**	**292**	**(44)**	**(72)**	**8**	**534**

The movements in deferred tax assets and liabilities during the year ended December 31, 2021 are as follows:

2021 ($m)	January 1	Recognized in net income	Recognized in equity and OCI	Currency translation effects	Other movements and acquisitions	December 31
Assets associated with:						
Inventories	533	(100)	-	(28)	-	405
Accounts receivable	268	26	-	(7)	(1)	286
Pensions and employee costs	136	(15)	(19)	4	-	106
Provisions	446	112	-	(4)	-	554
Unused tax losses and tax credits	73	44	-	(3)	1	115
Financial instruments, including derivatives	48	15	3	(6)	-	60
Other	82	20	-	(5)	-	97
Deferred tax assets	1,586	102	(16)	(49)	-	1,623
Liabilities associated with:						
Property, plant and equipment	(228)	(30)	-	(4)	-	(262)
Intangible assets	(485)	(68)	-	15	(6)	(544)
Inventories	(125)	78	-	7	(2)	(42)
Financial instruments, including derivatives	(57)	7	-	2	(5)	(53)
Other provisions and accruals	(290)	42	-	4	-	(244)
Other	(84)	(44)	-	-	-	(128)
Deferred tax liabilities	(1,269)	(15)	-	24	(13)	(1,273)
Net deferred tax asset/(liability)	317	87	(16)	(25)	(13)	350

The deferred tax assets and liabilities at December 31, 2022 and 2021 reconcile to the amounts presented in the consolidated balance sheet as follows:

($m)	**2022**	2021
Deferred tax assets	**1,899**	1,623
Adjustment to offset deferred tax assets and liabilities [1]	**(225)**	(257)
Adjusted deferred tax assets	**1,674**	1,366
Deferred tax liabilities	**(1,365)**	(1,273)
Adjustment to offset deferred tax assets and liabilities [1]	**225**	257
Adjusted deferred tax liabilities	**(1,140)**	(1,016)

1 Deferred tax assets and liabilities relating to income taxes levied by the same taxation authority on the same taxable entity or on entities which intend to settle current tax assets and liabilities on a net basis or to realize the assets and settle the liabilities simultaneously are offset for presentation on the face of the consolidated balance sheet where a legal right of set-off exists

The gross value at December 31, 2022 and 2021 of unused tax loss carry forwards and other deductible temporary differences for which no deferred tax asset has been recognized, by expiration date, is as follows:

($m)	**2022**	2021
One year	**1**	1
Two years	**1**	1
Three years	**-**	1
Four years	**-**	1
Five years	**12**	1
More than five years	**1**	5
No expiry	**244**	170
Total	**259**	180

The above losses for 2022 consist mainly of UK, Brazil, Belgium and Spain tax loss carry forwards (2021: UK, Belgium and Spain).

A $283 million (2021: $297 million) temporary difference for deferred deduction of interest paid in one jurisdiction had not been recognized.

Deferred tax assets, other than those related to unused tax losses, are not subject to expiry except as follows:

– A $38 million (2021: $44 million) unrecognized tax credit carry forward in one jurisdiction will expire in more than five years

A deferred tax liability has not been recognized at December 31, 2022 and 2021 on the following items:

($m)	**2022**	2021
Temporary differences associated with investments in subsidiaries	**638**	634

There are no income tax consequences for Syngenta of paying a dividend to its shareholder.

8. Trade and other accounts receivable

Trade receivables at December 31, 2022 and 2021 are as follows:

($m)	2022	2021
Trade receivables, gross	5,840	5,301
Provision for doubtful trade receivables	(620)	(459)
Trade receivables	**5,220**	**4,842**

Information relating to Syngenta's credit risk exposure at December 31, 2022 and 2021 and movements in the provision for expected credit losses (ECL) on trade and other receivables and amortized cost financial assets in accordance with IFRS 9 for the years ended December 31, 2022 and 2021 are as follows. In addition, further details on the allowance for doubtful receivables charged to income is presented in Note 2.

	2022		2021	
($m)	12-month ECL	Lifetime ECL (collectively assessed)	12-month ECL	Lifetime ECL (collectively assessed)
Maximum exposure to credit risk	734	5,840	474	5,301
Collateral held	-	94	-	96
Impairment provisions				
January 1	(4)	(459)	(5)	(468)
Amounts charged to income	1	(190)	-	(17)
Amounts written off	-	26	1	14
Currency translation effects and other	-	3	-	12
December 31	**(3)**	**(620)**	**(4)**	**(459)**
Carrying value, net	**731**	**5,220**	**470**	**4,842**

The analysis of gross carrying amount by internal rating grades for the years ended December 31, 2022 and 2021 is as follows:

	2022	2021
($m)	Lifetime ECL (collectively assessed)	Lifetime ECL (collectively assessed)
Amounts not yet due	4,960	4,559
Amounts past due:		
0-90 days	433	322
90-180 days	58	41
180 days-1 year	189	230
More than 1 year	200	149
Maximum exposure to credit risk	**5,840**	**5,301**

The carrying amount of trade receivables includes $24 million (2021: $6 million) that are due more than one year from the balance sheet date.

The carrying amount of trade receivables transferred in full and partial recourse factoring arrangements, but not derecognized is $26 million (2021: $65 million). Related current liabilities of $26 million (2021: $65 million) are disclosed in Note 16. The amount of these receivables before the transfer transactions was $69 million (2021: $62 million).

9. Other current assets

Other current assets at December 31, 2022 and 2021 are as follows:

($m)	2022	2021
Prepaid expenses	500	377
Assets held under barter agreements	37	153
Other	5	17
Assets held for sale	16	34
Combined total	**558**	**581**

Assets held for sale at December 31, 2022 relate mainly to equity investments, previously reported as equity at fair value through OCI, which were classified as held for sale, as they are planned for disposal and various sites planned for disposal under integration and site rationalization plans. Assets held for sale at December 31, 2021 relate mainly to equity investments, previously reported as equity investments at fair value through OCI, which were classified as held for sale as they are no longer considered strategic priorities. During 2022 and 2021, divestment gains recognized on sale of assets held for sale were not material.

10. Inventories

Inventories at December 31, 2022 and 2021 are as follows:

($m)	2022	2021
Raw materials and consumables	**1,549**	862
Biological assets	**43**	41
Work in progress	**3,305**	2,341
Finished products	**3,940**	2,597
Total	**8,837**	5,841

Inventories expensed through cost of goods sold were $10,780 million (2021: $8,812 million). Increase in inventory levels reflects increasing demand from Syngenta´s customers for Crop protection products, particularly in the first half of 2022, and the effect of increased input prices.

Finished products include $345 million (2021: $201 million) of inventory held by customers under a sale with a right of return.

Movements in inventory write-downs for the years ended December 31, 2022 and 2021 are as follows:

($m)	2022	2021
January 1	**(419)**	(348)
Additions charged to income	**(267)**	(259)
Reversals of inventory write-downs	**64**	30
Amounts utilized on disposal of related inventories	**117**	124
Currency translation effects and other	**47**	34
December 31	**(458)**	(419)

Reversals of inventory write-downs arise in the normal course of business when actual outcomes are more favorable than assumptions made in prior periods about Syngenta's future ability to sell inventories that are subject to risks of degradation and obsolescence, such as germination of seeds.

Movements in biological assets for the years ended December 31, 2022 and 2021 are as follows.

($m)	2022	2021
January 1	**41**	39
Changes in fair value	**143**	158
Sales and harvest	**(139)**	(154)
Currency translation effects and other	**(2)**	(2)
December 31	**43**	41
Of which: carried at fair value less costs to sell	**43**	41

Syngenta's inputs for measuring the fair value of those assets that are carried at fair value less costs to sell include both market data from actual sales and inputs based on the stage of growth of immature assets, which is not observable in the market. The fair values therefore represent a level 3 measurement in the fair value hierarchy as defined by IFRS 13. Their sensitivity to changes in the unobservable inputs is not material to the consolidated financial statements.

Quantities of biological assets in inventories at December 31, 2022 and 2021 are:

	2022	2021
(Millions of plants)		
Plants	**57**	61
Cuttings	**589**	612

11. Property, plant and equipment

Movements in property, plant and equipment for the year ended December 31, 2022 are as follows:

2022 ($m)	Land	Buildings	Machinery and equipment	Assets under construction	Total
Cost					
January 1	**116**	**2,092**	**5,844**	**497**	**8,549**
Additions	**4**	**44**	**225**	**445**	**718**
Disposals	**(14)**	**(152)**	**(161)**	**(15)**	**(342)**
Transfers between categories	**3**	**63**	**149**	**(215)**	**-**
Currency translation effects and other	**(4)**	**(74)**	**(218)**	**(10)**	**(306)**
December 31	**105**	**1,973**	**5,839**	**702**	**8,619**
Accumulated depreciation and impairment losses					
January 1	**-**	**(1,100)**	**(3,645)**	**(5)**	**(4,750)**
Depreciation charge	**-**	**(83)**	**(328)**	**-**	**(411)**
Impairment losses	**(2)**	**(7)**	**(2)**	**-**	**(11)**
Depreciation on disposals	**-**	**69**	**142**	**5**	**216**
Currency translation effects and other	**2**	**48**	**140**	**-**	**190**
December 31	**-**	**(1,073)**	**(3,693)**	**-**	**(4,766)**
Net book value – December 31	**105**	**900**	**2,146**	**702**	**3,853**

Additions to property, plant and equipment of $718 million (2021: $634 million) comprise $705 million (2021: $629 million) of cash purchases, $6 million (2021: $4 million) of capitalized borrowing costs, and $7 million (2021: $1 million) of additions due to business combinations.

Movements in property, plant and equipment for the year ended December 31, 2021 were as follows:

2021 ($m)	Land	Buildings	Machinery and equipment	Assets under construction	Total
Cost					
January 1	121	2,145	5,849	514	8,629
Additions	1	44	217	372	634
Disposals	(6)	(82)	(351)	(29)	(468)
Transfers between categories	3	55	274	(332)	-
Currency translation effects and other	(3)	(70)	(145)	(28)	(246)
December 31	116	2,092	5,844	497	8,549
Accumulated depreciation and impairment losses					
January 1	-	(1,129)	(3,780)	(29)	(4,938)
Depreciation charge	-	(72)	(299)	-	(371)
Impairment losses	-	-	(1)	-	(1)
Depreciation on disposals	-	64	335	26	425
Currency translation effects and other	-	37	100	(2)	135
December 31	-	(1,100)	(3,645)	(5)	(4,750)
Net book value – December 31	116	992	2,199	492	3,799

12. Intangible assets

Movements in intangible assets for the year ended December 31, 2022 are as follows:

2022 ($m)	Goodwill	Product rights	Trademarks	Patents	Software	Capitalized development costs	Other intangibles	Total
Cost								
January 1	**2,754**	**3,844**	**221**	**45**	**643**	**1,186**	**780**	**9,473**
Additions from business combinations	**3**	**2**	**1**	**-**	**-**	**-**	**72**	**78**
Additions from internal development	**-**	**-**	**-**	**-**	**-**	**708**	**-**	**708**
Other additions	**-**	**51**	**-**	**1**	**70**	**-**	**26**	**148**
Retirements and disposals	**-**	**(26)**	**(4)**	**-**	**(35)**	**-**	**(13)**	**(78)**
Currency translation effects	**(34)**	**(34)**	**(1)**	**(1)**	**(12)**	**(6)**	**2**	**(86)**
December 31	**2,723**	**3,837**	**217**	**45**	**666**	**1,888**	**867**	**10,243**
Accumulated amortization and impairment losses								
January 1	**(271)**	**(2,838)**	**(76)**	**(35)**	**(517)**	**(60)**	**(403)**	**(4,200)**
Amortization charge	**-**	**(105)**	**(12)**	**(2)**	**(44)**	**(32)**	**(44)**	**(239)**
Impairment losses	**-**	**(83)**	**-**	**-**	**-**	**(16)**	**-**	**(99)**
Retirements and disposals	**-**	**23**	**4**	**-**	**35**	**-**	**13**	**75**
Currency translation effects	**4**	**15**	**-**	**1**	**6**	**-**	**1**	**27**
December 31	**(267)**	**(2,988)**	**(84)**	**(36)**	**(520)**	**(108)**	**(433)**	**(4,436)**
Net book value – December 31	**2,456**	**849**	**133**	**9**	**146**	**1,780**	**434**	**5,807**

Additions in 2022 and 2021 include intangible assets arising from license agreements involving non-monetary exchanges or where the cash flows related to the acquisition of the asset are payable over several years. Cash paid to acquire and develop intangible assets was $794 million (2021: $475 million).

Amortization is included within Cost of goods sold, Research and development and General and administrative expenses.

Other intangibles consist principally of values assigned to supply contracts, production know-how and customer relationships acquired in business combinations.

Movements in intangible assets for the year ended December 31, 2021 were as follows:

2021 ($m)	Goodwill	Product rights	Trademarks	Patents	Software	Capitalized development costs	Other intangibles	Total
Cost								
January 1	2,779	3,865	212	45	650	770	827	9,148
Additions from business combinations	36	-	15	-	-	-	27	78
Additions from internal development	-	-	-	-	-	439	-	439
Other additions	-	23	1	1	31	-	6	62
Transfers between categories	8	35	4	-	-	-	(47)	-
Retirements and disposals	-	(6)	-	-	(19)	-	(1)	(26)
Currency translation effects	(69)	(73)	(11)	(1)	(19)	(23)	(32)	(228)
December 31	2,754	3,844	221	45	643	1,186	780	9,473
Accumulated amortization and impairment losses								
January 1	(279)	(2,764)	(67)	(34)	(491)	(19)	(367)	(4,021)
Amortization charge	-	(113)	(11)	(2)	(54)	(16)	(43)	(239)
Impairment losses	-	-	(1)	-	(7)	(25)	(7)	(40)
Retirements and disposals	-	6	-	-	19	-	1	26
Currency translation effects	8	33	3	1	16	-	13	74
December 31	(271)	(2,838)	(76)	(35)	(517)	(60)	(403)	(4,200)
Net book value – December 31	2,483	1,006	145	10	126	1,126	377	5,273

The net book value at December 31, 2022 and 2021 of goodwill is allocated to Syngenta's operating segments and other CGUs as summarized below:

($m)	2022	2021
Allocated to operating segments:		
Crop Core	**1,208**	1,240
Professional Solutions	**38**	39
Field Crops	**21**	23
Vegetables	**79**	79
Flowers	**13**	14
Total allocated to operating segments	**1,359**	1,395
Allocated to other individual CGUs:		
North America Corn and Soybean seed	**316**	316
Corn and Soybean seed rest of world	**455**	445
Other, not individually significant	**326**	327
Total allocated to other individual CGUs	**1,097**	1,088
Total goodwill	**2,456**	2,483

The total amount of goodwill attributable to the Field Crops operating segment is $938 million (2021: $933 million), consisting of $21 million (2021: $23 million) allocated at the operating segment level and a further $917 million (2021: $910 million) allocated to other individual CGUs that form part of the overall operating segment as follows: Corn and Soybean seed rest of world $455 million (2021: $445 million), North America Corn and Soybean seed $316 million (2021: $316 million) and $146 million (2021: $149 million) allocated to Other, not individually significant CGUs.

The total amount of goodwill attributable to the Crop Core operating segment is $1,388 million (2021: $1,418 million), consisting of $1,208 million (2021: $1,240 million) allocated at the operating segment level and a further $180 million (2021: $178 million) allocated to Other, not individually significant CGUs that form part of the overall operating segment.

13. Financial and other non-current assets

Financial and other non-current assets at December 31, 2022 and 2021, are as follows:

($m)	2022	2021
Equity securities at fair value through OCI	**156**	125
Precious metal catalysts	**39**	47
Royalties receivable	**91**	95
Long-term marketable securities	**84**	35
Other non-current receivables	**117**	132
Post-employment benefit assets (Note 21)	**171**	315
Long-term derivative financial assets (Note 25)	**48**	146
Total financial and other non-current assets	**706**	895

14. Associates, joint ventures and transactions and agreements with related parties

Associates and joint ventures

Investments in associates and joint ventures at December 31, 2022 are $163 million (2021: $168 million).

None of Syngenta's investments in associates and joint ventures are publicly quoted. At December 31, 2022, these investments consist mainly of $125 million (2021: $137 million) for a 50 percent ownership of the associate CIMO Compagnie Industrielle de Monthey SA, Switzerland (CIMO), which provides utility services to Syngenta and other occupants of the Monthey manufacturing site and $25 million (2021: $27 million) for a 40 percent ownership of the associate MAS Seeds SA (formerly Maisadour Semences SA), France (MAS). MAS produces and sells seeds, with Syngenta being one of MAS's customers.

During 2022, Syngenta's share of CIMO's net actuarial losses recognized in OCI is $9 million (2021: $9 million gain). Other effects on Syngenta's consolidated income statement for the periods presented, or any financial statement line items of the above associates and joint ventures themselves, are not material.

Transactions between Syngenta and its associates and joint ventures during the year ended December 31, 2022 are as follows:

– Goods and services provided by Syngenta to its associates and joint ventures $13 million (2021: $16 million)
– Goods and services provided by associates and joint ventures to Syngenta $129 million (2021: $98 million)

At December 31, 2022 Syngenta has accounts receivable and accrued income from associates and joint ventures of $1 million (2021: $nil) and accrued liabilities to associates and joint ventures of $26 million (2021: $nil).

A bank overdraft guarantee of $21 million (2021: $17 million) has been provided to an associate.

On November 12, 2013 Syngenta agreed to advance EUR 9 million to MAS to help finance the planned expansion of corn seed processing capacity in Maisadour Ukraine LLC, a subsidiary of MAS, which is a supplier of corn seeds to Syngenta. At December 31, 2022 the balance outstanding was $6 million (2021: $7 million). Syngenta and MAS have an agreement for repayment in February 2023. By a deed between

Syngenta, MAS and the European Bank for Reconstruction and Development (EBRD), repayment of the principal is subordinated to a loan between the EBRD and Maisadour Ukraine LLC which is guaranteed by MAS.

On January 1, 2012 Syngenta agreed to advance CHF 3 million ($3 million at December 31, 2022 currency translation rates) to CIMO over a 26-year term to help finance the construction of a container and handling area for use in the utility services provided to Syngenta. At December 31, 2022 the balance outstanding was $2 million (2021: $2 million).

Syngenta Group

Syngenta Group, a global leader in agricultural science and innovation, with parent company Syngenta Group Co. Ltd., was formed in 2020. The entity, which is domiciled in China, but operationally headquartered in Switzerland, encompasses four business units: Syngenta Crop Protection, based in Basel, Switzerland; Syngenta Seeds, based in Chicago, USA; Adama, based in Airport City, Israel; and Syngenta Group China, based in Shanghai, China. Transactions between the Syngenta AG consolidated group and fellow subsidiaries, associates and joint ventures of Syngenta Group, during the year ended December 31, 2022 are as follows:

- Goods and services provided to fellow subsidiaries, associates and joint ventures of Syngenta Group $298 million (2021: $201 million)
- Goods and services provided by fellow subsidiaries, associates and joint ventures of Syngenta Group $1,036 million (2021: $607 million)

At December 31, 2022, the Syngenta AG consolidated group has accounts receivable from fellow subsidiaries of Syngenta Group of $105 million (2021: $64 million) and accounts payable and other current liabilities to fellow subsidiaries of Syngenta Group of $287 million (2021: $222 million).

The following borrowings were raised from fellow subsidiaries of the Syngenta Group:

- In April 2022, a CNY 3,800 million loan with a floating interest rate based on SOFR and a term of three years
- In July 2022, a $360 million loan with a floating interest rate based on LIBOR and a term of three years
- In September 2022, a $140 million loan with a floating interest rate based on LIBOR and a term of two years and ten months
- In October 2022, a $500 million loan from a fellow subsidiary of Syngenta Group with a 5.05 percent interest rate and a term of three years and six months
- In December 2022, a CNY 17 million loan with a 3.1 percent interest rate and a term of ten years
- In November 2021, a CNY one-year revolving loan with a 4.35 percent interest rate. The balance outstanding at December 31, 2022 was CNY 310 million (2021: CNY 205 million)

During 2021, a Syngenta AG subsidiary entered into a revolving credit facility of up to $1.5 billion with a fellow subsidiary of the Syngenta Group and $1,450 million was drawn down during the year (2021: $300 million). As at December 31, 2022, Syngenta's drawings under the facility were $500 million (2021: $nil).

In total, as at December 31, 2022, borrowings from fellow subsidiaries of the Syngenta Group was $2.1 billion, including CNY 4,127 million at December 31, 2022 exchange rates.

Sinochem Holdings

Transactions between the Syngenta AG consolidated group and fellow subsidiaries, associates and joint ventures of Sinochem Holdings, its ultimate parent company, excluding those with Syngenta Group disclosed above, during the year ended December 31, 2022 are as follows:

- Goods and services provided to fellow subsidiaries, associates and joint ventures of Sinochem Holdings $1 million (2021: $nil)
- Goods and services provided by fellow subsidiaries, associates and joint ventures of Sinochem Holdings $17 million (2021: $5 million)

At December 31, 2022, the Syngenta AG consolidated group has no accounts receivable and $3 million of accounts payable with fellow subsidiaries of Sinochem Holdings (2021: none).

Other related party transactions

Transactions and balances between Syngenta and its employee post-retirement benefit plans are disclosed in Note 21.

Key management personnel

Key management personnel are considered to be the members of the Group Leadership Team (previously named the Syngenta Leadership Team) and the Board of Directors of both Syngenta AG and the Syngenta Group. The Group Leadership Team is collectively responsible for the active leadership of both Syngenta AG and the Syngenta Group under the guidance of the Syngenta Group Board of Directors. The Syngenta Group Board of Directors includes members of key management of Sinochem Holdings, the ultimate parent of Syngenta AG.

The compensation expense incurred by the Syngenta AG group is as follows for the years ended December 31, 2022 and 2021. These charges cover six of the eight members of the Group Leadership Team and the Board of Directors of Syngenta AG. Due to the retirement of a member of the Group Leadership team during 2022, there was a period in the year with an overlap where 7 members were included. None of the other members of the Group Leadership Team or the Syngenta Group Board of Directors rendered any services to Syngenta AG for which they received compensation from the Syngenta AG group. Expense in 2022 included higher performance related variable pay and an accrual related to the expected completion of the Syngenta Group initial public offering.

($m)	**2022**	2021
Fees, salaries and other short-term benefits	**128**	69
Post-employment benefits	**1**	1
Total	**129**	70

These members of the Group Leadership Team and the Syngenta AG Board of Directors receive their cash compensation in Swiss francs, except one member of the Leadership Team who is based in the US and is paid in US dollars. The compensation amounts presented above have been converted into US dollars using the average currency exchange rate in effect during each year reported. The average Swiss franc per US dollar exchange rate for the year ended December 31, 2022 is 0.95 (2021: 0.91).

Post-employment benefits include healthcare, disability, death in service and pension costs.

15. Trade accounts payable and contract liabilities

The contractual maturities of trade accounts payable at December 31, 2022 and 2021 are as follows:

($m)	**Total**	**0–90 days**	**90–180 days**	**180 days–1 year**
2022	**7,264**	**4,380**	**685**	**2,199**
2021	5,484	3,301	475	1,708

The carrying amount of trade accounts payable includes $37 million (2021: $30 million) that are due more than one year from the balance sheet date.

Trade accounts payable include $660 million (2021: $442 million) arising from reverse factoring arrangements between suppliers and financial institutions. Under reverse factoring arrangements, participating suppliers receive immediate payments from the financial institutions for invoices owed and Syngenta makes a settlement to the financial institutions at a later date. The amounts payable to the suppliers are not derecognized because the original liability is not substantially modified on entering into the arrangements and the new liability carries the characteristic of trade accounts payable. Syngenta has presented these under trade accounts payable because they represent liabilities to pay for goods and services, formally agreed with suppliers and are part of the normal operating cycle. The settlements to the financial institutions are included within operating cash flows because they continue to be part of the normal operating cycle and represent payments for the purchase of goods and services.

Included within trade accounts payable are rebates payable and provisions for sales returns. Movements in these liabilities with customers for the years ended December 31, 2022 and 2021 are as follows:

($m)	**2022**	2021
January 1	**2,195**	2,023
Changes in liabilities recognized in the period from:		
Products supplied in the period	**3,370**	3,123
Prior period estimates	**(106)**	(168)
Rebates settled and product returns received	**(2,567)**	(2,727)
Currency translation effects and other	**(31)**	(56)
December 31	**2,861**	2,195

Contract liabilities consist of advance payments from customers and deferred revenue, mainly from customer loyalty programs.

Movements in contract liabilities for the years ended December 31, 2022 and 2021 are as follows:

($m)	2022	2021
January 1	**1,178**	790
Additions due to acquisitions	**3**	12
Advance payments received from customers	**4,206**	3,133
Performance obligations recognized in the period	**102**	100
Revenue recognized in the period from:		
Amounts included in the contract liability at the beginning of the period	**(1,189)**	(796)
Contract liabilities applied to current period	**(3,207)**	(2,046)
Currency translation effects and other	**(14)**	(15)
December 31	**1,079**	1,178

At December 31, 2022, contract liabilities for customer loyalty programs are $112 million (2021: $118 million) and will be recognized as revenue as the promised goods and services are transferred to the customers, which is expected to occur over the next three years.

16. Current financial debt and other financial liabilities

Current financial debt and other financial liabilities at December 31, 2022 and 2021 are as follows:

($m)	2022	2021
Short-term financial debt:		
Bank and other financial debt (Note 14 for related party borrowing)	**1,260**	559
Receivables factored with recourse	**26**	65
Total short-term financial debt	**1,286**	624
Current portion of long-term financial debt:		
Unsecured bonds	**1,287**	722
Liabilities to banks and other financial institutions	**10**	73
Lease liabilities	**105**	109
Total current portion of long-term financial debt (Note 18)	**1,402**	904
Total current financial debt	**2,688**	1,528
Short-term derivative and other financial liabilities	**592**	339
Total	**3,280**	1,867

The contractual maturities of current financial debt at December 31, 2022 and 2021 are as follows:

($m)	Total	0–90 days	90–180 days	180 days–1 year
2022	**2,688**	**1,092**	**1,113**	**483**
2021	1,528	997	125	406

The maturities of short-term derivatives are presented in Note 24. The maturities of other financial liabilities are as follows: $177 million 0-90 days; $49 million 90-180 days and $40 million 180 days-1 year (2021: $98 million 0-90 days; $44 million 90-180 days and $49 million 180 days-1 year).

Information about fair values of financial liabilities is presented in Note 25.

17. Other current liabilities

Other current liabilities at December 31, 2022 and 2021 consist of the following:

($m)	2022	2021
Accrued short-term employee benefits	**896**	694
Taxes other than income taxes	**129**	134
Accrued utility costs	**106**	107
Social security and pension contributions	**55**	65
Other payables	**145**	95
Other accrued expenses	**166**	156
Total	**1,497**	1,251

The maturities of other current liabilities are as follows. For liabilities without a contractual maturity date, the analysis represents the estimated timing of cash outflows.

($m)	Total	0–90 days	90–180 days	180 days-1 year
2022	**1,497**	**957**	**343**	**197**
2021	1,251	870	266	115

18. Financial debt and other non-current liabilities

In March 2022, Syngenta repaid a $500 million bond at maturity. In July 2022, Syngenta repaid $1,000m following a cash tender offer for any and all of its outstanding 4.892% USD bond 2025, 5.182% USD bond 2028, 4.375% USD Notes 2042 and 5.676% USD bond 2048. In December 2022, Syngenta repaid a CHF 200 million bond at maturity. The early bond repurchases resulted in an additional expense of $8 million reported in Financial expense, net in the consolidated income statement.

In February 2021, Syngenta repaid $278 million, following a cash tender offer for any and all of its outstanding 4.375% USD Notes 2042 and 5.676% USD bond 2048. In April 2021, Syngenta repaid a $750 million bond at maturity and raised a $250 million loan with a floating interest rate based on LIBOR and a term of 4 years. In November 2021, Syngenta repaid a EUR 500 million bond at maturity and issued a CHF 225 million 0.625% bond with a maturity date of August 2024. In December 2021, Syngenta repaid $37 million, following an additional cash tender offer for any and all of its outstanding 4.375% USD Notes 2042. The early bond repurchases resulted in an additional expense of $5 million reported in Financial expense, net in the consolidated income statement.

Financial debt and other non-current liabilities at December 31, 2022 and 2021 are as follows:

($m)	**2022**	2021
$ private placement notes	**66**	66
3.125% $ Notes 2022	**-**	503
0.125% CHF bond 2022	**-**	219
4.441% USD bond 2023	**997**	998
1.250% CHF bond 2023	**288**	290
0.625% CHF bond 2024	**244**	246
1.625% CHF bond 2024	**271**	273
4.892% USD bond 2025	**674**	748
3.375% Eurobond 2026	**983**	1,038
0.700% CHF bond 2026	**152**	153
1.250% Eurobond 2027	**530**	563
5.182% USD bond 2028	**330**	996
2.125% CHF bond 2029	**163**	164
4.375% $ Notes 2042	**19**	28
5.676% USD bond 2048	**150**	404
Unsecured bond issues and US private placement notes	**4,867**	6,689
Liabilities to banks and other borrowings (Note 14 for related party borrowings)	**3,133**	1,329
Lease liabilities (Note 22)	**892**	634
Less: current portion of financial debt (Note 16)	**(1,402)**	(904)
Total non-current financial debt	**7,490**	7,748
Non-current derivative financial liabilities	**153**	77
Other non-current liabilities and deferred income	**206**	183
Total	**7,849**	8,008

Information about fair values of financial liabilities is presented in Note 25.

Other non-current liabilities and deferred income relates to license and acquisition agreements with several counterparties and long-term incentive programs. Of the $206 million, related cash flows of $166 million (2021: $129 million) are payable between one and five years and $40 million (2021: $54 million) of deferred income will be recognized as related licensed product sales occur.

Interest paid on non-current financial debt was $258 million (2021: $274 million). All non-current debt ranks equally. Covenants are monitored on a regular basis and Syngenta is in full compliance with all applicable covenants.

Syngenta AG has fully and unconditionally guaranteed on a senior unsecured basis the due and punctual payment of the principal of and any premium and interest on the debt securities issued by Syngenta Finance AG, which is a direct, wholly-owned finance subsidiary, and Syngenta Finance N.V., which is an indirect, wholly-owned finance subsidiary. The guarantees rank equally with all of Syngenta's other unsecured and unsubordinated debt. No other subsidiary of Syngenta guarantees such debt securities.

19. Provisions, commitments and contingencies

Provisions

Provisions at December 31, 2022 and 2021 are as follows:

($m)	2022	2021
Restructuring provisions	**62**	83
Employee benefits:		
Pensions (Note 21)	**155**	384
Other post-retirement benefits (Note 21)	**18**	22
Other long-term employee benefits	**55**	65
Environmental provisions	**169**	162
Provisions for legal and product liability settlements	**127**	97
Other provisions	**86**	85
Total	**672**	898

($m)	2022	2021
Current portion of:		
Restructuring provisions	**28**	23
Employee benefits	**14**	60
Environmental provisions	**5**	9
Provisions for legal and product liability settlements	**33**	19
Other provisions	**51**	27
Total current provisions	**131**	138
Total non-current provisions	**541**	760
Total	**672**	898

The timing of payment in respect of non-current provisions is, with few exceptions, not contractually fixed and cannot be estimated with certainty. Key assumptions and sources of estimation uncertainty are discussed in Note 2.

At December 31, 2022, Syngenta recognized $4 million (2021: $9 million) in Financial and other non-current assets in respect of virtually certain reimbursements related to the above provisions.

Syngenta has recorded provisions for environmental liabilities at some currently or formerly owned, leased and third party sites throughout the world. These provisions are estimates of amounts payable or expected to become payable and take into consideration the number of other potentially responsible parties at each site and the identity and financial positions of such parties in light of the joint and several nature of certain of the liabilities. The material components of Syngenta's environmental provisions are based on a risk assessment involving investigation of the various sites.

It is reasonably possible that Syngenta may be required to make expenditures in excess of the established provisions to remediate environmental liabilities at some currently or formerly owned, leased and third party sites throughout the world. Further, in cases where it is not possible to estimate reliably the remediation costs that may be incurred in the future for environmental damage that has occurred at sites currently in operation and having no present obligation for environmental damage remediation, no provisions have been made. This is because it is neither possible to determine a time limit beyond which the sites will no longer be operated, nor what remediation costs may be required upon their eventual closure.

In the USA, Syngenta and/or its indemnitors or indemnitees, have been named under federal legislation (the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended) as a potentially responsible party ("PRP") in respect of several sites. Syngenta expects to be indemnified against a proportion of the liabilities associated with a number of these sites by the sellers of the businesses associated with such sites and, where appropriate, actively participates in or monitors the clean-up activities at the sites in respect of which it is a PRP.

Provisions for legal and product liability settlements, all of which are individually immaterial, relate to various legal proceedings incidental to the normal conduct of Syngenta's business, including proceedings involving product liability claims, commercial claims, employment and wrongful termination claims, patent infringement claims, competition law claims, indirect tax assessment claims, regulatory compliance claims, waste disposal claims and tort claims relating to the release of chemicals into the environment.

Other provisions mainly comprise provisions for long-term contractual obligations under license and other agreements.

Movements in provisions for the year ended December 31, 2022 are as follows:

($m)	January 1	Charged to income	Release of provisions credited to income	Payments	Actuarial (gains)/ losses	Transfers offset in defined benefit pension assets	Currency translation effects/ other	December 31
Restructuring provisions:								
Employee termination costs	**26**	**11**	**(8)**	**(9)**	**-**	**-**	**(3)**	**17**
Other third party costs	**58**	**14**	**(10)**	**(6)**	**-**		**(11)**	**45**
Employee benefits:								
Pensions	**384**	**105**	**(2)**	**(121)**	**(271)**	**77**	**(17)**	**155**
Other post-retirement benefits	**22**	**2**	**(3)**	**(9)**	**(4)**	**10**	**-**	**18**
Other long-term employee benefits	**65**	**6**	**-**	**(15)**	**-**	**-**	**(1)**	**55**
Environmental provisions	**162**	**11**	**-**	**(21)**	**-**	**-**	**17**	**169**
Provisions for legal and product liability settlements	**97**	**39**	**(11)**	**(5)**	**-**	**-**	**7**	**127**
Other provisions	**84**	**43**	**(15)**	**(14)**	**-**	**-**	**(12)**	**86**
Total	**898**	**231**	**(49)**	**(200)**	**(275)**	**87**	**(20)**	**672**

Within restructuring provisions, employee termination costs include severance, pension and other costs directly related to affected employees and other third party costs principally include payments for early termination of contracts with third parties related to redundant activities. Other movements include provisions acquired through the business combinations described in Note 3.

Commitments

Commitments for the purchase of property, plant and equipment at December 31, 2022 are $164 million (2021: $166 million).

At December 31, 2022 and 2021, Syngenta had entered into long-term commitments to purchase minimum quantities of certain raw materials, long-term research agreements with various institutions to fund various research projects, and other commitments. The estimated timing of minimum future committed payments is as follows:

	2022		2021	
($m)	**Materials purchases**	**Other**	Materials purchases	Other
Within one year	**1,685**	**70**	1,917	80
From one to two years	**775**	**32**	229	33
From two to three years	**201**	**15**	142	16
From three to four years	**100**	**8**	77	8
From four to five years	**79**	**3**	47	3
After more than five years	**43**	**3**	32	5
Total	**2,883**	**131**	2,444	145

Syngenta's sales are made subject to normal warranties, which cover product technical specifications and, in some cases, products' performance effect on grower crop yields. Certain license agreements indemnify the other party against liabilities arising from claims related to the intellectual property licensed to or by Syngenta. Leases may require indemnification for liabilities Syngenta's actions may create for the lessor or lessee. Syngenta has also issued warranties to purchasers of businesses or product lines relating to events that arose before the sales. It is not possible to predict the maximum future payments possible under these or similar provisions because it is not possible to predict whether any of these contingencies will occur.

Syngenta has obtained licenses from others for the rights to sell certain products, or products containing certain technology, under agreements which require Syngenta to pay royalties based on its future sales of those products or that technology.

Contingencies

Litigation matters

Litigation is subject to many uncertainties, and the outcome of individual matters cannot be predicted with certainty. Consequently, it is reasonably possible that the final resolution of some of these matters could require Syngenta to make expenditures in excess of the established provisions that are reported above. Further, the range of amounts involved, as well as the period of time over which many of these expenditures may be made, cannot be reasonably estimated.

Syngenta maintains general liability insurance, including product liability insurance, covering claims on a worldwide basis with coverage limits and retention amounts which management believes to be adequate and appropriate in relation to Syngenta's businesses and the risks to which it is subject.

Significant recent or on-going legal proceedings are described below.

VIPTERA™

Beginning on September 12, 2014, several thousand lawsuits were filed against Syngenta in state and federal courts in the United States by plaintiffs seeking damages from Syngenta for commercializing its AGRISURE VIPTERA® (MIR162) and DURACADE™ corn seed in the United States without having obtained import approval from China for those products. In September 2017 plaintiffs and Syngenta reached a settlement to resolve all claims on behalf of all U.S. non-Viptera and Viptera producers as well as grain elevators and ethanol plants and the settlement is now final.

The settlement of the producer cases does not cover claims of the exporter plaintiffs such as Cargill, ADM, Louis Dreyfus, Trans Coastal Supply Company, Inc. ("Transcoastal"), The DeLong Company ("DeLong"), and Agribase International, Inc.. ADM and Syngenta reached in December 2017 a settlement of the Viptera litigation that ADM had brought against Syngenta in Louisiana Court. Louis Dreyfus and Syngenta reached a settlement in May 2019. Agribase and Syngenta reached a settlement in February 2020. Transcoastal and Syngenta reached a settlement in October 2020. These settlements do not resolve the lawsuits brought by other grain exporters such as Cargill (trial date set for October 2023). On February 3, 2021, the Federal District Court in Kansas granted Syngenta's motion for summary judgment and dismissed the DeLong lawsuit. DeLong appealed the dismissal. On May 13, 2022, the Tenth Circuit reversed the dismissal and remanded the case back to the district court. On February 28, 2023, the district court decided outstanding summary judgment motions filed by both Syngenta and DeLong by granting the motions in part and denying them in part. The district court in Kansas has indicated that it will not try the case but will remand the case for trial to the district court in Wisconsin where it was originally filed. There is no trial date at this time. In July 2021, Syngenta and Heartland Corn Products (the ethanol plant that opted out of the producer settlement) reached a settlement. Cargill claims to have suffered damages relating to delayed, rejected and re-routed shipments of U.S. corn to China of over USD 90 million and additional lost profits. Syngenta strongly believes that Cargill's & DeLong's claims in their respective cases are without merit and will vigorously defend the lawsuits.

In December 2015, a claim was filed in Ontario, Canada by a proposed representative plaintiff on behalf of a putative class comprising all farmers in Canada against Syngenta Canada Inc. and Syngenta AG seeking damages from Syngenta for commercializing its AGRISURE VIPTERA® (MIR162) and DURACADE™ corn seed in the North American corn market without having obtained import approval from China for those products. The causes of action referred to in the lawsuit include negligence and negligent misrepresentations. The allegations include claims that Syngenta actively misled farmers about the importance of the Chinese market, the timing and substance of the application for approval in China, its ability to channel VIPTERA™ corn into non-Chinese markets and its ability to contain the infiltration of VIPTERA™ corn to the North American corn supply. The proposed representative plaintiff is seeking on behalf of the putative class general and special damages of 300 million Canadian dollars (USD 222 million at December 31, 2022 exchange rates), punitive and aggravated damages of 100 million Canadian dollars (USD 74 million at December 31, 2022 exchange rates), the costs of distributing all monies awarded to class members, pre-judgment interest, and costs on a substantial indemnity basis. Syngenta's motion to strike this action was argued in April 2018, and on November 28, 2018, the judge dismissed the plaintiff's action in its entirety. The plaintiff appealed this decision. The appeal was heard in June 2019 and while the Court of Appeal denied plaintiff's appeal of the lower court's decision dismissing the claim as to the negligent misrepresentation and Competition Act claims, it granted the appeal as to the premature commercialization claim which would allow the lawsuit to continue as to that claim alone. Syngenta filed the documents necessary to seek leave to appeal the Court of Appeal's decision to the Supreme Court of Canada. On December 10, 2020, Syngenta's application for leave to appeal to the Supreme Court of Canada was denied. The parties proceeded to the certification stage of the proceeding. The motion for certification was heard on May 10-12, 2021. On September 29, 2021, the Superior Court certified the lawsuit. The certification decision was procedural and made no determination on the merits of the case. Syngenta maintains this lawsuit is without merit and will continue to vigorously defend it.

On February 14, 2017, a similar action was filed in Quebec against Syngenta Canada Inc. and Syngenta AG. The Petitioners are seeking essentially the same relief as in the Ontario action on behalf of all corn producers conducting business in Quebec who sold corn for commercial purposes after November 18, 2013. They allege that Syngenta was negligent and engaged in illegal commercial practices, contrary to the Competition Act and the Civil Code of Quebec, and that damages (amount unspecified) will continue to accrue until the corn business between North America and China is re-established at the levels that existed before Syngenta's negligence occurred. Punitive damages, pre-judgment interest and costs are also claimed. Syngenta has entered an appearance in the action. No other steps have been taken. Syngenta is continuing to vigorously defend against the Canadian actions and strongly believes that they are without merit.

Canada beekeeper lawsuits

In September 2014, a claim was filed in Ontario, Canada by two proposed representative members on behalf of a putative class comprising all beekeepers who have owned or continue to own and operate honey producing, pollinating, and/or queen bee rearing businesses in Canada since January 1, 2006, against a number of Syngenta legal entities together with certain entities of a second manufacturer of neonicotinoid insecticides. Plaintiffs allege negligence through the sale by that manufacturer and by Syngenta of products containing such insecticides in the knowledge that they would be injurious to bees and by virtue of misrepresentations and concealment relating thereto. Plaintiffs claim 400 million Canadian dollars (USD 296 million at December 31, 2022 exchange rates) general and 50 million Canadian dollars (USD 37 million at December 31, 2022 exchange rates) punitive damages. The pleadings in the Ontario proceedings were subsequently amended by plaintiffs' counsel to add waiver of tort and unlawful conspiracy to the single cause of action, negligence, which was previously pleaded. Both of the additional causes of action are ancillary to and largely dependent on the negligence claim. The class has not yet been authorized.

In October 2014, a Motion for Authorization was filed by the same firm of plaintiffs' counsel in Montréal, Quebec seeking permission to bring a similar class proceeding in that province. The proposed representative plaintiff operates a family business specialized in the breeding of queen bees. The Quebec litigation closely resembles the original Ontario lawsuit claiming negligence except that, rather than a nationwide class, it alleges a class limited to Quebec. At this early stage damages are unspecified. The Motion for Authorization was argued in November 2017. The Quebec class has been authorized on August 20, 2018, and notices have been sent to potential class members. Plaintiffs' motion to add Syngenta AG as a defendant has been granted.

Syngenta will defend these lawsuits, the claims in which are without foundation.

Paraquat Parkinson's disease litigation

Since September 2017, excluding the lawsuits that have been voluntarily or involuntarily dismissed, a total of more than 3,600 lawsuits have been filed against Syngenta in state and federal courts in the United States by plaintiffs seeking damages from Syngenta arising from their use of or exposure to Syngenta's paraquat products. Plaintiffs allege that their use of or exposure to Syngenta's paraquat products has caused them to develop Parkinson's disease and/or kidney disease. The cases name Syngenta AG, Syngenta Crop Protection, LLC, and Syngenta Seeds, and variously name other alleged distributors of paraquat as additional defendants.

While the counts raised in each complaint differ slightly by plaintiff and jurisdiction, they tend to include: (1) Strict Liability - Design Defect; (2) Strict Liability - Failure to Warn; (3) Negligence; (4) Public Nuisance; (5) Violation of Consumer Fraud & Deceptive Business Practices Acts; (6) Breach of Implied Warranty of Merchantability; and (7) Punitive Damages. Certain suits also include claims by the spouses of individuals with Parkinson's disease for Loss of Consortium. The pending state court cases are in California, Delaware, Illinois, Florida, Pennsylvania, and

Washington. The pending federal court cases were filed in various U.S. District Courts, though the majority of new cases are being filed directly in the Southern District of Illinois as part of the pending Multi-District Litigation.

Multi-District Litigation (MDL). On June 7, 2021, the Judicial Panel on Multidistrict Litigation determined that consolidation is appropriate and that the pending actions would be transferred to the Southern District of Illinois for pretrial purposes. The first Case Management Order, issued June 10, 2021, stayed all responsive pleading and related deadlines for the coordinated cases. The Court also appointed a Special Master to oversee discovery, and discovery is ongoing. On February 14, 2022, the Court granted the defendants' motions to dismiss as to all public nuisance claims and certain state consumer protection claims and denied the motions to dismiss as to the other causes of action without prejudice. On April 13, 2022, Syngenta submitted answers in sixteen potential bellwether cases identified by the Court. On the same date, the Court selected six of those bellwether plaintiffs for further case-specific discovery; that discovery is currently in progress. On August 17, 2022, the Court selected 20 additional plaintiffs and ordered limited discovery and depositions in each of those cases to collect representative data and evaluate claims. The first trial in the MDL is scheduled to begin on October 16, 2023, with additional trials set thereafter.

Illinois State Court Claims. In September 2017, a complaint was filed in St. Clair County, Illinois state court on behalf of plaintiffs Thomas and Diana Hoffmann. On October 6, 2017 an amended complaint was filed in the same court on behalf of 12 plaintiffs, including the Hoffmanns. Syngenta's Motion to Dismiss was denied in July 2018. Syngenta filed its answer to the amended complaint in October 2018. On July 16, 2020, the state court dismissed without prejudice the claims brought by four plaintiffs pursuant to a motion for withdrawal filed by those plaintiffs. On April 27, 2021, all of the claims besides the Illinois Consumer Fraud & Deceptive Business Practices Act and corresponding Loss of Consortium claims were voluntarily dismissed by plaintiffs. Also, in 2021 and 2022, additional cases were filed in state court in Cook, Madison, McLean, and Vermillion Counties. The McLean county case was voluntarily dismissed in November 2021. Syngenta moved to dismiss the Cook and Vermillion county cases. On July 22, 2022, the Vermillion county court denied Syngenta's motion to dismiss; Syngenta has subsequently filed its answer in that case. On October 19, 2022, Syngenta removed the Madison County case to federal court. The other Illinois state court cases remain at the pleading stage, with fully briefed motions to dismiss pending. In addition to the above, lawsuits have been filed in the state courts of California, Florida, Pennsylvania and Washington. The first state court trial is scheduled to begin on September 5, 2023 in California. An additional state court trial is scheduled to begin January 8, 2024 in Florida.

Settlement. On June 1, 2021, Syngenta and a third party co-defendant reached a settlement agreement with certain paraquat claimants. In exchange for (and contingent upon) dismissal of all pending cases represented by the lead counsel and a broad release from the covered claimants, Syngenta agreed to pay $187.5 million. Syngenta paid its share into the Qualified Settlement Escrow Fund on July 21, 2021 for purposes of third party verification and allocation among the claimants. The settlement expense is reported within Other general and administrative in the income statement.

Canadian Litigation. Lawsuits alleging that Syngenta's paraquat products to have caused their Parkinson's disease have been filed by plaintiffs seeking class certification in Quebec, Ontario and British Columbia. The Plaintiffs proceeded first in Quebec seeking to authorize a national class. Syngenta opposed the motion, and maintained that if authorized, the class should be limited to Quebec. The authorization motion was heard June 6, 2022, and a Quebec only class was authorized on July 27, 2022.

In February 2023, the court granted the plaintiff's motion to discontinue the Ontario proceeding to pursue the action in British Columbia.

In British Columbia, a date for the hearing of the certification motion has been tentatively set for November 27-December 1, 2023, pending the determination of the sequencing and jurisdictional challenges. The claim remains in its initial procedural stage and there has not yet been any substantive determination.

Syngenta continues to believe that all of these claims are without merit and will continue to defend the lawsuits.

Federal Trade Commission and related litigation

On September 29, 2022, the FTC and ten states filed a complaint in the United States District Court for the District of North Carolina against Syngenta Crop Protection AG, Syngenta Corporation, Syngenta Crop Protection, LLC., and Corteva, Inc. alleging violations of federal and state antitrust laws. The allegations cover what the complaint asserts are "many years," and involve the distributor loyalty programs of Syngenta Crop Protection, LLC. and Corteva, Inc. and claim that the programs are used to exclude generic competition. The complaint sought to enjoin the defendants from engaging in the alleged unlawful conduct, now and in the future, regarding all crop protection products and active ingredients. The complaint further sought unspecified monetary and other equitable relief, as well as civil penalties on behalf of the state plaintiffs under their respective state laws, and costs including attorneys' fees. Additional complaints were subsequently filed in the federal courts in Indiana, North Carolina, and Mississippi by individuals against the Syngenta entities, Corteva, Inc. and other unrelated parties alleging violations of federal and state antitrust laws as well as other statutes and common law ("the Individual Lawsuits"). The allegations involved the loyalty programs which were the subject of the FTC complaint. The Individual Lawsuits seek class certification and compensatory and treble damages (as yet unspecified) as well as injunctive relief, costs, attorneys' fees and post and pre-judgment interest.

On December 12, 2022, Syngenta filed a motion to dismiss the FTC complaint. Following the filing, the FTC amended its complaint in an effort to address the deficiencies pointed out in Syngenta's motion. The amended complaint also added two additional states as plaintiffs, bringing the total number of state plaintiffs to twelve. Syngenta has filed a revised motion to dismiss directed at the amended complaint. On December 30, 2022, the state of Arkansas filed a separate lawsuit in federal court in Arkansas modeled on the FTC complaint.

Plaintiffs in some of the Individual Lawsuits moved the United States Judicial Panel on Multidistrict Litigation (the "JPML") to transfer and consolidate the Individual Lawsuits in the Southern District of Indiana (the "MDL Motion"). Syngenta and other defendants filed a response to the MDL Motion requesting that the JPML instead transfer all Individual Lawsuits to the Middle District of North Carolina. The JPML held a hearing on the MDL Motion on January 26, 2023. On February 6, 2023, the JPML issued an order centralizing the Individual Lawsuits in the Middle District of North Carolina.

Syngenta believes that the allegations of these complaints are totally without merit and will defend the lawsuits.

Tax matters

Significant management judgment is required to estimate the tax liabilities related to the eventual outcome of reviews and audits by tax authorities of tax returns filed by Syngenta's subsidiaries. Tax returns filed by many of Syngenta's subsidiaries during the past several years are either currently under examination by tax authorities or are open for future examination until expiry under statutes of limitation. In Syngenta's opinion, the likelihood is remote that a material amount in excess of recorded provisions will result from the resolution of any such examination or case. Syngenta is also subject to certain tax claims pending before the judiciary. See Note 2 "Uncertain tax positions" for detail regarding on-going transfer pricing disputes in Brazil. Syngenta believes it will successfully defend its position in these disputes. However, it is reasonably possible that actual outcomes and settlements may differ significantly from the estimated liabilities shown in the consolidated balance sheet for income taxes and in Note 17 for other taxes.

Contingencies summary

Given the inherent difficulties in estimating liabilities relating to litigation, tax, environmental and certain other matters due to uncertainty concerning both the amount and timing of future expenditures, it is reasonably possible that additional costs may be incurred materially in excess of provisions recorded for such liabilities. Such expenditures, in excess of established provisions, could have a material effect on Syngenta's consolidated operating results and cash flows for a particular reporting period, but management does not believe they will have a materially adverse effect on Syngenta's consolidated financial position or liquidity, although there can be no assurances in this regard.

20. Notes to the consolidated cash flow statement

Non-cash and other reconciling items included in income before taxes

The following table analyzes non-cash and other reconciling items included in income before taxes for the years ended December 31, 2022 and 2021:

($m)	**2022**	2021
Depreciation, amortization and impairment of:		
Property, plant and equipment (Note 11)	**422**	372
Right-of-use assets (Note 22)	**128**	118
Assets held for sale	**-**	4
Intangible assets (Note 12)	**338**	279
Deferred revenue and other (gains) and losses	**47**	(17)
Gains on disposal of non-current assets	**(29)**	(46)
Charges in respect of pension provisions (Note 19)	**103**	44
Charges in respect of other provisions (Note 19)	**79**	284
Financial expense, net	**613**	440
Losses on hedges reported in operating income	**256**	174
Income from associates and joint ventures	**(5)**	-
Total	**1,952**	1,652

Change in liabilities arising from financing activities

Movements in assets and liabilities arising from financing activities for the year ended December 31, 2022 are as follows:

2022 ($m)	January 1	Cash flows from financing activities	Changes in fair value	Other	Currency translation effects	December 31
Bonds and US private placement notes (Note 18)	**6,689**	**(1,710)**	**(3)**	**-**	**(109)**	**4,867**
Lease liabilities (Note 18)	**634**	**(146)**	**-**	**433**	**(29)**	**892**
Other long-term debt (Note 18)	**1,329**	**1,831**	**-**	**17**	**(44)**	**3,133**
Short-term debt (Note 16)	**624**	**739**	**-**	**-**	**(77)**	**1,286**
Total financial debt	**9,276**	**714**	**(3)**	**450**	**(259)**	**10,178**
Bond hedges net liability/(asset)	**43**	**-**	**81**	**(16)**	**-**	**108**
Margin deposit liability	**46**	**27**	**-**	**-**	**-**	**73**
Margin deposit asset	**(54)**	**(175)**	**-**	**-**	**-**	**(229)**
Net liabilities arising from financing activities	**9,311**	**566**	**78**	**434**	**(259)**	**10,130**

Other movements include $272 million of new leases, $166 million of lease liabilities recognized on sale and leaseback transactions, $5 million of lease liabilities divested with Societa Produttori Sementi S.p.A., $17 million of other long-term debt acquired with Agro Jangada Ltda. and Semillas Ceres, S.A. de C.V., and $16 million of cash outflows on bond hedges, which are reported as operating cash flows.

Movements in assets and liabilities arising from financing activities for the year ended December 31, 2021 are as follows:

2021 ($m)	January 1	Cash flows from financing activities	Changes in fair value	Other	Currency translation effects	December 31
Bonds and US private placement notes (Note 18)	8,305	(1,399)	(12)	1	(206)	6,689
Lease liabilities (Note 18)	563	(130)	-	231	(30)	634
Other long-term debt (Note 18)	1,024	291	-	18	(4)	1,329
Short-term debt (Note 16)	589	50	-	28	(43)	624
Total financial debt	10,481	(1,188)	(12)	278	(283)	9,276
Bond hedges net liability/(asset)	(22)	(75)	157	(17)	-	43
Margin deposit liability	54	(8)	-	-	-	46
Margin deposit asset	(159)	105	-	-	-	(54)
Net liabilities arising from financing activities	10,354	(1,166)	145	261	(283)	9,311

Other movements include $141 million of new leases, a $90 million lease liability recognized on the sale and leaseback transaction disclosed in Note 3, $38 million of other long-term debt acquired as part of the Dipagro acquisition and $17 million of cash outflows on bond hedges, which are reported as operating cash flows.

See Note 24 for a description of bond hedges and margin deposits. Bond hedges are presented in the consolidated balance sheet as follows: current assets of $nil (2021: $7 million) are included within “Derivative and other financial assets”, non-current assets of $45 million (2021: $27 million) are included within “Financial and other non-current assets”, current liabilities of $nil (2021: $nil) are included within “Current financial debt and other financial liabilities” and non-current liabilities of $153 million (2021: $77 million) are included within “Financial debt and other non-current liabilities”.

Margin deposit liabilities are included within “Current financial debt and other financial liabilities”, and margin deposit assets are included within “Derivative and other financial assets”.

Cash flows are presented in the consolidated cash flow statement as follows:

($m)	**2022**	2021
Proceeds from increase in third party interest-bearing debt	**3,179**	891
Repayments of third party interest-bearing debt	**(2,613)**	(2,057)
Net	**566**	(1,166)

21. Post-employment benefits

Syngenta has, apart from legally required social security arrangements, numerous independent pension plans, which are either “defined contribution” plans where company contributions and resulting benefit costs are a set percentage of employees’ pay or “defined benefit” plans where benefits are generally based on employees’ length of service and pensionable pay. Syngenta’s contributions to defined contribution plans were $92 million for the year ended December 31, 2022 (2021: $80 million). Approximately 31 percent of Syngenta’s employees are members of defined benefit plans and a significant proportion of these are members of both defined benefit and defined contribution plans. All of Syngenta’s major defined benefit plans are funded through legally separate trustee administered funds. The cash funding of these plans, which may from time to time involve special payments, is designed to ensure that present and future contributions should be sufficient to meet future liabilities. Syngenta’s main defined benefit pension plans are in the UK, Switzerland and the USA.

UK

In accordance with its rules, Syngenta’s UK Pension Fund (the UK Fund) is governed by a company (the Trustee) that is controlled by a publicly listed independent professional trustee corporation. That corporation appoints the Trustee’s directors, including its own representative, Syngenta nominated and member nominated directors. The Trustee manages the UK Fund and appoints professional advisers independently to assist it in doing so. The UK Fund is subject to UK pensions legislation, is regulated by the UK Pensions Regulator and is exempt from most UK taxation through its registered status. The defined benefit section of the UK Fund has been closed to new members since 2002. New employees since 2002 instead joined a defined contribution pension plan also within the UK Fund. This was open to new members until August 31, 2013. After that date, new employees are eligible to join a separate defined contribution plan. The defined benefit section of the UK Fund is open to future accrual for employees who were members before 2002; however, effective January 1, 2016, pensionable pay for these employees has been frozen, as described in Note 2. At retirement date, defined benefit members have the right to take up to 25 percent of the value of their benefits as a lump sum, with the balance being paid as an annuity. Alternatively, after taking appropriate advice, members may transfer their defined benefits to a different authorized pension arrangement.

The Trustee is required by the UK Fund’s rules to increase pensions in payment and accrued deferred pension rights each year by the lower of 5 percent and price inflation, as measured by the UK Retail Price Index (RPI) or Consumer Price Index (CPI), as applicable.
An independent actuary is required to value the UK Fund’s liabilities in accordance with UK pension regulations and certify the required contributions, both for future service and elimination of any deficit, at least every three years. Following each such valuation, employer contribution amounts must be formally agreed between Syngenta and the Trustee, subject to review by the Pensions Regulator, and remain binding until re-assessed in the following valuation. The solvency of the UK Fund, defined as its ability to pay benefits as they fall due, is guaranteed by the sponsoring subsidiary, Syngenta Ltd., and by Syngenta AG. In addition, certain benefits under the UK Fund are guaranteed by the UK Pension Protection Fund.

The Trustee agrees the investment strategy for the UK Fund’s assets and implements it through an investment sub-committee (the UK Investment Committee) it appoints from among the Trustee directors. The investment objectives are to ensure the assets are appropriately diversified and liquid to generate sufficient returns to meet the benefit liability and control the long-term costs of the UK Fund. These objectives are achieved through appointing and monitoring a number of third party investment managers, each with specific investment mandates that collectively cover a wide range of investment classes and geographical markets and utilize both asset liability matching and return seeking strategies. Asset liability matching is attained through a liability driven investment (“LDI”) strategy achieved both through underlying investment class selection (e.g. fixed interest) and through using derivatives to limit the potential impact of changes in interest rates, price inflation and foreign currency exchange rates on the benefits payable by and assets of the UK Fund. The UK Fund recognizes that the use of derivatives introduces collateral risk, but this is tightly monitored and controlled, and the UK Fund has access to other liquid assets should additional collateral be required by the LDI manager. This approach ensured that the UK Fund’s hedging position was not impacted by the gilt market volatility in 2022. The Trustee continues to reshape the investment portfolio reducing the overall investment risk and hence expected return. This is in line with the funding agreement between the Trustee and Syngenta Limited. As a result, the Trustee has invested certain of the plan’s assets to purchase insurance policies with UK local insurers to cover around 14 percent of Syngenta’s UK pension liabilities. The insurers pay the Trustee an income flow to match a defined set of benefit payments.

Switzerland

The Swiss federal law on occupational old age, disability and survivors’ pensions (“BVG”) sets minimum standards for occupational pension plans, which Syngenta’s Swiss pension fund (the Swiss Fund) exceeds. All employees having had an employment contract for more than three months with any of Syngenta’s Swiss subsidiaries or with its CIMO associate entity (see Note 14) and whose age and income exceed the minimum stipulated by BVG are automatically insured in the Swiss Fund. The benefits payable on retirement are calculated according to the capital sums that each member accumulates through transfer of benefits from previous employments, employer and employee contributions during service with Syngenta or with CIMO, interest and member voluntary contributions. Disability and survivors’ death in service benefits are defined on the basis of the member’s insured remuneration. Leavers before retirement are required to transfer their accumulated retirement and capital savings to the occupational pension plan of their new employment. The Swiss Fund is governed by a twelve member Board of Trustees. Six members, including the President, are nominated by Syngenta (five members) and CIMO (one member), and six are elected by insured plan members from among the employees. Its decisions regarding certain items, including rates of retirement credits for service and interest credits, conversion rates on retirement and plan asset investment strategy require a two-thirds majority vote. Legal conformity of the Swiss Fund’s regulations is verified by the Swiss Pension Inspectorate. Syngenta’s legal obligations, including required employer contributions, are defined in the pension fund rules which are agreed by the Board of Trustees.

Employer and employee contributions are payable according to an age related scale of percentages of pay. Under BVG, the Swiss Fund guarantees the vested benefit amount as confirmed annually to members. Interest may be added to member balances at the discretion of the Board of Trustees. Members have the right to take their retirement benefit as a lump sum, an annuity or part as a lump sum with the balance converted to a fixed annuity at the rates defined in the Fund’s rules. The Board of Trustees may increase the annuity at their discretion subject to the Swiss Fund’s funded status including sufficient free funds as determined according to Swiss statutory valuation rules. Syngenta accounts for the Swiss Fund as a defined benefit pension plan.

An actuarial balance sheet is usually drawn up annually by the Swiss Fund’s actuary. If the balance sheet reveals a deficit, the Board of Trustees defines appropriate measures to eliminate the deficit. If necessary, and after consultation with the actuary, the contributions payable by employees and by Syngenta may be increased or the benefits may be adjusted to the funds available. The Board of Trustees manages the

Swiss Fund's assets in conformity with the investment policy rules laid down by Swiss law, with the objectives of achieving investment that is secure, produces an appropriate yield and meets the liquidity needs of the Swiss Fund. This is implemented through an investment sub-committee similar to the UK Investment Committee mentioned above.

In January 2021, in order to secure the financial stability of the Swiss Fund, the Board of Trustees of the Syngenta Pension Fund adopted revised rules. These changes were communicated to the employees in May 2021. The principal change effective from January 1, 2022 is that future pension payments will consist of two parts: a guaranteed basic pension and a smaller proportion of variable pension. The conversion rate applicable for the guaranteed basic pension at the age of 65 has been reduced from 5.3% in 2021 to 4.82% in 2022 (transition year). The conversion rate for the variable pension will be set at 4.97%. From 2023 onwards, the conversion rates for both basic and variable pension will consider life expectancy and will be adapted over time, according to the insured member's year of birth. To partially mitigate the lower conversion rates, the retirement account of every insured member born in, or before 1987 has been credited with a one-off payment. The individual amount will differ, according to the age of insured members and the one-off payment will be funded by the reserves of the pension fund. As at January 1, 2022, employer savings contributions have been increased by 1 percentage point. Employees have been given the option of also increasing their contributions by 1 percentage point. This 1 percentage point will come from transferring part of the funds the employer currently pays into the Special Conversion Rate Fund. Syngenta has accounted for these changes as a plan amendment. Based on an actuarial valuation at the date of the change, Syngenta recognized a past service gain of $72 million. This amount has been recognized in full within General and administrative for 2021.

USA

Syngenta's main US defined benefit pension plan (the US Plan) is a non-contributory defined benefit pension plan subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA) and the US Internal Revenue Code of 1986, as amended (Code). In addition, certain benefits under the US Plan are guaranteed by the US Pension Benefit Guaranty Corporation. The US Plan was closed to new members effective January 1, 2009. Employees joining Syngenta after that date participate in a defined contribution pension plan. The defined benefits of existing members of the US Plan were not affected by this change. The US Plan offers members the choice of taking their retirement benefits, which are generally based on their age, pay and years of service, as a full lump sum at retirement date or as a fixed annuity. In these consolidated financial statements, the benefit obligation has been valued assuming that 80 percent of current eligible members will take the lump sum option at normal retirement or other permissible commencement dates. This assumption is consistent with historical and expected future member choices.

US plan assets are held in a separate trust with State Street Bank and Trust Company as trustee and custodian. The assets must generally remain in the trust until all pension benefits are paid. An Investment Committee of Syngenta employees (the US Investment Committee), appointed by the Board of Directors of Syngenta Corporation, a wholly owned subsidiary of Syngenta AG, oversees the investment of the plan assets, either directly or through the appointment of investment managers. The US Investment Committee develops and implements an investment strategy that takes into account the liability profile of the US Plan. Asset classes are selected that include equities, fixed income and alternative assets. Interest rate derivatives may be used to hedge the interest rate risk of the US Plan. The Plan's key risks include interest rate risk that impacts the value of the liability and the fixed income assets of the US Plan, investment performance volatility, and to a lesser degree inflation and longevity risk. An actuarial valuation is required each year and is used to determine the valuation and characteristics of the liability of the US Plan.

Syngenta Corporation's funding policy is to contribute to the US Plan amounts necessary on an actuarial basis to at least satisfy the minimum funding requirements of the Code. Additional discretionary contributions above the minimum funding requirements can be made and are generally based on the annual administrative expense of the plan, along with an adjustment for any over/under funding.

Benefits under the plan were frozen effective December 31, 2018, and no participants shall accrue additional benefits after that date.

Defined benefit plan disclosures

The status of Syngenta's defined benefit plans at December 31, 2022 and 2021 using actuarial assumptions determined in accordance with IAS 19 is summarized below. The following tables provide reconciliations of benefit obligations, plan assets and funded status of the defined benefit pension plans to the amounts recognized in the consolidated balance sheet at December 31, 2022 and 2021:

($m)	**2022**	2021
Benefit obligations		
January 1	**6,626**	7,061
Current service cost	**99**	112
Past service gain	**-**	(72)
Settlements	**(1)**	(52)
Employee contributions	**37**	38
Interest cost	**78**	68
Actuarial losses/(gains):		
From changes in demographic assumptions	**(11)**	(96)
From changes in financial assumptions	**(1,705)**	(78)
From actual experience compared to assumptions	**45**	162
Benefit payments	**(350)**	(365)
Currency translation effects and other	**(347)**	(152)
December 31	**4,471**	6,626

Of which arising from:		
Funded plans	**4,338**	6,455
Wholly unfunded plans	**133**	171

($m)	2022	2021
Plan assets at fair value		
At January 1	**6,464**	6,556
Actual return on plan assets	**(931)**	289
Employer contributions	**121**	140
Employee contributions	**37**	38
Benefit payments	**(350)**	(365)
Settlements	**(1)**	(52)
Currency translation effects and other	**(329)**	(142)
December 31	**5,011**	6,464

Actual return on plan assets can be analyzed as follows:

($m)	2022	2021
Interest on plan assets	**74**	64
Actuarial (losses)/gains	**(1,005)**	225
Total	**(931)**	289

Funded status	**540**	(162)
Effect of asset ceiling	**(613)**	(6)
Net accrued benefit liability	**(73)**	(168)
Amounts recognized in the balance sheet:		
Prepaid benefit costs (Note 13)	**83**	217
Accrued benefit liability	**(156)**	(385)
Net amount recognized	**(73)**	(168)

All material changes in the amount shown for the asset ceiling arose from the effect of applying the ceiling at each period end. Changes in the asset ceiling amount due to interest and foreign currency translation during 2022 and 2021 were immaterial.

Of the accrued benefit liability for pensions of $156 million at December 31, 2022, $155 million is included in Note 19 as pension provisions and $1 million as restructuring provisions (2021: $384 million as pension provisions; $1 million as restructuring provisions).

The following table shows the estimated undiscounted future defined benefit payments that are projected to occur within ten years from the balance sheet date. Actual payments may differ from those shown because of uncertain future events, including members' choice of benefit options as described above.

($m)	
2023	**289**
2024	**281**
2025	**288**
2026	**291**
2027	**288**
Years 2028-2033	**1,402**
Total 2023-2033	**2,839**

Syngenta's estimate of employer contributions to be paid to defined benefit plans in 2023 is $122 million. Actual payments could differ materially from this estimate if any new funding regulations or laws are enacted or due to business and market conditions, which may result in Syngenta prepaying contributions. Additional contributions, the amount and timing of which are uncertain, may also be required as Syngenta's restructuring programs are implemented.

In accordance with UK pension regulations, Syngenta has agreed with the Trustee to pay fixed contributions to meet the valuation deficit determined at each valuation date, administration costs and part of the costs of employee service. The balance of the costs of employee service is payable as a percentage of pensionable pay in each year. In 2022 and 2021, $36 million and $39 million of fixed contributions were paid respectively. In December 2021, Syngenta agreed revised pension funding arrangements with the Trustee as part of the 2021 triennial valuation. Under these arrangements, as long as the Fund is in deficit on a UK statutory basis, in addition to future service contributions, the fixed contributions required to repair the deficit in the Fund are $36 million per annum from April 1, 2021 until October 31, 2026. This agreement will apply until October 31, 2026.

The fair values of assets and liabilities of the major defined benefit pension plans, together with aggregated data for other defined benefit plans, are as follows. Unquoted investments represent investments in pooled funds in which the underlying investments are unquoted or those where the pooled fund does not have liquidity on at least a weekly basis:

	Fair value ($m, except assumptions)					
At December 31, 2022	Switzerland	UK	USA	Other plans	Total	%
Investments quoted in active markets:						
Equities	621	118	13	8	760	15
Real estate funds	345	-	-	-	345	7
Bonds	684	650	263	24	1,621	32
Other assets	-	(13)	-	10	(3)	-
Unquoted investments:						
Equities	82	24	22	-	128	3
Real estate	236	343	-	-	579	12
Bonds	63	192	-	-	255	5
Insurance policies	-	246	-	-	246	5
Other assets	566	311	53	(3)	927	18
Cash and cash equivalents	133	(7)	16	11	153	3
Fair value of assets	2,730	1,864	367	50	5,011	100
Benefit obligation	(2,215)	(1,697)	(395)	(164)	(4,471)	
of which:						
Active members	(1,100)	(185)	(155)			
Deferred members	n/a	(309)	(66)			
Pensioners and dependants	(1,115)	(1,203)	(174)			
Funded status	515	167	(28)	(114)	540	
Effect of asset ceiling	(515)	(97)	-	(1)	(613)	
Net pension asset/(liability)	-	70	(28)	(115)	(73)	
Net periodic benefit cost	74	19	2	8	103	
Significant actuarial assumptions:						
Discount rate (%)	2.3	4.9	5.4	-	2.4	
Inflation (RPI) (%)	n/a	3.3	n/a			
Pensionable pay increase (%)	2.1	-	-			
Pension increase (%)	-	3.3	n/a			
Interest credit rate (%)	1.5	n/a	n/a			
Remaining life expectancy (years)						
male aged 63 in 2022	24.7	25.0	22.4			
female aged 63 in 2022	26.5	26.7	24.4			
male aged 63 in 2042	27.0	26.4	23.9			
female aged 63 in 2042	28.5	28.2	25.9			
Weighted average duration of benefit obligation (years)	12	13	12			

	Fair value ($m, except assumptions)					
At December 31, 2021	Switzerland	UK	USA	Other plans	Total	%
Investments quoted in active markets:						
Equities	763	251	37	14	1,065	17
Real estate funds	411	-	-	-	411	6
Bonds	761	1,068	490	28	2,347	37
Other assets	30	(25)	-	11	16	-
Unquoted investments:						
Equities	75	29	22	-	126	2
Real estate funds	213	409	-	-	622	10
Bonds	63	409	-	1	473	7
Insurance policies	-	391	-	-	391	6
Other assets	510	417	68	(5)	990	15
Cash and cash equivalents	196	(197)	9	15	23	-
Fair value of assets	3,022	2,752	626	64	6,464	100
Benefit obligation	(2,820)	(2,961)	(637)	(208)	(6,626)	
of which:						
Active members	(1,414)	(387)	(297)			
Deferred members	n/a	(648)	(105)			
Pensioners and dependants	(1,406)	(1,926)	(235)			
Funded status	202	(209)	(11)	(144)	(162)	
Effect of asset ceiling	-	-	(6)	-	(6)	
Net pension asset/(liability)	202	(209)	(17)	(144)	(168)	
Net periodic benefit cost	12	19	2	11	44	
Significant actuarial assumptions:						
Discount rate (%)	0.3	1.9	2.9	-	1.0	
Inflation (RPI) (%)	n/a	3.4	n/a			
Pensionable pay increase (%)	1.2	-	-			
Pension increase (%)	-	3.4	n/a			
Interest credit rate (%)	1.5	n/a	n/a			
Remaining life expectancy (years)						
male aged 63 in 2021	24.5	25.2	22.5			
female aged 63 in 2021	26.4	26.8	24.5			
male aged 63 in 2021	26.9	26.6	24.2			
female aged 63 in 2021	28.4	28.3	26.2			
Weighted average duration of benefit obligation (years)	15	16	14			

Other assets include investments in private equity funds, diversified hedge funds, infrastructure funds, insurance funds and inflation, interest rate and foreign currency derivatives.

The following table provides an analysis of the benefit costs recorded in the consolidated income statement for the defined benefit pension plans for the years ended December 31, 2022 and 2021:

($m)	**2022**	2021
Current service cost	**99**	112
Past service gain	**-**	(72)
Interest on the net defined benefit liability	**4**	4
Net periodic benefit cost	**103**	44

Amounts recognized in OCI were as follows for the years ended December 31, 2022 and 2021:

($m)	**2022**	2021
Actuarial gains	**(666)**	(237)
Effect of asset ceiling	**594**	(28)

The sensitivity of the benefit obligation to the significant actuarial assumptions is discussed in the “Critical accounting estimates” section of Note 2.

Other post-retirement benefits

Syngenta's most significant other post-retirement benefit plan is the retiree medical plan in the USA. The plan is self-insured and the principal benefit for the majority of eligible participants is a subsidy of their medical insurance premiums after retirement. The subsidy amount varies based on age and service at retirement. Retirees who are eligible for Medicare enroll in individual Medicare plans available in the open market or public exchange, and are responsible for paying the full cost of coverage in excess of the subsidy. The assumed healthcare cost trend rate for this plan at December 31, 2022 was 7.5 percent, decreasing in each successive year from 2023 onwards, to reach an ultimate rate of 5.0 percent in 2033 (December 31, 2021: 6.0 percent decreasing to 5.0 percent in 2028).

Syngenta had a net benefit asset for other post-retirement benefits at December 31, 2022 of $88 million (2021: $98 million) reported within Defined benefit post-employment benefit asset in Note 13 and a net benefit liability of $18 million (2021: $22 million) reported within Other post-retirement benefits provision in Note 19. Actuarial losses recognized in OCI for the period were $17 million (2021: $14 million gain). Expense recognized in the consolidated income statement, contributions to the other post-retirement benefit plans and benefit payments by the plans were not material for 2022 and 2021.

22. Leases

Lease activities

Land and buildings
Syngenta leases land and buildings for use in its manufacturing, warehousing and administration activities. The terms for these leases are negotiated on an individual basis to reflect Syngenta's requirements for the underlying asset and to ensure Syngenta complies with any relevant legal regulations and range from 1 to 74 years in length, with a weighted average lease term of 20 years. Lease payments are usually agreed in advance, with some leases providing for additional payments that are based on changes in local price indices, or upon rent reviews conducted to periodically align rental payments with the prevailing market rate. Additionally, in order to allow operational flexibility some land and building leases also grant Syngenta options to extend the lease beyond its initial term or to terminate the lease early. The likelihood of exercising these options is assessed by Syngenta on a lease by lease basis and if the option is considered to be reasonably certain it directly impacts upon the lease term used in calculating the right-of-use asset and lease liability values.

During the year ended December 31, 2022 Syngenta entered into a sale and leaseback arrangement on its land and buildings as disclosed in Note 3.

Machinery and equipment
Machinery and equipment leases relate primarily to Syngenta's car fleet, which is used by the management and sales functions. The average contract duration for fleet assets is 3 years.

Right-of-use assets

Movements in right-of-use assets for the year ended December 31, 2022 are as follows:

2022 ($m)	Land	Buildings	Machinery and equipment	Total
Cost				
January 1	41	405	162	608
Additions	10	174	88	272
Disposals	(1)	(38)	(60)	(99)
Currency translation effects and other	(2)	(5)	(8)	(15)
December 31	48	536	182	766
Accumulated depreciation and impairment losses				
January 1	(9)	(123)	(77)	(209)
Depreciation charge	(9)	(65)	(54)	(128)
Depreciation on disposals	1	37	60	98
Currency translation effects and other	1	1	1	3
December 31	(16)	(150)	(70)	(236)
Net book value – December 31	32	386	112	530

Movements in right-of-use assets for the year ended December 31, 2021 are as follows:

2021 ($m)	Land	Buildings	Machinery and equipment	Total
Cost				
January 1	36	372	159	567
Additions	7	76	58	141
Disposals	(1)	(26)	(49)	(76)
Currency translation effects	(1)	(17)	(6)	(24)
December 31	41	405	162	608
Accumulated depreciation and impairment losses				
January 1	(5)	(91)	(76)	(172)
Depreciation charge	(5)	(62)	(51)	(118)
Depreciation on disposals	1	26	47	74
Currency translation effects and other	-	4	3	7
December 31	(9)	(123)	(77)	(209)
Net book value – December 31	32	282	85	399

Lease liability maturity

The maturities of lease liabilities as at December 31, 2022 and 2021 are as follows:

($m)	**2022**	2021
Within one year	**125**	123
One to two years	**107**	85
Three to five years	**211**	155
More than five years	**758**	384
Total	**1,201**	747
Present value (Note 18)	**892**	634

As detailed in Note 26, the value of the lease liability is dependent upon a number of judgments around the duration of the lease terms applied to individual leases, together with an assessment as to whether any purchase options contained within leases are reasonably certain of being exercised. The current lease liability represents Syngenta’s current assessment of these judgmental areas, with the range of hypothetical lease liabilities that Syngenta’s lease portfolio could give rise to being $798 million to $1,408 million.

Other lease disclosures

The amounts charged to the income statement in respect of leases are as follows:

($m)	**2022**	2021
Interest on lease liabilities	**(25)**	(22)
Expenses relating to variable lease payments	**(2)**	(1)
Expenses relating to short-term leases	**(29)**	(26)

Total cash outflows included in the consolidated cash flow statement for the year ended December 31, 2022 in respect of leases are $146 million (2021: $130 million).

Syngenta accounts for short-term leases and leases of low value by applying the recognition exemptions permitted in IFRS 16 “Leases”, with lease payments expensed as they are incurred.

23. Principal currency translation rates

Year end rates used for the consolidated balance sheets at December 31, to translate the following currencies into $, are:

	2022 per $	2021 per $
Swiss franc	**0.92**	0.91
British pound sterling	**0.83**	0.74
Euro	**0.94**	0.88
Brazilian real	**5.22**	5.58
Russian ruble	**72.39**	74.91
Ukrainian hryvnia	**36.57**	27.28

Average rates during the years ended December 31, used for the consolidated income and cash flow statements, to translate the following currencies into $, are:

	2022 per $	2021 per $
Swiss franc	**0.95**	0.91
British pound sterling	**0.81**	0.73
Euro	**0.95**	0.84
Brazilian real	**5.16**	5.40
Russian ruble	**69.17**	73.92
Ukrainian hryvnia	**32.10**	27.36

24. Risk management of financial risks

Risk management framework

The nature of Syngenta's business and its global presence exposes it to a range of financial risks. These risks include (i) market risks, which include potential unfavorable changes in foreign exchange rates, interest rates, commodity prices and other market prices (equities, credit spreads etc.), (ii) counterparty credit risk and (iii) liquidity and refinancing risk.

A financial risk management framework is in place in the form of a Treasury policy approved by the Board of Directors. This policy provides guidance over all Treasury and finance related matters, is underpinned by delegated authority guidelines and is additionally supported by detailed procedures in place across Syngenta. In accordance with its Treasury policy, Syngenta actively monitors and manages financial risk with the objectives of reducing fluctuations in reported earnings and cash flows from these risks and providing economic protection against cost increases. These objectives are achieved through (a) a monthly assessment of the impact of market risks against defined risk limits (see following section), which take into account the risk appetite of Syngenta and (b) the use of a variety of derivative and non-derivative financial instruments.

Financial instruments available for use to mitigate these risks are selected by Syngenta according to the nature of the underlying risk. These instruments are designed to economically hedge underlying risks arising from operational activities and from funding and investment positions. Syngenta does not enter into speculative financial transactions.

The fair values and the volumes of the derivatives (including the time periods being hedged) used to manage financial market risks at December 31, 2022 and 2021 are below, classified by accounting treatment: CF and FV indicate derivatives where cash flow hedge and fair value hedge accounting is applied, respectively; and M2M indicates derivatives that are marked to market through profit or loss and hedge accounting is not specifically required.

2022			Fair value of outstanding derivatives[1]		Maturity profile in $m			
Risk	Accounting treatment	Quantity	Assets $m	Liabilities $m	0-90 days	90-days -1 year	1-5 years	>5 years
Foreign exchange risk ($m)								
Trading transaction – committed	**M2M**	**14,650**	**188**	**(275)**	**(96)**	**9**	**-**	**-**
Trading transaction – uncommitted	**CF**	**2,211**	**94**	**(15)**	**25**	**54**	**-**	**-**
Issued financial debt and interest	**CF**	**1,988**	**-**	**(153)**	**-**	**-**	**(145)**	**(8)**
Interest rate risk	**FV**	**1,000**	**45**	**-**	**-**	**-**	**45**	**-**
Commodity price risk								
Gas[2]	**CF**	**10**	**-**	**(2)**	**(1)**	**(1)**	**-**	**-**
Soft commodities[3]	**M2M**	**278**	**33**	**(34)**	**(5)**	**2**	**2**	**-**
Soft commodities[4]	**CF**	**136**	**19**	**-**	**5**	**14**	**-**	**-**
Total		**20,273**	**379**	**(479)**	**(72)**	**78**	**(98)**	**(8)**
Derivatives subject to ISDA Master netting agreements			**(179)**	**179**				
Collateral (received) / paid under CSA agreements			**(73)**	**229**				
Net amounts in the event that all conditional set-off rights are applied			**127**	**(71)**				

2021			Fair value of outstanding derivatives[1]		Maturity profile in $m			
Risk	Accounting treatment	Quantity	Assets $m	Liabilities $m	0-90 days	90-days -1 year	1-5 years	>5 years
Foreign exchange risk ($m)								
Trading transaction – committed	M2M	9,797	98	(88)	(8)	18	-	-
Trading transaction – uncommitted	CF	3,699	55	(15)	22	18	-	-
Issued financial debt and interest	CF	2,041	26	(57)	-	-	(4)	(27)
Interest rate risk	FV	1,500	8	(20)	7	-	(19)	-
Commodity price risk								
Gas[2]	CF	6	1	-	-	1	-	-
Soft commodities[3]	M2M	594	143	(45)	(32)	11	119	-
Soft commodities[4]	CF	102	12	-	5	7	-	-
Total		17,739	343	(225)	(6)	55	96	(27)
Derivatives subject to ISDA Master netting agreements			(82)	82				
Collateral (received) / paid under CSA agreements			(46)	54				
Net amounts in the event that all conditional set-off rights are applied			215	(89)				

The 2021 table has been adjusted to match the presentation of 2022.

1 The fair values of derivatives are reported in the consolidated Balance Sheet as shown in Note 25

2 1,794,000 million (2021: 1,657,910 million) British thermal units

3 Mainly 9,615,366 bushels (2021: 5,150,000 bushels) of soybean and 2,797,999 bushels (2021: 2,544,244 bushels) of corn, 62,121,648 lbs (2021: 158,550,246 lbs) of coffee and 38,850,000 lbs (2021: 93,250,000 lbs) of cotton.

4 5,834,114 bushels (2021: 6,215,000 bushels) of soybean and 8,222,850 bushels (2021: 4,031,183 bushels) of corn.

Hedge accounting is applied wherever possible. Exceptions to this are derivatives where the fair value movements of the hedges and the retranslation of the underlying exposures are largely offset in profit or loss; or derivatives placed, which do not fulfil the specific requirements of the accounting standard to achieve hedge accounting.

For those transactions that do not fulfil the specific requirements of the accounting standard to achieve hedge accounting, the gains and losses on those hedging instruments for the year 2022 were as follows:

- Foreign currency forward contracts that are effective economic hedges of forecast cash flows arising from anticipated sales and purchases between Syngenta affiliates and third parties. The amount recorded in profit or loss in 2022 is a loss of $46 million (2021: loss of $11 million).
- Commodity derivative contracts that are effective economic hedges of the anticipated purchases of raw materials or purchases, principally purchases related to corn and soybean in North America and Latin America, and the resale of various crops in barter arrangements. The amount recorded in profit or loss in respect of these derivatives in 2022 is a loss of $129 million (2021: loss of $149 million). The profit or loss impact from the corresponding forecasted transactions occurs when the related finished product inventories are sold, which is generally in the year following recognition of the gain or loss on the hedge.

Assessment of the impact of market risks

The impact of market risks is assessed using a variety of Value-at-Risk (VaR) and Earnings-at-Risk (EaR) methods. These are standard risk management models designed to statistically estimate with a pre-set probability the highest potential losses in value (VaR) or earnings (EaR) over a specified time period based on current and forecast positions and possible movements in market prices. These methods are adjusted to reflect the nature of the exposures and the impact of the exposures on profit or loss of the financial year. Diversification impacts between different currencies are factored into the model. VaR and EaR calculations are based on a 99% confidence level. The net risk and the specific methods used to assess the impact of financial risks are shown below:

Risk	Method	Exposure (financial statement item)	Time horizon (months)	December 31, 2022 Net Risk	December 31, 2021 Net Risk
Foreign exchange trading transaction – committed and issued financial debt and interest	EaR	Monetary asset and liability carrying amounts	12	27	16
Foreign exchange trading transaction – uncommitted	EaR	Operating income	12	152	172
Foreign exchange translation	VaR	Cumulative translation adjustment in OCI	1	335	231
Interest rate risk	EaR	Interest expense	12	74	32
Commodity price risk[1]	EaR	Operating income	12	26	38

The 2021 table has been adjusted to match the presentation of 2022.

1 US soybean and corn. Other commodity related risks are immaterial as per December 31, 2022 and 2021.

The assessment of the impact of market risks is performed monthly and the results are compared against annually defined risk limits. In cases where the net impact is higher than a risk limit, Syngenta enters into derivative financial instrument transactions in order to stay within the risk limits approved in the risk management policy.

Syngenta cannot predict future movements in risk variables precisely, therefore calculations of the impact of market risks neither represent actual losses nor consider the effects of potential favorable movements in underlying risk variables. Accordingly, these calculations may only be an indication of future movements to the extent the historic market patterns repeat in the future.

Foreign exchange risk

Operating worldwide exposes Syngenta to foreign exchange transaction and translation risk at both the Syngenta AG group and subsidiary level.

Foreign exchange transaction risk – committed

Syngenta's individual subsidiaries predominantly transact their operational activities in their respective functional currencies. However, the globally integrated nature of Syngenta's business results in its subsidiaries bearing some amount of transactional balance sheet risk because some monetary items (including financial liabilities) are denominated in foreign currencies. Such committed foreign currency exposures are largely generated by the routing of products from Syngenta's central manufacturing sites to its foreign locations. Following the risk management strategy, Syngenta hedges these committed exposures wherever possible and cost effective. Syngenta uses mainly foreign exchange forward contracts and cross currency swaps to manage the risk and aligns the maturities of the derivative instruments with the cash flows of the hedged transactions. Net committed transactional currency exposures are identified and reported at least on a monthly basis by business units and monitored and managed by Group Treasury.

Foreign exchange transaction risk – issued financial debt and interest

Syngenta has a funding strategy which involves securing a diversification of funding sources in different markets and maintaining an optimal currency mix of debt. This additional foreign currency exposure arises from the debt issuances in Euro and in Swiss Franc under the Euro Medium Term Note (EMTN) program and an intragroup term loan with Syngenta Group (HK) Holdings Company Limited denominated in Chinese Renminbi. The risk management objective is to minimize the impact of changes in foreign exchange rates on these foreign currency denominated debt interest and principal repayments. The foreign exchange risk on the foreign currency denominated debt is managed mostly by derivative instruments, and within a portfolio of other committed transactions. Syngenta uses cross currency swaps placed mainly with the same terms as the hedged item to manage the risk and eliminate or reduce the uncertainty in the cash flows.

Foreign exchange transaction risk – uncommitted

Uncommitted transactions are expected, highly probable future transactions for which Syngenta does not yet have a contractual right or obligation (mainly sales and costs).

The US dollar represents the biggest single currency for both sales and costs. However, currency mismatches arise from Syngenta having a centralized cost base, denominated mainly in US dollars, Euros, Chinese Renminbi and Swiss Franc, against a local selling base, denominated mainly in US dollars, Euros and various other currencies, including those in emerging markets. In addition, due to the seasonality of Syngenta's business, the sales by currency are not phased linearly throughout the year.

The risk management objective is to minimize the impact of changes in foreign exchange rates on the operating income forecasted to result from these transactions. Syngenta considers hedging this exposure unless it can reliably expect that operating income could, without significant adverse economic impact, be protected by adjusting the pricing of forecast transactions for changes in foreign exchange rates before those transactions occur. Hedging transactions are managed to minimize the potential adverse movement for the entire portfolio of the net transactional flows, rather than on an individual currency basis. To reduce the risk of the portfolio, Syngenta may enter into derivatives contracts, namely foreign exchange forward contracts and currency options, with the same or a shorter maturity than the timing of the hedged cash flows.

Foreign exchange translation risk

Translation exposure arises from the consolidation of foreign currency denominated financial statements of Syngenta's subsidiaries. This is reported as currency translation effects in OCI. Translation risk can be significant; however, Syngenta regards its equity base to be of sufficient magnitude generally to absorb the short- to medium-term impact of exchange rate movements. No management of the exposure was undertaken in 2022 or 2021.

Interest rate risk

Syngenta is exposed to fluctuations in interest rates on its borrowings (including forecasted borrowings) and excess cash. While the majority of Syngenta's borrowings have fixed interest rates, portions of Syngenta's net borrowings, including its short-term commercial paper program, drawings under the syndicated credit facility and local borrowings, are subject to changes in short-term interest rates. Syngenta monitors its interest rate exposures and analyzes the potential impact of interest rate movements on net interest expense. The risk management strategy involves ensuring an efficient fixed/floating mix of total debt within approved interest rate risk limits. The risk can be managed by the use of interest rate derivatives relating to future interest payments of financial debt liabilities. The derivative instruments are placed with the same maturity as the expected cash flows of the hedged transactions so that the timing of the cash flows of the hedged transactions effectively matches the timing of the cash flows of the derivative instrument.

As part of the Interbank Offered Rates (IBOR) reference rates reform, the affected benchmark rates have been ceased or are phased out in 2023 (USD). Syngenta has transitioned the majority of its financial instruments with reference to IBOR rates. For derivatives, Syngenta has adhered to the ISDA 2020 IBOR Fallbacks Protocol, as have all its counterparties. Any open instruments not covered by the ISDA 2020 IBOR Fallbacks Protocol will be transitioned before cessation date.

Commodity price risks

Operating in the agribusiness sector, changes in certain commodity prices affect Syngenta's reported operating results and cash flows. On a limited basis, Syngenta enters into derivative transactions to hedge the exposure of its cost base to commodity prices. This activity comprises oil and natural gas hedging in the UK and USA, as well as soft commodity hedging for corn and soybean purchases by the Seeds business in the USA, Canada, Brazil and Argentina, where Syngenta contracts to purchase various seed crops from growers and hedges the cost of the purchases. In barter arrangements where Syngenta sells products in exchange for receiving a certain amount of a commodity crop, Syngenta hedges the value of the crop.

Natural gas exposure occurs in Syngenta's primary manufacturing sites and Syngenta is managing the exposure by hedging the main risk component, which is the natural gas market price, contractually linked to a natural gas index price. The other risk components within the exposure are immaterial.

The main objective of managing commodity price risk is to reduce the impact of commodity price changes on operating income and to provide economic protection against future cost increases. Syngenta uses fixed price contracts and derivatives (both Over-the-Counter (OTC) and exchange traded instruments, including commodity option and futures contracts) to achieve this objective. The derivative instruments are placed with the same maturity as the expected cash flows of the hedged transactions so that the timing of the cash flows of the hedged transactions effectively matches the timing of the cash flows of the derivative instrument.

Derivatives and hedge accounting

Syngenta seeks to apply, wherever possible, hedge accounting to present its financial statements in accordance with the economic purpose of the hedging activity. Hedges for which hedge accounting is not adopted either (a) do not meet the requirements for hedge accounting treatment under IFRS or (b) when combined with the accounting for the underlying hedged items, impact the financial statements in a manner aligned with the economic purpose of the hedging activity.

Syngenta determines the economic relationship between the hedged items and the hedging instruments by reviewing the critical terms of the hedged items and the hedging instruments. Except as described below, Syngenta concludes that the risk being hedged for the hedged items and risk inherent in the hedging instruments are sufficiently aligned, there is no inherent mismatch in the hedging relationship and a 100 percent hedge ratio applies both for the actual quantities hedged and for the hedge accounting. The impact of the critical terms is also assessed using historical scenario analysis supported by statistical methods (regression analysis).

For the hedging of foreign currency risk of uncommitted forecasted trading transactions, because the foreign currrency exposures are largely generated by the routing of products from Syngenta's central manufacturing sites to its foreign locations, the profit or loss impact from the corresponding transactions occurs when the related finished product inventories are sold to third parties. When entering into derivative hedging contracts, Syngenta selects maturity dates based on the forecast period for which Syngenta holds inventories of its products for each commercial market by hedged currency exposure. Limited variability in the holding period occurs mainly due to timing of the third-party sales transactions ("inventory holding period mismatch").

For the hedging of commodity price risk of soy and corn, there is variability between the index being hedged (CBOT) and the drivers of the actual exposures (local elevator prices linked to CBOT). The variability is, however, limited to individual transactions within the group of transactions in this hedging program – and a hedge ratio of 100 percent is observed for the whole group of transactions.

The following table summarizes the accounting treatment, sources of ineffectiveness and the effectiveness assessment method for the identified financial market risks:

			Effectiveness assessment	
Risk	Accounting treatment	Potential sources of ineffectiveness	Method	Frequency
Foreign exchange risk:				
Trading transaction – uncommitted	CF	Lower volume of hedged items; inventory holding period mismatch	Critical terms match	Quarterly
Issued financial debt and interest	CF	Lower volume of hedged items	Critical terms match[1]	Quarterly
Interest rate risk	FV	Lower volume of hedged items	Critical terms match	Quarterly
Interest rate risk	CF	Lower volume of hedged items	Critical terms match	Quarterly
Commodity price risk:				
Gas	CF	Lower volume of hedged items	Critical terms match	Semi-annually
Soft commodities	CF	Lower volume of hedged items; index mismatch	Regression analysis	Quarterly

1 except EUR 900 million 3.375% Eurobond where a quantitative assessment is applied

Ineffectiveness is recognized in the consolidated income statement in Other general and administrative for hedges of uncommitted foreign currency forecast transactions, in Financial expense, net for hedges of committed foreign currency monetary items, in Financial expense, net for hedges of interest rate risk and in Cost of goods sold for hedges of commodity price risk. For the years ended December 31, 2022 and 2021 none of the above potential sources of ineffectiveness, individually or collectively, resulted in material amounts of actual ineffectiveness being reported for any hedge accounting relationships.

Fair Value Hedge Accounting

At December 31, 2022 there was no fair value hedge accounting in place. At December 31, 2021, the amounts being reported in the statement of financial position for the fair value hedging relationships related to interest rate risk were $503 million of carrying amount of hedged items and $3 million of accumulated fair value adjustments reported under Current financial debt and other current liabilities.

Cash flow hedges

The gains/(losses) on derivative instruments recognized in and classified out of the cash flow hedge reserve during the years ended December 31, 2022 and 2021 were as follows. The amounts shown exclude related income tax effects, which are disclosed in Note 7.

	Continuing hedging relationships					Hedge accounting no longer applied	
	Foreign exchange risk		Commodity price risk				
2022 ($m)	Trading transaction – uncommitted	Issued financial debt and interest	Gas	Soft commodities	Subtotal	Foreign exchange risk – translation	Total
Opening balance	**38**	**(30)**	**-**	**28**	**36**	**(71)**	**(35)**
Gains recognized in OCI:							
on hedges as designated	**(79)**	**(81)**	**-**	**(23)**	**(183)**	**-**	**(183)**
Reclassifications to profit or loss:							
Losses on hedges as designated:							
Cost of goods sold	**-**	**-**	**-**	**27**	**27**	**-**	**27**
General and administrative	**118**	**-**	**-**	**-**	**118**	**-**	**118**
Financial expense, net		**106**	**-**	**-**	**106**	**-**	**106**
Closing balance	**77**	**(5)**	**-**	**32**	**104**	**(71)**	**33**

2021 ($m)	Continuing hedging relationships: Foreign exchange risk: Trading transaction – uncommitted	Issued financial debt and interest	Commodity price risk: Gas	Soft commodities	Subtotal	Hedge accounting no longer applied: Foreign exchange risk – translation	Total
Opening balance	14	(43)	-	17	(12)	(73)	(85)
Losses/(gains) recognized in OCI:							
on hedges as designated	(9)	(82)	-	(23)	(114)	2	(112)
Reclassifications to profit or loss:							
Losses on hedges as designated:							
Cost of goods sold	-	-	-	34	34	-	34
General and administrative	33	-	-	-	33	-	33
Financial expense, net	-	95	-	-	95	-	95
Closing balance	38	(30)	-	28	36	(71)	(35)

Amounts reclassified from the cash flow hedge reserve into profit or loss are recognized in the consolidated income statement in Other general and administrative for hedges of uncommitted foreign currency forecast transactions, in Financial expense, net for hedges of committed foreign currency monetary items and for hedges of interest rate risk and in Cost of goods sold for hedges of commodity price risk.

Credit risk
Credit risk arises from the possibility that counterparties involved in transactions with Syngenta may default on their obligation, resulting in financial losses to Syngenta. Credit risk relates both to financial assets (including derivatives, marketable securities and money market contracts) as well as to operational assets managed by Syngenta's businesses (such as trade receivables) and cash deposits. Syngenta's maximum exposure to credit risk is the carrying values of its financial assets and receivables, including derivatives with positive market values. These amounts are disclosed in Note 25. Syngenta has policies and operating guidelines in place to ensure that financial instrument transactions are only entered into with high credit quality banks and financial institutions. These include limits in respect of counterparties to ensure that there are no significant concentrations of credit risk. Syngenta continuously monitors the creditworthiness of its counterparties based on credit ratings and credit default swap data. To minimize its exposure to derivative positions, Syngenta enters into netting agreements under an International Swaps and Derivatives Association (ISDA) master agreement with its respective counterparties. In addition, for almost all derivative positions, Syngenta has entered into Credit Support Annex contracts (CSAs) under which cash is exchanged as collateral. At December 31, 2022, Syngenta had no treasury or derivative transactions representing a significant concentration of credit risk. No credit losses have been incurred from investments in derivative financial instruments during the years ended December 31, 2022 and 2021.

For discussion of credit risk to trade and other accounts receivable see Note 8.

Liquidity risk and refinancing risk
Within Syngenta's risk management framework, liquidity risk is defined as the risk of being unable to raise funds to meet payment obligations when they fall due. Refinancing or funding risk is defined as the risk of being unable, on an ongoing basis, to borrow in the market to fund actual or proposed commitments. Syngenta mitigates its liquidity and refinancing risk by: maintaining a committed unsecured funding facility; ongoing discussions with its core banks to best monitor its funding capacity; simulations; and diversification of its debt portfolio.

Syngenta's liquidity risk policy is to maintain at all times sufficient liquidity reserves both at the Syngenta AG Group and subsidiary level in order to meet payment obligations as they become due and also to maintain an adequate liquidity margin. The planning and supervision of liquidity is the responsibility of the subsidiaries and Group Treasury. Liquidity requirements are forecasted on a weekly basis. Syngenta operates regional or country cash pools to allow efficient use of its liquidity reserves.

Short-term liquidity
Two of Syngenta's larger markets are Europe, Africa and the Middle East and North America. Both sales and operating profit in these two regions are seasonal and are weighted towards the first half of the calendar year, reflecting the northern hemisphere planting and growing cycle. Latin America is the largest market for Syngenta and sales and operating profit there are weighted towards the second half of the calendar year, reflecting the southern hemisphere planting and growing cycle. This seasonal operating activity results in seasonal working capital requirements.

Syngenta's principal source of liquidity consists of cash generated from operations. Syngenta makes use of trade receivable factoring across various regions and reverse factoring arrangements to manage timing of cash flows. Working capital fluctuations due to the seasonality of the business are supported by short-term funding available from a $2.5 billion Global Commercial Paper program, a $1.5 billion revolving short-term credit facility with Syngenta Group (HK) Holdings Company Limited and $4 billion committed credit lines with various financial institutions.

($m)	2022		2021	
	Balance outstanding at December 31, 2022	**Average balance outstanding**	Balance outstanding at December 31, 2021	Average balance outstanding
Global Commercial Paper program	**0**	**537**	-	737
Short-term credit facility with Syngenta Group	**500**	**644**	-	-
Committed credit lines	**250**	**462**	-	-
Total	**750**		-	

The maturity analyses for Syngenta's current financial liabilities other than short-term derivative liabilities are presented in Notes 16 and 17.

At December 31, 2022 and 2021 the maturities of short-term derivative liabilities are as follows:

($m)	Total	0–90 days	90–180 days	180 days–1 year
2022	**326**	**271**	**40**	**15**
2021	148	114	20	14

Long-term financing

Long-term capital employed is currently financed through twelve unsecured bonds, two unsecured notes issued under the Note Purchase Agreement in the US Private Placement market, three term loans with financial institutions and three intragroup term loans with Syngenta Group (HK) Holdings Company Limited. Movements in long-term capital are described in Note 18.

The following table shows Syngenta's contractually agreed (undiscounted) interest and principal repayments on long-term financing-related non-derivative financial liabilities and the related derivatives held at December 31, 2022 and 2021. Non-derivative financial liabilities are recorded at amortized cost (less related issuance costs) unless subject to fair value hedge accounting, in which case the liability is adjusted for the change in fair value of the hedged risk to the extent the hedge relationship is effective. Derivative financial liabilities are recorded at fair value. The table therefore shows the total carrying amount of Syngenta's financial debt adjusted for the effect, if any, of applying fair value hedge accounting.

	Non-derivative financial liabilities (Unsecured bonds, notes and term loans)				**Derivative financial liabilities (Interest rate and cross-currency swaps)**			
2022 ($m)	**Fixed rate interest**	**Variable rate interest**	**Principal repayment**	**Total**	**Fixed rate interest**	**Variable rate interest**	**Repayment[1]**	**Total**
Less than 1 year	**164**	**117**	**1,287**	**1,568**	**(18)**	**-**	**-**	**(18)**
1-3 years	**254**	**119**	**3,872**	**4,245**	**(29)**	**-**	**(12)**	**(41)**
3-5 years	**122**	**-**	**2,146**	**2,268**	**(27)**	**-**	**(102)**	**(129)**
5-10 years	**66**	**-**	**498**	**564**	**(8)**	**-**	**(7)**	**(15)**
More than 10 years	**145**	**-**	**184**	**329**	**-**	**-**	**-**	**-**
Total payments	**751**	**236**	**7,987**	**8,974**	**(82)**	**-**	**(121)**	**(203)**
Net carrying amount				**7,988**				**153**

	Non-derivative financial liabilities (Unsecured bonds, notes and term loans)				Derivative financial liabilities (Interest rate and cross-currency swaps)			
2021 ($m)	Fixed rate interest	Variable rate interest	Principal repayment	Total	Fixed rate interest	Variable rate interest	Repayment[1]	Total
Less than 1 year	224	16	719	959	(20)	(11)	-	(31)
1-3 years	363	26	2,811	3,200	(39)	(18)	(9)	(66)
3-5 years	267	2	2,228	2,497	(28)	-	(14)	(42)
5-10 years	220	-	1,731	1,951	(23)	-	2	(21)
More than 10 years	396	-	446	842	-	-	-	-
Total payments	1,470	44	7,935	9,449	(110)	(29)	(21)	(160)
Net carrying amount				7,946				77

1 The repayments above (and the net carrying amount of the derivative financial liabilities) do not include the amounts paid as collateral

Forecast data for liabilities that may be incurred in the future is not included in the table above. Amounts in foreign currency were translated to US dollars at the closing rate at the reporting date. Variable payments at each year end arising from financial instruments were calculated based on the forward interest rate yield curve and the spread that Syngenta pays on its outstanding debt and open derivatives at December 31, 2022 and 2021, respectively. Non-derivative financial liabilities, repayment of which can be demanded by the counterparty at any time, have been assigned to the earliest repayment period.

Capital structure

Absent major acquisitions, Syngenta targets maintaining an investment grade credit rating, as recognized by major third-party rating agencies, which it currently believes provides an optimal balance between financial flexibility and the cost of capital. At December 31, 2022, Syngenta's credit ratings were as follows: Fitch Ratings Ltd BBB+/F2; Standard & Poor's Rating Services BBB/A-2; and Moody's Investors' Services Limited Ba1/NP.

Syngenta manages capital by monitoring levels of net debt, as calculated below, against a target. Syngenta defines net debt as excluding financing-related derivatives and related collateral paid and received under CSA agreements as these balances offset each other. Capital is returned to the shareholder primarily through dividend payments.

The net debt to equity ratio was 125 percent at December 31, 2022 (137 percent at December 31, 2021).

The components of net debt at December 31, 2022 and 2021 are as follows:

($m)	2022	2021
Current financial debt	**2,688**	1,528
Non-current financial debt	**7,490**	7,748
Cash and cash equivalents	**(1,408)**	(1,523)
Marketable securities[1]	**(182)**	(182)
Net debt at December 31	**8,588**	7,571

1 Included within 'Derivative and other financial assets' and 'Financial and other non-current assets'

The movements in net debt are as follows:

($m)	2022	2021
Opening balance at January 1	**7,571**	7,897
New leases in the year	**438**	231
Other non-cash items	**11**	35
Cash paid/(received) under CSAs, net	**148**	(97)
Cash paid on financing-related derivatives	**-**	75
Foreign exchange effect on net debt	**(401)**	(313)
Dividends paid	**400**	400
Free cash outflow/(inflow)	**421**	(657)
Closing balance at December 31	**8,588**	7,571

Syngenta defines free cash flow as cash flow from operating and investing activities, excluding investments in and proceeds from marketable securities, which are included in investing activities; excluding cash flows from and used for foreign exchange movements and settlement of related hedges on inter-company loans, which are included in operating activities; and including cash flows from acquisitions of non-controlling interests, which are included in financing activities.

25. Financial assets and liabilities

The following tables show the carrying amounts and fair values of financial assets and liabilities by category of financial instrument and reconciliation to where they are presented in the balance sheet at December 31, 2022 and 2021. The fair value hierarchy level is shown for those financial assets and liabilities that are carried at fair value in the balance sheet.

	Carrying amount (based on measurement basis)						
2022 ($m)	Amortized cost	Fair value level 1	Fair value level 2	Fair value level 3[1]	Total	Comparison fair value	Footnote
Cash and cash equivalents	1,408	-	-	-	1,408	1,408	2
Trade receivables	5,220	-	-	-	5,220	5,220	2
Other accounts receivable:							
Financial assets	379	-	-	-	379	379	2
Non-financial assets	-	-	-	-	541	-	3
Total					920		
Derivative and other financial assets:							
Derivative financial assets	-	19	312	-	331	331	4
Marketable securities	-	98	-	-	98	98	2
Other current financial assets	231	-	-	-	231	231	2
Total					660	660	
Financial and other non-current assets:							
Equity investments at fair value through OCI	-	3	-	153	156	156	1
Derivative financial assets	-	-	48	-	48	48	4
Loans, receivables and pooled investments	185	84	-	-	269	269	5
Other, not carried at fair value	-	-	-	-	233	-	3
Total					706		
Trade accounts payable	7,264	-	-	-	7,264	7,264	2
Current financial debt and other financial liabilities:							
Derivative financial liabilities	-	-	326	-	326	326	4
Lease liabilities	105	-	-	-	105	-	3
Other non-derivative financial liabilities	2,849	-	-	-	2,849	2,849	2
Total					3,280		
Other current liabilities:							
Financial liabilities	94	-	-	-	94	94	2
Non-financial liabilities	-	-	-	-	1,403	-	3
Total					1,497		
Financial debt and other non-current liabilities:							
Derivative financial liabilities	-	-	153	-	153	153	4
Lease liabilities	787	-	-	-	787	-	3
Other non-derivative financial liabilities	6,718	-	-	-	6,718	6,490	6
Non-financial liabilities	-	-	-	-	191	-	3
Total					7,849		

1 The main valuation input for these transactions is the price from their most recent shareholder financing transactions. Where the most recent shareholder financing transactions are not considered representative of fair value, pricing models are used

2 Carrying amount approximates the estimated fair value due to the short-term nature of the financial instruments

3 Fair value is not required to be disclosed for non-financial assets, including defined benefit pension assets, for non-financial liabilities and for lease liabilities

4 Derivative financial assets and liabilities are measured at fair value through profit or loss except that gains and losses on cash flow hedges of forecast transactions are not recognized in profit or loss until the hedged transaction is recognized in profit or loss

5 Fair values of these receivables are measured by discounting their cash flows at interest rates derived using observable yields on government bonds with maturities and currencies that match those of the respective receivable and the estimated credit risk of each receivable. The total fair value disclosed in respect of loans and receivables at amortized cost is due from counterparties that have not issued traded bonds and represents a level 3 fair value measurement

6 Financial liabilities represent both exchange traded bonds, non-exchange traded private placement notes issued by Syngenta and bilateral term loans. The fair value disclosed consists of level 2 fair value measurements derived from observable price quotations for these bonds

2021 ($m)	Carrying amount (based on measurement basis) Amortized cost	Fair value level 1	Fair value level 2	Fair value level 3[1]	Total	Comparison fair value	Footnote
Cash and cash equivalents	1,523	-	-	-	1,523	1,523	2
Trade receivables	4,842	-	-	-	4,842	4,842	2
Other accounts receivable:							
Financial assets	236	-	-	-	236	236	2
Non-financial assets	-	-	-	-	455	-	3
Total					691		
Derivative and other financial assets:							
Derivative financial assets	-	12	185	-	197	197	4
Marketable securities	-	146	-	-	146	146	2
Other current financial assets	70	-	-	-	70	70	2
Total					413	413	
Financial and other non-current assets:							
Equity investments at fair value through OCI	-	-	-	125	125	125	1
Derivative financial assets	-	-	146	-	146	146	4
Loans, receivables and pooled investments	185	35	-	-	220	220	5
Other, not carried at fair value	-	-	-	-	404	-	3
Total					895		
Trade accounts payable	5,484				5,484	5,484	2
Current financial debt and other financial liabilities:							
Derivative financial liabilities	-	-	148	-	148	148	4
Lease liabilities	109	-	-	-	109	-	3
Other non-derivative financial liabilities	1,610	-	-	-	1,610	1,610	2
Total					1,867		
Other current liabilities:							
Financial liabilities	43	-	-	-	43	43	2
Non-financial liabilities	-	-	-	-	1,208	-	3
Total					1,251		
Financial debt and other non-current liabilities:							
Derivative financial liabilities	-	-	77	-	77	77	4
Lease liabilities	525	-	-	-	525	-	3
Other non-derivative financial liabilities	7,258	-	-	-	7,258	7,705	6
Non-financial liabilities	-	-	-	-	148	-	3
Total					8,008		

1 The main valuation input for these transactions is the price from their most recent shareholder financing transactions. Where the most recent shareholder financing transactions are not considered representative of fair value, pricing models are used

2 Carrying amount approximates the estimated fair value due to the short-term nature of the financial instruments

3 Fair value is not required to be disclosed for non-financial assets, including defined benefit pension assets, for non-financial liabilities and for lease liabilities

4 Derivative financial assets and liabilities are measured at fair value through profit or loss except that gains and losses on cash flow hedges of forecast transactions are not recognized in profit or loss until the hedged transaction is recognized in profit or loss

5 Fair values of these receivables are measured by discounting their cash flows at interest rates derived using observable yields on government bonds with maturities and currencies that match those of the respective receivable and the estimated credit risk of each receivable. The total fair value disclosed in respect of loans and receivables at amortized cost is due from counterparties that have not issued traded bonds and represents a level 3 fair value measurement

6 Financial liabilities represent both exchange traded bonds and non-exchange traded private placement notes issued by Syngenta. The fair value disclosed consists of level 2 fair value measurements derived from observable price quotations for these bonds

The levels of fair value hierarchy used above are defined as follows:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data.

Equity investments at fair value through OCI consist mainly of unquoted companies whose proprietary technologies are still at the development stage. The last round financing price is used as fair value for all classes of shares held by Syngenta if either:

- the round took place less than 12 months before the reporting date and there are no terms where any class of shares would not convert into common shares at the last round valuation; or
- Syngenta has information showing that the investee company has progressed according to plan in meeting its technological, operational and financial objectives.

Otherwise, fair value of each material investment is estimated using accepted valuation methodologies, consisting of the following steps:

1. calculation of the investee company's Enterprise Value (EV) from projected revenues using M&A transaction multiples and public company comparable revenue multiples
2. solving for the value of equity by adjusting EV for debt and applying a discount for lack of control
3. allocating the equity value to all shares of all classes:

- equally if investors' most likely exit is through an initial public offering (IPO) or if the total equity value is so high that all classes would convert to common shares;
- in other circumstances, using the Option-Pricing Method to model uncertainty regarding future exit outcomes. This method models common and preferred shares as call options on the future distributable value of the investee enterprise's equity, at exercise prices based on their liquidation preferences at specified liquidity events. Valuation inputs are estimated individually for each investee enterprise and vary based on the maturity of its business and stage of development of its proprietary technologies.

If an investee undergoes an IPO, the fair value of the investment at subsequent period ends is based on quoted market prices. Shareholdings subject to a lock-up period where the underlying shares are actively traded on a stock exchange are fair valued by applying a discount to the quoted price for lack of marketability and these measurements are classified as level 2. They are reclassified as level 1 on expiry of the lock-up period. In 2022 and 2021, there were no transfers between level 1 and level 2 or into or out of level 3 of the fair value hierarchy or between the fair value and amortized cost categories, except as disclosed in the below table.

Movements in level 3 financial assets for the years ended December 31, 2022 and 2021 were as follows:

($m)	**2022**	2021
January 1	**125**	151
Unrealized gains/(losses) recognized on equity instruments at fair value through OCI	**52**	(11)
Additions due to issues	**23**	26
Disposals	**(30)**	-
Transfer to Level 1	**(7)**	-
Classified as held-for-sale	**(11)**	(64)
Currency translation effects and other	**1**	23
December 31	**153**	125

Income, expense, gains and losses relating to financial instruments recognized in profit or loss during the years ended December 31, 2022 and 2021 are as follows:

2022 ($m)	**Amortized cost loans and receivables**	**Derivative assets and liabilities**	**Lease liabilities**	**Other liabilities carried at amortized cost**	**Total**
Recognized within Financial expense, net [1]:					
Interest income	**79**	**-**	**-**	**-**	**79**
Interest expense	**(26)**	**(16)**	**(26)**	**(456)**	**(524)**
Currency gains/(losses), net	**-**	**(119)**	**-**	**-**	**(119)**
Recognized within Marketing and distribution:					
Impairment charges	**(189)**	**-**	**-**	**-**	**(189)**
Total	**(136)**	**(135)**	**(26)**	**(456)**	**(753)**

2021 ($m)	Amortized cost loans and receivables	Derivative assets and liabilities	Lease liabilities	Other liabilities carried at amortized cost	Total
Recognized within Financial expense, net [1]:					
Interest income	53	-	-	-	53
Interest expense	(9)	(21)	(21)	(379)	(430)
Currency gains/(losses), net	-	(25)	-	-	(25)
Recognized within Marketing and distribution:					
Impairment charges	(17)	-	-	-	(17)
Total	27	(46)	(21)	(379)	(419)

1 Financial expense, net also includes $49 million of bank charges (2021: $38 million)

26. New IFRSs and accounting policies

Adoption of New IFRSs

Syngenta has adopted the following new or revised IFRSs from January 1, 2022. Except where indicated below, these IFRSs have not been early adopted and their adoption had no material impact on these consolidated financial statements:

- “Reference to the Conceptual Framework”, Amendments to IFRS 3;
- “Onerous Contracts-Cost of fulfilling a Contract”, Amendments to IAS 37;
- “Property, Plant and Equipment: Proceeds before Intended Use”, Amendments to IAS 16; and
- “Annual Improvement to IFRS Standards” 2018-2020 Cycle.

The relevant new or revised IFRSs that Syngenta has not yet adopted are the following:

- “Sale or Contribution of Assets between an Investor and its Associate or Joint Venture”, Amendments to IFRS 10 and IAS 28, was issued in September 2014 and requires Syngenta to recognize gains and losses on such sales or contributions only to the extent they relate to the interest in the Associate or Joint Venture that is held by investors other than Syngenta. In December 2015, the IASB postponed mandatory application of the amendments indefinitely. Based on the associates and joint ventures in which it has investments at December 31, 2022, Syngenta does not believe that the amendments will have a material impact on its consolidated financial statements.
- IFRS 17 “Insurance Contracts” and “Amendments to IFRS 17 Insurance Contracts”; IFRS 17 was issued in May 2017 and establishes principles for accounting and disclosure of insurance contracts issued and reinsurance contracts held. Insurance contracts held as a policyholder are not within the scope of IFRS 17. The effective date of IFRS 17 is January 1, 2023. Syngenta does not believe that IFRS 17 will have a material impact on its financial statements.
- “Classification of Liabilities as Current or Non-current”, Amendments to IAS 1, was issued in January 2020 and “Non-current Liabilities with Covenants”, Amendment to IAS 1, issued in October 2022 clarifies that the classification of liabilities as current or non-current is based on the entity’s right to defer settlement for at least twelve months at the reporting date and covenants that the entity must comply with on or before the reporting date. Syngenta must adopt these amendments on January 1, 2024. Syngenta does not believe that the amendments will have a material impact on its consolidated financial statements.
- “Disclosure of Accounting Policies”, Amendments to IAS 1 and IFRS Practice Statement 2, was issued in February 2021 and provides guidance on material accounting policies that an entity is required to disclose. Syngenta must adopt these amendments on January 1, 2023. Syngenta does not believe that the amendments will have a material impact on its consolidated financial statements.
- “Definition of Accounting Estimates”, Amendments to IAS 8, was issued in February 2021 and clarifies the definition of accounting estimates and what constitutes a change in accounting estimates. Syngenta must adopt these amendments on January 1, 2023. Syngenta does not believe that the amendments will have a material impact on its consolidated financial statements.
- “Deferred Tax related to Assets and Liabilities arising from a Single Transaction”, Amendments to IAS 12, was issued in May 2021 and states that the initial recognition exemption does not apply when the transactions give rise to equal amounts of deductible and taxable temporary differences on initial recognition. Syngenta must adopt these amendments on January 1, 2023. Syngenta does not believe that the amendments will have a material impact on its consolidated financial statements.
- “Lease Liability in Sale and Leaseback”, Amendment to IFRS 16, was issued in September 2022 and clarifies the recognition of variable lease payments when measuring a lease liability arising from a sale-and-leaseback transaction. Syngenta must adopt this amendment on January 1, 2024. Syngenta does not believe that the amendment will have a material impact on its consolidated financial statements.

Principles of consolidation

Subsidiaries
Subsidiaries are those entities which Syngenta controls. Syngenta controls all its subsidiaries through ownership of a majority of their voting rights. Syngenta fully consolidates the income, expenses, assets, liabilities and cash flows of subsidiaries from the date it acquires control up to the date control ceases. Intercompany transactions and balances are eliminated upon consolidation.

Associates and joint ventures
Syngenta has no interests in entities that it does not consolidate that would meet the definition of joint operations. Syngenta accounts for both associates and joint ventures using the equity method.

Business combinations
Syngenta accounts for business combinations in accordance with IFRS 3, using the acquisition method. For this purpose, a business is an integrated set of activities and assets that includes, as a minimum, an input and a substantive process and is capable of being conducted and managed for the purpose of providing goods or services to customers, generating investment income or other income from ordinary activities, and the fair value of which does not consist substantially exclusively of a single identifiable asset or group of similar identifiable assets. At the date it acquires control of another business, Syngenta records the fair value of the agreed consideration payable, including the estimated fair value of any contingent consideration and of any pre-existing ownership interest it holds in the acquired entity. Directly attributable acquisition transaction costs are expensed as incurred. The assets and liabilities of acquired businesses are identified and recorded in the consolidated financial statements at their acquisition date fair values, with certain exceptions as set out in IFRS 3. Acquired intangible assets are generally valued based on the income approach: the relief from royalty method is generally used for brand names, the distributor method for customer relationships, and the residual income method for product technology rights. Acquired land and buildings are valued based on the market approach and specialized plant and equipment based on the cost approach. Non-controlling interests which consist of actively traded financial instruments, arise from transactions in which no consideration is transferred or do not represent a proportionate ownership interest in the acquired entity to which they relate are recorded at their fair value. All other non-controlling interests are recorded at their proportionate share of the fair value of the acquired business’s net assets, measured using the non-controlling shareholders’ share of equity ownership, which may differ from their share of the voting rights in the acquired business.

Other accounting policies

Foreign currencies and hyperinflation
Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the rate prevailing at the balance sheet date. Non-monetary assets and liabilities denominated in foreign currencies, stated at historical cost or fair value, are translated into the functional currency at the foreign exchange rate prevailing at the date of the transaction or the date the fair value was determined, respectively. Foreign currency transactions are translated into the relevant functional currency at the exchange rate prevailing at the date of the transaction. With exceptions for Syngenta AG and certain regional supply centers, holding and finance subsidiaries, which have the US dollar as their functional currency because their funding, receipts and payments are predominantly transacted in US dollars, each Syngenta subsidiary uses the local currency of its country of operations as its functional currency. Unrealized gains or losses related to equity loans, designated cash flow and net investment hedging arrangements and gains and losses on remeasuring equity investments designated at fair value through OCI are recognized in OCI. All other resulting foreign exchange transaction gains and losses are recognized in profit or loss. Equity loans are intercompany loans to subsidiaries that are not expected to be repaid in the foreseeable future and therefore considered part of Syngenta's net investment in the subsidiary.

Income, expense and cash flows of foreign operations are translated into US dollars using average exchange rates prevailing during the period. Assets and liabilities of foreign operations are translated to US dollars using exchange rates prevailing at the balance sheet date. Foreign exchange differences arising on these translations are recognized directly in OCI. Upon disposal or loss of control of a foreign subsidiary, the cumulative currency translation difference relating to the subsidiary, including exchange gains and losses on equity loans to which the subsidiary is or has been a party, is reclassified from equity to profit or loss as part of the gain or loss on disposal.

The consolidated historical cost of inventories that have been transferred between Syngenta AG group entities since their initial purchase or manufacture is measured by translating the currencies in which the costs of purchase or manufacture were incurred into US dollars at the exchange rates prevailing at the date when those costs were incurred, and foreign exchange differences arising on retranslating these amounts to US dollars at the rates at the balance sheet date or the date the inventories were sold, as applicable, are recognized in OCI.

Syngenta considers the economy of a country to be hyperinflationary if reliable statistical evidence indicates that its cumulative consumer price inflation rate over the previous three years has exceeded 100% and is likely to continue to exceed 100% throughout the year following the balance sheet date. Syngenta subsidiaries whose functional currency is the currency of a hyperinflationary economy are consolidated as follows: amounts of non-monetary assets and liabilities and income and expense items in the subsidiaries' financial statements are indexed to current price levels at the balance sheet date using a recognized general consumer price index. The resulting financial statements, including income statement and cash flows, are translated into US dollars at the rate prevailing at the balance sheet date.

Revenue
Syngenta's main source of revenue is product sales. Control of products passes to Syngenta's customers, and revenue for product sales is recognized, at a point in time which is usually upon delivery, subject to reasonable assurance of collectability. Delivery is defined based on the terms of the sale contract. Syngenta also derives revenue from licensing the right to use its intellectual property (IP), principally its seeds germplasm and traits. Each licensing contract Syngenta enters into has unique terms and certain licensing contracts may involve significant upfront or milestone payments in addition to sales-based royalties.

Revenue is measured at the amount of consideration to which Syngenta expects to be entitled in exchange for the products or license rights it transfers to customers. If the consideration is receivable more than 12 months after the transaction date and the effect of discounting is material, the revenue amount recognized is discounted to its present value at the transaction date, using a discount rate which reflects customer risk, and the unwinding of this discount is recognized as financial income over the period until the date the consideration is due. Revenue in contracts with non-cash consideration is measured at the fair value of the consideration at contract inception.

The main forms of variable revenue for Syngenta are as follows and the judgments associated with estimating their amount are discussed in Note 2:

- cash incentive programs that provide rebates and discounts dependent on achievement of targets for purchase of Syngenta products, and cash discounts for punctual or early payment of invoices. Syngenta recognizes sales minus an allowance for rebates, and a refund liability presented within Trade accounts payable in the consolidated balance sheet. The allowance and liability are measured at the amount expected to be refunded or credited to customers, estimated based on the programs' terms, market conditions and historical experience.
- sales returns, which arise both in markets where the customer has a legal or contractual right of return and in markets where customers do not have such rights but Syngenta's commercial practice is to accept returns. In either case, Syngenta recognizes sales minus an allowance for expected returns, an estimated refund liability, and an asset for the right to recover its products corresponding to the expected returns. The refund liability and the asset are presented within Trade accounts payable and Inventories respectively in the consolidated balance sheet. The allowance and liability are measured at the amount expected to be refunded or credited to customers and the asset is measured at the standard purchase or production cost of the underlying Syngenta products, minus allowances for transportation and obsolescence where relevant.
- in certain markets, sales terms allow customers to exchange purchased products at a later date for other Syngenta products of their choice, to the same value. For these sales, Syngenta recognizes revenue upon delivery of the original products, minus a provision for products expected to be exchanged. This provision is released, and the corresponding revenue is recorded, when the substitute products are delivered or the customer's right to exchange the products expires, whichever is earlier.
- In licenses which grant the right to use Syngenta's IP as it exists when the license is granted, and in which Syngenta receives revenue for non-refundable lump sums and minimum guaranteed income amounts which can be reliably estimated and for which there are no related future Syngenta performance obligations or contingencies other than the passage of time, Syngenta recognizes that revenue on signature of or on the effective date of the license, whichever is later. Revenue for lump sum milestone payments which are contingent on product regulatory approvals is recognized only when the competent regulatory authorities have granted the relevant approvals. Sales-based royalty income is recognized in the period that the licensees make sales in respect of which the royalties are payable.

In certain markets, sales terms allow customers the option of a one-time, non-repeatable extension of credit, for a defined additional period, in respect of a defined proportion of purchases made during a defined period, if the customers still have the inventories on hand upon expiration of the initial agreed credit period. Customers have no right to return these inventories, and must pay unconditionally when the additional credit period expires. In accordance with IFRS 15, revenue for these sales is recognized upon product delivery.

Where third parties hold Syngenta inventories on a consignment basis, revenue is recognized in the period that inventories are withdrawn from consignment and delivered to customers.

For product sales which are qualifying purchases in customer loyalty incentive programs, Syngenta allocates revenue between its qualifying product sales and the incentive awards of additional free or discounted products or services ("incentives") based on the value of incentives to which customers are expected to be entitled, the relative stand-alone selling prices of the respective product sales and incentives and, where awards are subject to expiry, the extent to which customers are expected to redeem their rights based on historical experience of similar programs. Syngenta recognizes estimated liabilities for the incentives in the period in which it recognizes the associated product sales, and presents these liabilities as Contract liabilities in the consolidated balance sheet. In programs where the incentive is either a product normally sold by Syngenta, a third party product which Syngenta is primarily responsible for supplying to customers or for which Syngenta bears inventory risk, or a service provided to customers by a third party acting under Syngenta's direction, Syngenta obtains control of the incentives before transferring them to customers, and so supplies the incentives as a principal. For these programs, Syngenta recognizes the revenue allocated to the incentives when customers receive them or redeem their right to an award. Revenue related to these programs is presented as part of Sales, and associated costs are presented within Cost of goods sold or Marketing and distribution expense as appropriate. In other programs, Syngenta acts as agent for a third party who supplies the incentives, and Syngenta recognizes any net income from supply of the incentive when the third party becomes obliged to supply the awards.

Syngenta periodically enters into prepayment contracts with customers whereby it receives advance payments for products to be delivered in a future period. These advance payments are recorded as liabilities and presented as part of Contract liabilities in the consolidated balance sheet. Advance payment liabilities are released and revenues associated with such advance payment transactions are recognized when control of the prepaid products passes to the customer.

Syngenta has not presented a separate line in the consolidated balance sheet for Contract assets because all material relevant assets are presented either as Inventories or Trade receivables. Incremental costs of obtaining customer contracts with a term of one year or less are expensed. Except for payments made to customers at inception of contracts which are recognized as intangible assets and purchase and production costs recognized as inventories, Syngenta has no other material incremental costs of obtaining contracts or direct costs of fulfilling contracts that qualify for recognition as an asset.

For certain customers in certain markets, trade receivables are settled either with proceeds from sales by such customers of agricultural commodities or by delivery of commodities to Syngenta by such customers. For these arrangements, Syngenta recognizes revenue when it has a legally enforceable receivable, the amount of which is reliably measurable based on an agreed price for the Syngenta products. Where Syngenta has a contract with the customer for physical delivery of a commodity at a fixed price which is hedged using derivative financial instruments, an embedded derivative is recognized for the fair value of the contract until physical delivery. When Syngenta subsequently resells the commodity, it classifies additional revenue as sales only to the extent that the original contract for the sale of Syngenta products included revenue that was contingent upon the commodity sales proceeds. Any remaining gains or losses on the commodity sale are recorded in Marketing and distribution expense in the consolidated income statement.

Research and development

Research expenses are charged to the consolidated income statement when incurred. As disclosed in Note 2, internal development costs are capitalized as intangible assets only when there is an identifiable asset that can be completed and is expected to generate future economic benefits and when the cost of such an asset can be measured reliably. Costs incurred internally to develop new chemical or biological crop protection products based on active ingredients that have not yet obtained regulatory approval, or to develop new seed varieties containing genetically modified (GM) traits that have not yet obtained regulatory approval, are expensed as incurred because of the uncertainty inherent in the outcome of the regulatory approval process. Costs incurred in the design, development and testing of new or improved non-GM or deregulated GM seed varieties and hybrids, of formulations of existing registered chemical active ingredients or projects to extend the application range of existing crop protection products, or of new and improved production processes that do not themselves require regulatory approval and that can be applied to products which have already obtained approval, are capitalized if the processes are technically feasible, Syngenta intends and has sufficient resources to complete the development, the product or process will generate future economic benefits, and expenditure attributable to developing the product or process can be measured reliably. Government grants received in respect of research and development costs, including tax credits treated as government grants for accounting purposes, are recognized in profit or loss in the same periods as the costs to which they relate. Development expenses Syngenta incurs to develop technology on behalf of a third party under a collaboration agreement are capitalized and amortized over the agreement term if Syngenta expects to recover the costs under the terms in that agreement.

Costs of purchasing distribution rights, patent rights and licenses to use or sell products, or technology or registration data are capitalized as intangible assets. Costs of applying for patents for internally developed products, costs of defending existing patents and costs of challenging patents held by third parties where these are considered invalid, are considered part of development expense and expensed as incurred.

Expenses by function

Cost of goods sold includes costs of purchasing and producing inventories that have been sold to third parties, inbound and inter-site distribution expenses, impairment of inventories, environmental remediation costs associated with ongoing Syngenta manufacturing sites, and general overhead expenses of Syngenta's Production and Supply function which are expensed as incurred. Marketing and distribution includes costs of selling products, providing technical support for products sold, marketing and promotional expenses, distribution of finished products to third party customers, and impairment of trade and other receivables. Research and development includes the expenses of Syngenta's research sites and third party research collaboration agreements, expenses incurred during the regulatory process for Syngenta products and the costs of Syngenta's global field trials organization. General and administrative includes expenses of general management, finance, human resources, information systems, legal affairs and taxes, corporate affairs and communications, business planning and corporate development functions. Services provided by these departments to the Production and Supply, Marketing and Distribution and Research and Development functions are allocated to and included within those other functions. Gains and losses arising on routine asset disposals and gains and losses reclassified from OCI when hedged forecast foreign currency trading transactions affect profit or loss are also reported within General and administrative. Restructuring is a separate general and administrative function as it is managed through a project management office which is accountable to the Group Leadership Team. Impairment of property, plant and equipment that results from restructuring plans, rather than ongoing activities of the functions responsible for the assets, is included in Restructuring. Impairment of goodwill and intangible assets is also included in Restructuring unless a specific function is accountable for the impairment loss. Non-current asset depreciation and amortization are charged to the functions responsible for the related assets.

Restructuring
Restructuring represents the effect on reported performance of initiating and enabling business changes that are considered major and that, in the opinion of management, will have a material effect on the nature and focus of Syngenta's operations, and therefore require separate disclosure to provide a more thorough understanding of business performance. Restructuring includes the incremental costs of closing, restructuring or relocating existing operations, and gains or losses from related asset disposals. Restructuring also includes the effects of analyzing and preparing for potential industry consolidation transactions as well as completing and integrating significant business combinations and divestments, including related transaction costs, gains and losses. Recurring costs of normal business operations and routine asset disposal gains and losses, including those arising from sale and leaseback transactions carried out to optimize Syngenta AG group financing, are excluded.

Income taxes
Income taxes for the year comprise current and deferred taxes, calculated using rates enacted or substantively enacted at the balance sheet date. Current tax is the expected tax payable on taxable income for the year and any adjustments to tax payable in respect of previous years. Deferred tax is recognized using the liability method and thus is calculated on temporary differences between the tax bases of assets and liabilities and their respective carrying amounts in the consolidated balance sheet. Syngenta accounts for income tax credits as a reduction in income tax expense if they are receivable solely through offset against an income tax liability, and treats them as government grants for accounting purposes if they are receivable in cash if no income tax liability arises against which Syngenta is required or permitted to offset the tax credits. Deferred tax is provided on temporary differences arising on investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference can be controlled and it is probable that the difference will not reverse in the foreseeable future. Deferred tax liabilities are not recognized on the initial recognition of goodwill if the carrying amount of goodwill exceeds its tax base. Deferred tax assets, including those related to unused tax losses, are recognized to the extent that it is probable that future taxable profit will be available against which the assets can be utilized. Income tax expense, current and deferred, is recognized in profit or loss unless it relates to items recognized in OCI or in equity in which case the tax expense is also recognized in OCI or equity, respectively.

Syngenta's policy is to comply fully with applicable tax regulations in all jurisdictions in which Syngenta's operations are subject to income taxes. Syngenta's estimates of current income tax expense and liabilities are calculated assuming that all tax computations filed by Syngenta's subsidiaries will be subject to review or audit by the relevant tax authorities. Syngenta and the relevant tax authorities may have different interpretations of how regulations should be applied to actual transactions. Syngenta records provisions for taxes it estimates will ultimately be payable when the reviews or audits have been completed, including allowances for any interest and penalties which may become payable. Syngenta releases these provisions when the tax audit of the applicable year is completed or an Advance Pricing Agreement (APA) settlement is reached that impacts previous years' tax payments, or otherwise when the statute of limitations for the applicable year expires, unless there is evident reason for earlier release.

Leases
IFRS 16 requires a lessee to account for all leases, unless exempt as described below, by recognizing a lease asset (right-of-use asset) for the right to use the asset underlying the lease (underlying asset) and a corresponding liability for lease payments during the lease term, defined as the non-cancellable period of the lease and any additional periods for which the lessee has an option to use or purchase the asset that it is reasonably certain to exercise. In assessing whether such periods are reasonably certain, Syngenta considers the length of the non-cancelable lease period in each lease, contractual terms and conditions relating to the optional period(s) and to exercising the option(s), recent or planned future leasehold improvements, the impact of terminating the lease on its operations and associated termination costs, and whether Syngenta is reasonably certain to continue unchanged all other significant terms in the current lease. The lease liability includes payment for an option to purchase the underlying asset if, and only if, Syngenta is reasonably certain to exercise that option.

As permitted by IFRS 16:

- Syngenta has included in the lease liability payments for services associated with leases of cars, but not with leases of other types of asset;
- Syngenta accounts for short term and low value item leases by expensing costs on a straight-line basis over the lease term, without recognizing right-of-use assets and liabilities. Short term leases are all leases with a term of less than one year on inception. Low value item leases are all leases of underlying assets worth $5,000 or less when new and which are independent of other assets.

For all other leases, on their commencement Syngenta recognizes:

- a liability equal to the present value of payments required over the lease term for the use of the asset, excluding contingent payments, discounted at Syngenta's incremental borrowing rate (IBR). Syngenta's IBR is comprised of a reference rate based on cash and swap curves for the currency and maturity of the lease payments and a financing spread adjustment which differentiates between asset classes based on the value of the collateral offered by the nature of the underlying asset. The spread adjustment for leases of land and buildings is derived from market data for spreads on debt funded transactions to purchase commercial real estate. The spread adjustment for leases of other assets is derived from the spread on Syngenta's senior unsecured notes;
- a right-of-use asset equal to the lease liability, adjusted by lease payments made or incentives received, by initial direct costs of obtaining the lease and by an estimate of costs associated with obligations to decommission or restore the underlying asset or the site where it is located.

Where Syngenta sells an asset to a third party and then subsequently leases back the asset, the transaction is accounted for as a sale-and-leaseback transaction in accordance with IFRS 16. Each sale and leaseback transaction is accounted for either as a sale or a financing transaction. Syngenta applies the revenue recognition guidance in IFRS 15 to determine whether control of the underlying asset passes to the buyer-lessor, in which case Syngenta accounts for the transaction as a sale. IFRS 15 guidance is also applied to any variable consideration in the sale contract to determine the amount of proceeds to recognize immediately on completion of the transaction. Where the sale of the asset is considered to have satisfied the performance obligation requirements of IFRS 15, the original asset is derecognized, a lease liability is recognized for the leaseback as described in the paragraph immediately above, and the right-of-use asset arising from the subsequent leaseback is recognized at the proportion of the previous carrying amount of the asset that relates to the right of use retained. Accordingly, only part of the gain or loss on disposal of the underlying asset is recognized immediately as any gain or loss arising on the transaction relates to the rights transferred. The deferred gain is therefore recognized through reduced depreciation charges for the right-of-use asset over the lease term. Where the sale of the asset is not considered to have satisfied the performance obligation requirements of IFRS 15, then no disposal of the original asset is considered to have taken place and none is accounted for. Syngenta instead recognizes a financial liability equal to the proceeds received from the buyer-lessor.

After commencement, the right-of-use asset is amortized systematically over the lease term, except where Syngenta is reasonably certain to exercise a purchase option in the lease agreement, in which case the asset is amortized over the same useful life that Syngenta would use to depreciate an item of Property, plant and equipment similar to the underlying asset, and is subject to review for impairment. The lease liability is accounted for at amortized cost using the IBR at lease commencement. The resulting interest cost is presented within Interest expense in the consolidated income statement. Lease payments which are contingent on use of the underlying asset are not included in the lease liability and are expensed as incurred.

Financial Instruments

Trade and other accounts receivable

Trade and other accounts receivable include invoiced amounts less adjustments for expected credit losses. Syngenta holds trade receivables to collect their contractual cash flows, and classifies and measures them at amortized cost, except for certain foreign currency sales transactions in which Syngenta offers to its customers a written exchange rate option embedded into the sales contract. Trade receivable/option contracts that result from these foreign currency sales transactions are classified as at fair value through profit or loss. The fair value of these trade receivables is measured by:

(a) remeasuring the embedded exchange rate option at fair value;

(b) retranslating the underlying trade receivable into the selling entity's functional currency using closing spot exchange rates at the balance sheet date; and

(c) adjusting the resulting carrying amount of the combined receivable contract to reflect changes in customer credit risk. Syngenta includes this adjustment in the provision for doubtful receivables.

Factoring arrangements transferring substantially all economic risks and rewards associated with accounts receivable to a third party are accounted for by derecognizing the accounts receivable upon receiving the cash proceeds of the factoring arrangement. Factoring arrangements that transfer to a third party some, but not substantially all economic risks and rewards are accounted for by continuing to recognize Syngenta's continuing rights over the receivable and by recognizing any related obligation to the third party factor.

Credit risk management practices

Syngenta's Corporate Financial Risk Group (CFFORG) monitors, proposes and coordinates country risk, credit management policies and processes including credit limit setting for major customers, approval of credit exceeding 360 days and credit insurance and risk transfer objectives. The CFFORG is supported by Regional, Territory and Country Trade Finance Credit Managers (TFCM) and Credit Committees (CC) with defined authority levels. The CC defines risk mitigation programs at country and customer level such as barter, collateral policy, payment terms, early payment rebates, and refinancing. The CC also defines the optimal credit risk level at customer and country level, approves customer credit facilities, credit scoring and payment terms, defines and reviews collection strategies including credit hold and release processes, treatment of critical customer cases and taking legal actions when collection efforts are insufficient to collect overdue balances, and sets yearly targets for accounts receivable performance. The TFCM coordinates the CC and is responsible for risk analysis, executing trade financing programs, collection negotiations and dispute resolution, and, where necessary, currency risk, export financing programs, documentary credits and commercial bank guarantees and credit risk insurance. The TFCM is supported by a Credit Operations team responsible for collection and dispute management.

Syngenta manages credit risk to operational assets through country and customer risk limits. Countries are assigned a risk rating based on external analysis of their economic, business and political risk and internal analysis of agricultural risk. Country exposure limits and minimum security requirements are applied in some defined high risk countries. A standardized credit scoring methodology is applied to all customers generating a creditworthiness score computed using a points-based system which takes into consideration financial and non-financial attributes and credit limits. Based on the total score achieved each customer is classified in a credit risk class which drives policy relating to sales order release, collection process and credit limit. Each customer's credit position is consolidated across all relevant systems to provide a total business view of credit status and history.

Collateral is an important part of the risk mitigation strategy. Collateral is based on a list of locally accepted securities which may include cash, other financial instruments, barter operations or third party credit enhancements such as guarantees or insurance, but normally excludes non-financial assets. Collateral is validated based on its probability of and time to legal enforcement.

Receivable balances are written off only when there is no realistic prospect of their being collected, after completion of related legal actions and permanent cessation of business activity with the defaulting customer. Write-offs are subject to defined authority levels and are not used to solve small payment differences or valid commercial disputes with continuing customers.

Estimation of expected credit losses

To estimate expected credit losses, trade receivables are grouped into portfolios by credit risk class and country and a provision matrix method is used. The principal inputs when determining matrix percentages are historical records of amounts written off in previous years, amounts currently subject to insolvency proceedings and the likelihood of eventual write offs of those amounts, the average credit period, past due information and historical experience. Assumptions are also made about forecast conditions for market credit, commodity price, currency and country risk, competition and regulation over the remaining credit period of the trade receivables outstanding at the balance sheet date. These assumptions are consistent with those used to prepare operational budgets for the following period. Rebate credits and validated collateral valued at its expected value are deducted from outstanding receivable balances when determining the maximum exposure to credit loss to which matrix percentages are applied. Expected recoveries under credit insurance policies which are not part of the agreement with the customer are accounted for separately from the expected credit losses and are recognized as assets when the insurer has agreed the claim.

Expected credit losses on other receivables and amortized cost financial assets are generally estimated by assessing each receivable individually. For balances reported as other receivables and current financial assets, lifetime expected credit losses are estimated. For balances reported as non-current financial assets, 12-month expected credit losses are estimated unless the credit risk has increased significantly since the asset was first recognized, in which case lifetime credit losses are estimated. Amounts more than 90 days past due are considered to be in default for this purpose.

Cash and cash equivalents
Cash includes cash on hand and demand deposits with banks and financial institutions. Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash, are subject to an insignificant risk of changes in value and have a maturity of three months or less at the time Syngenta acquired or first records them.

Derivative and other financial instruments
Regular way purchases and sales of marketable securities are recognized at settlement date.

Financial assets and liabilities which have remaining contractual maturities of 12 months or less at the balance sheet date are presented within Total current assets and Total current liabilities, respectively. Financial assets and liabilities which have remaining contractual maturities of more than 12 months are presented within Financial and other non-current assets and Financial debt and other non-current liabilities, respectively.

Equity investments in other entities which are not subsidiaries, associates or joint ventures of Syngenta are included in Financial and other non-current assets. They are classified and measured at fair value through OCI and are revalued to fair value at each reporting date, with all changes in fair value recognized within OCI. In Syngenta's opinion, presenting gains and losses on these investments in OCI is more consistent with Syngenta's strategic investment objectives than presenting those gains and losses within profit and loss. The fair value of equity investments is measured as described in Note 25.

Other non-current receivables represent royalty and license receivables, loans to employees and other third parties, and amounts recoverable from third parties in reimbursement of environmental remediation and other costs. These receivables are stated at amortized cost, less provision for impairment where appropriate.

Financial debt is recognized initially at its fair value less transaction costs, which represents the net proceeds from issuing the debt. Subsequently, financial debt is stated at amortized cost using the effective interest method, except where subject to a fair value hedge relationship, in which case the carrying amount of the debt is adjusted by the change in the fair value of the hedged exposure during the hedge relationship.

Derivative financial instruments are recorded initially at their fair value when Syngenta becomes a party to the instrument. They are revalued to fair value at each reporting date and presented as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

Fair values of publicly traded derivatives are based on quoted market prices of the specific instruments held at the balance sheet date.

Fair values of non-publicly traded derivatives are valued using accepted economic methodologies for pricing these financial instruments, such as discounted cash flow analysis or option pricing models. The valuation models seek to make maximum use of market inputs existing at the balance sheet date. The methods used to determine the fair value of specific types of non-publicly traded derivatives are as follows:

- Interest rate and cross-currency swaps are calculated as the present value of the estimated future cash flows. The future cash flows are determined using relevant market forward interest rates at the balance sheet date and are discounted using the zero-coupon rates with equivalent maturities for AA rated entities at the balance sheet date, as adjusted for the counterparty's credit risk. These discount rates incorporate the impact of net credit risk present in those derivative instruments. For cross-currency swaps, the discount rates reflect the impact of the currency basis on the future cash flows denominated in different currencies;
- Forward contracts are determined using relevant market exchange rates at the balance sheet date;
- Currency options are valued using the Black-Scholes-Merton option pricing model, which incorporates spot exchange rates, zero coupon rates with equivalent maturities for entities with credit ratings which approximate Syngenta's counterparty credit risk, and implied volatility in the market forward exchange rates at the balance sheet date; and
- Commodity options are valued using the Black-Scholes-Merton option pricing model, which incorporates future commodity price curves with equivalent maturities and implied volatilities in the commodities markets at the balance sheet date, adjusted for counterparty credit risk.

Realized gains and losses on disposal of amortized cost financial assets, revaluation gains and losses on derivatives not designated as accounting hedges, and gains and losses corresponding to the ineffective portion of derivatives designated as accounting hedges are recorded in profit or loss as they arise.

Syngenta applies hedge accounting as follows:

Fair value hedges
The designated hedging instruments are remeasured to fair value and the underlying hedged items are remeasured by the amount of change in the fair value of the hedged risk. The resulting remeasurement gains or losses are recognized in profit or loss as they occur.

Cash flow hedges
For the effective portion of the hedge, gains and losses on remeasuring designated hedging instruments to fair value are recognized in OCI as part of the cash flow hedge reserve. If the hedged transaction results in recognition of a non-financial asset such as inventories, the cumulative hedge gain or loss is reclassified as part of the carrying amount of the related inventories. For other hedged transactions, the cumulative hedge gain or loss is reclassified from OCI into profit or loss in the period (or periods) during which the underlying hedged cash flows affect profit or loss.

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for cash flow hedge accounting, any cumulative unrealized gain or loss on the hedging instrument remains in equity until the underlying hedged item affects profit or loss. However, if a hedged forecasted transaction is no longer expected to occur, the cumulative unrealized gain or loss on the hedging instrument is immediately reclassified into profit or loss.

Time value of options
When Syngenta designates a derivative financial instrument that is, or contains, an option as a hedging instrument in a hedge accounting relationship, the time value of the options as measured using the Black-Scholes-Merton option pricing model is excluded from the hedge designation and accounted for as a cost of hedging, as follows. The change in the fair value of the option during its term is recognized in OCI to the extent that the option terms are aligned with the attributes of the hedged exposure. If the hedged item is a transaction, the cumulative change in time value is included in the initial carrying amount of any non-financial asset or liability recognized when the hedged transaction

occurs, or otherwise is recognized in profit and loss when the cash flows from the hedged transaction affect profit and loss. If the hedged item is a risk that may affect profit or loss during the option term, the cumulative amount recognized in OCI is amortized into profit and loss on a straight line basis over the option term.

Net working capital

For the purposes of presenting consolidated cash flows, the balance sheet items included in Net working capital are Inventories, Trade receivables, Other accounts receivable, Trade accounts payable, Contract liabilities, Other current assets, Other current liabilities, and similar items due after more than one year, such as minimum royalties from multi-year license agreements.

Inventories

Purchased products are recorded at acquisition cost while own-manufactured products are recorded at manufacturing cost including a share of production overheads based on normal capacity. Cost of inventories is determined on a first-in-first-out basis. Allowances are made for inventories with a net realizable value less than cost, or which are slow moving. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and costs to sell. Costs to sell include direct marketing, selling and distribution costs. Unsaleable inventories are fully written off.

Biological assets

Biological assets represent growing plants and cuttings in Syngenta's Flowers business and sugar cane seedlings within its Sugar cane business. In Flowers, young plants and cuttings are measured at fair value less costs to sell, with key inputs being current average third party net selling prices, actual average selling costs and, for immature assets, estimated stage of growth relative to mature assets. Sugar cane seedlings are measured at cost less impairment because fair value is not reliably measurable due to the nature of the asset not corresponding to traded assets or products in the market. The carrying amount of current consumable biological assets measured using the cost model is tested for impairment by comparing it with the assets' net realizable value determined in accordance with IAS 2, "Inventories". Syngenta classifies gains and losses from remeasuring biological assets to fair value, and impairment losses for biological assets measured at cost less impairment, within Cost of goods sold.

Property, plant and equipment

Property, plant and equipment are recorded at acquisition or production cost, less accumulated depreciation and any impairment losses. Eligible borrowing costs are capitalized as part of the asset cost if construction is expected to take more than one year to complete. Capitalization ceases when the asset is ready for its intended use. Depreciation is charged on a straight-line basis to the income statement, starting from the date the asset is ready for use, over the following estimated useful lives:

Buildings	20 to 40 years
Machinery and equipment	10 to 25 years
Furniture and vehicles	5 to 20 years
Computer hardware	3 to 7 years

Land is recorded at acquisition cost and is not subject to depreciation. Bearer biological assets are accounted for as Property, plant and equipment using the cost model and depreciated over their productive lives.

Expenditures made for existing property, plant and equipment that will provide future economic benefit are capitalized and depreciated over the revised remaining useful life of the asset.

Intangible assets other than goodwill

Intangible assets, other than goodwill, are recorded at cost less accumulated amortization and any impairment losses. Currently, all such intangible assets are assigned a finite estimated useful life. The cost of acquired intangible assets other than goodwill consists of the purchase price including transaction costs. The cost of internally generated intangible assets consists of direct internal and external design, development, and testing costs incurred to make the asset ready for use in the manner intended by management. Borrowing costs associated with internal projects to develop new products or software are capitalized to the extent that the costs of the project itself are capitalized and the project is expected to take more than one year from inception to complete. Capitalization ceases when the products or software are ready for their intended uses.

Intangible assets are amortized starting from the date the asset is ready for use. In respect of product rights, this is when regulatory approval has been obtained. Asset lives are reviewed annually. The straight-line method of amortization is used except where another systematic basis better reflects the pattern of consumption of the economic benefits represented by the asset. Amortization is charged within the consolidated income statement to the function responsible for the asset, or to General and administrative.

Useful lives assigned to acquired product rights are based on the period over which Syngenta expects economic benefit from the product rights. Estimated lives assigned to most product rights upon acquisition are between 10 and 20 years and do not exceed 20 years for any asset.

Patents and trademarks are amortized over their estimated economic or legal life, whichever is shorter. Lives assigned are between 5 and 20 years.

Business combinations give Syngenta access to the distribution channels and customer relationships of the acquired business. These relationships normally continue to generate economic benefit to Syngenta following the acquisition. The useful lives of customer relationships are determined from management estimates of customer attrition rates. Estimated lives assigned are between 5 and 30 years.

Acquired in-process research and development (IPR&D), is valued at fair value at acquisition. It is assessed for impairment annually until it has been successfully developed and is available for use at which time it begins being amortized over its estimated useful life. Lives assigned are between 10 and 20 years.

Costs of successfully completed internal development projects which are capitalized because they meet the criteria described in Note 2 are amortized starting from launch of the related products, over periods that depend on the nature of the project, as follows:

New crop protection formulations	20 years
Extension of existing crop protection formulations	15 years
Extension of product label applications for existing crop protection products	10 years
Seed breeding costs	4 to 9 years

Assets attributable to long-term supply agreements are amortized as part of cost of goods sold over the period of the supply agreements. Premiums paid for land use rights are amortized over the period of the rights, which are between 30 and 50 years.

Purchased software licenses are amortized over their remaining license terms. Internally developed software is amortized from the date it is ready for use until the sooner of its expected replacement date or the date significant costs are expected to be incurred to upgrade it. Lives assigned are between 3 and 10 years.

Goodwill
Goodwill is the excess of the fair value of an acquired business over the fair value of its identifiable net assets at the acquisition date. Goodwill is recognized as an asset and presented within intangible assets. Goodwill is not amortized, but is tested annually for impairment and reduced by any impairment losses.

Impairment
Property, plant and equipment, right-of-use assets, intangible assets and investments in associates and joint ventures are tested for impairment ("tested") in accordance with IAS 36 unless classified as held-for-sale. Goodwill and intangible assets not yet ready for use are tested annually and are also reviewed at each interim and annual reporting date to determine whether conditions changed since the most recent review or annual test. Individual other non-current assets are reviewed at each reporting date to determine whether events or changes in conditions indicate that the carrying amount of each asset may not be recoverable. If any such indication exists, the asset is tested for impairment. Syngenta estimates an asset's recoverable amount as the higher of the asset's fair value less costs of disposal and its value in use, which is the present value of the cash flows expected from the asset's use and eventual disposal. An impairment loss is recorded in the consolidated income statement to the extent that the carrying amount of the tested asset exceeds its recoverable amount. Impairment losses are not reversed for goodwill, but are reversed for other assets if their recoverable amounts subsequently increase.

Non-current assets held-for-sale
Non-current assets and groups of assets are reclassified as held-for-sale when the assets are available for immediate sale in their present condition and a sale within one year is highly probable. Property, plant and equipment and intangible assets held-for-sale are remeasured at the lower of carrying amount and fair value less costs to sell at the date they meet the held-for-sale criteria at which time depreciation and amortization also ceases. Any resulting impairment loss is recognized in profit or loss. Fair value is measured based on bids received from potential buyers of the assets.

Provisions
A provision is recognized in the balance sheet when Syngenta has a legal or constructive obligation to a third party or parties as a result of a past event, the amount of which can be reliably estimated and it is probable that an outflow of economic benefits will be required to settle the obligation. The amount recognized as a provision is the best estimate of the expenditure required to settle the obligation at the balance sheet date. Syngenta self-insures or uses a combination of insurance and self-insurance for certain risks. Provisions for these risks are estimated in part by considering historical claims experience and other actuarial assumptions and, where necessary, counterparty risk.

Environmental provisions
Provisions for remediation costs are made when there is a present obligation, it is probable that expenditures for remediation work will be required within ten years (or a longer period if specified by a legal obligation) and the cost can be estimated within a reasonable range of possible outcomes. The costs are based on currently available facts: technology expected to be available at the time of the clean up; laws and regulations presently or virtually certain to be enacted; and prior experience in remediation of contaminated sites.

Environmental liabilities are recorded at the estimated amount at which the liability could be settled at the balance sheet date, and are discounted if the impact is material and if cost estimates and timing are considered reasonably certain.

Syngenta's restructuring programs have involved closure of several sites to date. Remediation liabilities recognized when site closures are announced are accounted for as restructuring provisions.

Legal and product liability settlements
For claims for which, according to Syngenta's assessment, it is not probable that a liability exists or that there will be a future cash outflow or other sacrifice of economic benefits, Syngenta provides for the costs of defense only. For claims where an outcome unfavorable to Syngenta is assessed as more likely than not, provision is made for the estimated amount of damages and settlement, including directly attributable legal costs. No provision is made where the legal procedures are at too early a stage to estimate the outcome with any reliability.

Restructuring provisions and costs
Restructuring costs are accrued (charged to provisions) when Syngenta has approved a detailed and formal restructuring plan and the restructuring has either commenced or been announced publicly and they qualify for recognition in accordance with IAS 37. Provisions for severance payments and related employment termination costs that do not depend on future service, are made in full when employees are given details of the restructuring plan and the termination benefits that will apply to individual employees should their contracts be terminated. Retention and other payments that depend on future service are recognized over the required service period. Restructuring costs relating to ongoing activities, such as relocation, training and information systems, do not qualify for provisioning under IAS 37 and are expensed when incurred.

Post-employment benefits
For defined benefit plans, plan assets are measured at fair value. The plans' holdings in publicly quoted investments are valued at closing prices at the balance sheet date. The plans' holdings in pooled investment vehicles (PIVs) that are not publicly quoted are valued at the respective investment managers' current estimate of fair value, on a basis consistent with each PIV's most recent audited financial statements. Derivative contracts entered into directly by the pension plans are included within plan assets. Exchange traded derivatives are valued at quoted balance sheet date bid prices for contracts which are assets, or offer prices for contracts which are liabilities, at the balance sheet date. Fair values of over the counter derivatives are measured using independent third party pricing services. Insurance policies under which the plan will receive payments that match the timing and amount of specific plan benefits and can be used only to fund those benefits are valued at the same amount as the linked benefits within the related defined benefit obligation. Defined benefit obligations are measured at the present value of future benefit payments attributable to employee service rendered up to the balance sheet date, according to the benefit formula set out in the relevant pension plan rules and employment terms at the balance sheet date. Where a surplus of plan assets over the benefit obligation exists at the balance sheet date or would arise upon payment of the minimum funding commitment applicable to the pension plan, Syngenta evaluates the extent to which it will be able to realize the surplus over time through refund rights and reductions in the present value of its future contributions to the plan. To the extent that Syngenta cannot realize the surplus, the net defined benefit asset is reduced and, where applicable, an additional liability for minimum funding contributions is recognized. Benefit expense charged to profit or loss

comprises current service cost, which is the cost to Syngenta of the increase in benefits earned from employee service in the period, gains and losses arising from amendments to and settlements of benefits that occurred during the period, and interest on the net defined benefit asset or liability, which is the change in the present value of that asset or liability arising from the passage of time during the period, measured using the rate used to discount the defined benefit obligation at the previous period end. In the consolidated income statement, current service cost is presented within the same function line as the other personnel costs of the related employees, and net interest cost is presented within Financial expense, net. The benefit obligation and cost are attributed to periods using the projected unit credit actuarial method and are measured using long-term assumptions about expected future length of employee service, increases in pay and pensions, longevity, and for healthcare plans, medical costs. Assumptions are reviewed annually. Gains and losses arising from variances between assumptions and actual outcomes, and from changes to assumptions, are recognized in OCI in the period in which they arise, and are not subsequently reclassified to profit and loss.

Contributions to defined contribution pension plans are recognized as an expense in profit or loss when they are due.

Employee Incentive plans
Syngenta operates annual and long-term cash incentive plans to reward employee performance. Under the long-term plans, awards are subject to Syngenta performance over a three-year period. Syngenta accounts for annual and long-term plans respectively as short-term and long-term employee benefits in accordance with IAS 19.

Dividends and capital distributions
Dividends payable to the shareholder of Syngenta AG are recorded as liabilities and as a reduction in shareholder's equity when they are approved by the shareholder of Syngenta AG and any conditions for payment are satisfied.

27. Subsequent events

No events occurred between the balance sheet date and the date on which these consolidated financial statements were approved by the Board of Directors that would require adjustment to or disclosure in the consolidated financial statements.

Approval of the Consolidated Financial Statements

These consolidated financial statements were approved by the Board of Directors on March 17, 2023.

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Statutory Auditor's Report to the General Meeting of Syngenta AG, Basel

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Syngenta AG and its subsidiaries (the Group), which comprise the consolidated balance sheet as at December 31, 2022 and the consolidated income statement, consolidated statement of comprehensive income, consolidated cash flow statement and consolidated statement of changes in equity for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion the accompanying consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at December 31, 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for Opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibility of the Board of Directors for the Consolidated Financial Statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements
Our objectives are to obtain reasonable assurance about whether the consolidated 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 our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Swiss law, ISAs and Swiss Auditing Standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' 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 the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

KPMG AG

Michael Blume
Licensed Audit Expert
Auditor in Charge

Artem Chumakov

Basel, March 17, 2023

Financial Statements of Syngenta AG

Income Statement

(for the years ended December 31, 2022 and 2021)

	Notes	2022 (USD million)	2022 (CHF million)	2021 (USD million)	2021 (CHF million)
Income:					
Dividend income	2	**427**	**395**	715	651
Other financial income	2	**73**	**67**	55	50
Total income		**500**	**462**	770	701
Expenses:					
Financial expenses		**(10)**	**(9)**	(13)	(12)
Operating expenses		**(9)**	**(8)**	(3)	(3)
Direct taxes		**(9)**	**(8)**	(7)	(6)
Total expenses		**(28)**	**(25)**	(23)	(21)
Net income		**472**	**437**	747	680

Financial Statements of Syngenta AG

Balance Sheet

(at December 31, 2022 and 2021)

	Notes	**2022 (USD million)**	**2022 (CHF million)**	2021 (USD million)	2021 (CHF million)
Assets					
Current assets:					
Short-term loans to subsidiaries	2	**902**	**834**	825	752
Prepayments and accrued income		**1**	**1**	1	1
Total current assets		**903**	**835**	826	753
Non-current assets:					
Investments in subsidiaries	3	**5,383**	**4,981**	5,382	4,904
Total non-current assets		**5,383**	**4,981**	5,382	4,904
Total assets		**6,286**	**5,816**	6,208	5,657
Liabilities and shareholder's equity:					
Short-term liabilities:					
Short-term liabilities to subsidiaries		**(8)**	**(7)**	-	-
Accrued expenses and deferred income		**(13)**	**(12)**	(15)	(14)
Total short-term liabilities		**(21)**	**(19)**	(15)	(14)
Equity					
Share capital	4	**(9)**	**(9)**	(9)	(9)
Legal reserves:					
Legal reserves from capital contributions	4	**(28)**	**(27)**	(28)	(27)
Legal reserves from retained earnings	4	**(2)**	**(2)**	(2)	(2)
Voluntary retained earnings:					
Other reserves	4	**(1,653)**	**(1,530)**	(1,653)	(1,506)
Cumulative translation adjustment	4	**-**	**2**	-	2
Retained earnings	4	**(4,101)**	**(3,794)**	(3,754)	(3,421)
Net income		**(472)**	**(437)**	(747)	(680)
Total shareholder's equity		**(6,265)**	**(5,797)**	(6,193)	(5,643)
Total liabilities and shareholder's equity		**(6,286)**	**(5,816)**	(6,208)	(5,657)

Notes to the Financial Statements of Syngenta AG

1. Accounting policies

Ownership

Syngenta AG, domiciled in Basel, Switzerland, is a fully owned subsidiary of Syngenta Group (NL) B.V. The ultimate parent company of Syngenta AG is Sinochem Holdings Corporation Ltd.

General aspects

These financial statements were prepared according to the provisions of the Swiss Law on Accounting and Financial Reporting (32nd title of the Swiss Code of Obligations) (the "Law"). The significant accounting and valuation principles applied that are not prescribed by the Law are described below.

The accounting functional currency is US Dollar (USD) because USD is the predominant currency for the majority of the company's cash flows, which includes dividend payments made to its parent.

All references to the "Syngenta AG group" relate to Syngenta AG and its direct and indirect subsidiaries.

Exchange rate differences

Exchange rate differences recorded in the financial statements in USD:
Except for investments in subsidiaries, associates and joint ventures, which are translated at historical rates, all assets and liabilities denominated in foreign currencies are translated into USD using year-end rates of exchange. Realized exchange gains and losses arising from these as well as those from business transactions denominated in foreign currencies are recorded in the income statement. Net unrealized exchange losses are recorded in the income statement; net unrealized gains, however, are deferred within accrued liabilities, unless they arise on payables and receivables or short-term accruals, where exchange differences are treated as realized valuation differences.

Exchange rate difference arising on translation of the financial statements from USD to CHF:
Share capital and legal reserves are translated at historical rate. The change in foreign exchange rate as compared to the closing rate of the previous year creates a translation difference on the net assets, which is reflected as translation difference directly in voluntary retained earnings.

Investments in subsidiaries

Investments are recorded at acquisition cost less any impairment loss.

Treasury shares

Treasury shares are recognized at acquisition cost and deducted from shareholder's equity at the time of acquisition.

Foregoing a cash flow statement and additional disclosures in the notes

In accordance with the Law, Syngenta AG has decided to forego presenting additional information on interest-bearing liabilities and audit fees in the notes, as well as a cash flow statement, because it has prepared its consolidated financial statements in accordance with a recognized accounting standard (International Financial Reporting Standards as issued by the International Accounting Standards Board).

2. Information on income statement and balance sheet items

Dividend income

Dividend income in the current year consists entirely of dividends received from subsidiaries for the previous business year.

Other financial income

Other financial income consists mainly of guarantee and other fees received from subsidiaries.

Short-term interest-bearing loans to/from subsidiaries

Syngenta AG receives loans from Syngenta AG group companies and provides loans to Syngenta AG group companies.

3. Investments in subsidiaries & associates

The following are the significant legal entities in the Syngenta AG group of companies. The disclosure criteria are as follows:

– Companies directly owned by Syngenta AG
– Companies indirectly owned by Syngenta AG with sales in excess of USD 100 million or equivalent or total assets in excess of one percent of total Syngenta AG group assets, if the threshold is met by two consecutive years
– Companies with a financing function

None of the legal entities are listed.

Country	Domicile	Capital and voting rights owned by Syngenta[1]
Argentina		
Syngenta Agro S.A.	Buenos Aires	100%
Australia		
Syngenta Australia Pty Limited	North Ryde	100%
Bangladesh		
Syngenta Bangladesh Limited	Dhaka	60%
Brazil		
Syngenta Proteção de Cultivos Ltda.	São Paulo	100%
Syngenta Seeds Ltda.	São Paulo	100%
Nutrade Comercial Exportadora Ltda.	São Paulo	100%
Syngenta Comercial Agricola Ltda.	São Paulo	100%
Canada		
Syngenta Canada Inc.	Guelph	100%
China		
Syngenta (China) Investment Company Limited	Shanghai	100%
France		
Syngenta France S.A.	Saint-Sauveur	100%
MAS Seeds S.A.	Haut-Mauco	40%
Germany		
Syngenta Agro GmbH	Frankfurt am Main	100%
Hungary		
Syngenta Hungary Kft.	Budapest	100%
India		
Syngenta India Private Limited (formerly Syngenta India Limited)	Pune	100%
Indonesia		
PT Syngenta Indonesia	Jakarta	100%
Italy		
Syngenta Italia S.p.A.	Milano	100%
Japan		
Syngenta Japan K.K.	Tokyo	100%
Mexico		
Syngenta Agro, S.A. de C.V.	México City	100%
Netherlands		
Syngenta Seeds B.V.	Enkhuizen	100%
Syngenta Finance N.V.	Enkhuizen	100%
Syngenta Treasury N.V.	Enkhuizen	100%

Country	Domicile	Capital and voting rights owned by Syngenta[1]
Pakistan		
Syngenta Pakistan Ltd.	Karachi	100%
Panama		
Syngenta Crop Protection S.A.	Panama City	100%
Poland		
Syngenta Polska Sp.z.o.o.	Warsaw	100%
Romania		
Syngenta Agro S.r.l.	Bucharest	100%
Russian Federation		
OOO Syngenta	Moscow	100%
South Africa		
Syngenta South Africa (Pty) Ltd.	Centurion	100%
Spain		
Syngenta España S.A.	Madrid	100%
Switzerland		
Syngenta Crop Protection AG[2]	Basel	100%
Syngenta Crop Protection Monthey SA[2]	Monthey	100%
Syngenta Agro AG	Stein	100%
Syngenta Agroservices Asia AG[2]	Basel	100%
Syngenta Finance AG[2]	Basel	100%
Syngenta Participations AG[2]	Basel	100%
Syngenta South Asia AG[2]	Basel	100%
CIMO Compagnie industrielle de Monthey SA	Monthey	50%
Turkey		
Syngenta Tarim Sanayi ve Ticaret A.S.	Konak	100%
Ukraine		
Syngenta Limited Liability Company	Kiev	100%
United Kingdom		
Syngenta Limited	Bracknell	100%
Syngenta UK Limited	Fulbourn	100%
Uruguay		
Syngenta Agro Uruguay S.A.	Montevideo	100%
USA		
Syngenta Crop Protection, LLC	Wilmington	100%
Syngenta Seeds, LLC	Wilmington	100%
Syngenta Corporation	Wilmington	100%
Vietnam		
Syngenta Vietnam Ltd.	Bien Hoa City	100%

1 The capital and voting rights in 2022 have not changed compared to 2021. The following companies have been included in the list for 2022 because they reported sales in excess of USD 100 million in 2022: Syngenta Comercial Agricola Ltda. and Syngenta South Africa (Pty) Ltd.

2 Direct holding of Syngenta AG

4. Equity

(USD million)	Share capital and legal reserves: Share capital	Share capital and legal reserves: From capital contribution	Share capital and legal reserves: From retained earnings	Voluntary retained earnings: Other reserves	Voluntary retained earnings: Retained earnings	Voluntary retained earnings: Net income	Total
Balance at December 31, 2020	9	28	2	1,653	3,159	995	5,846
Appropriation of available earnings	-	-	-	-	995	(995)	-
Dividend payment	-	-	-	-	(400)	-	(400)
Net income of the period	-	-	-	-	-	747	747
Balance at December 31, 2021	**9**	**28**	**2**	**1,653**	**3,754**	**747**	**6,193**
Appropriation of available earnings	-	-	-	-	**747**	**(747)**	-
Dividend payment	-	-	-	-	**(400)**	**-**	**(400)**
Net income of the period	-	-	-	-	**-**	**472**	**472**
Balance at December 31, 2022	**9**	**28**	**2**	**1,653**	**4,101**	**472**	**6,265**

(CHF million)	Share capital and legal reserves: Share capital	Share capital and legal reserves: From capital contribution	Share capital and legal reserves: From retained earnings	Voluntary retained earnings: Other reserves	Voluntary retained earnings: Cumulative translation difference	Voluntary retained earnings: Retained earnings	Voluntary retained earnings: Net income	Total
Balance at December 31, 2020	9	27	2	1,461	(3)	2,792	880	5,168
Appropriation of available earnings	-	-	-	-	-	880	(880)	-
Translation difference	-	-	-	45	1	113	-	159
Dividend payment	-	-	-	-	-	(364)	-	(364)
Net income of the period	-	-	-	-	-	-	680	680
Balance at December 31, 2021	**9**	**27**	**2**	**1,506**	**(2)**	**3,421**	**680**	**5,643**
Appropriation of available earnings	-	-	-	-	-	**680**	**(680)**	**-**
Translation difference	-	-	-	**24**	**-**	**63**	**-**	**87**
Dividend payment	-	-	-	**-**	**-**	**(370)**	**-**	**(370)**
Net income of the period	-	-	-	**-**	**-**	**-**	**437**	**437**
Balance at December 31, 2022	**9**	**27**	**2**	**1,530**	**(2)**	**3,794**	**437**	**5,797**

At December 31, 2021 and 2022, Syngenta AG had 92,578,149 registered shares with par value of CHF 0.10 per share.

5. Contingent liabilities

	Maximum amount December 31,				Amount in effect at December 31,			
	2022 (USD millions)	**2022 (CHF millions)**	2021 (USD millions)	2021 (CHF millions)	**2022 (USD millions)**	**2022 (CHF millions)**	2021 (USD millions)	2021 (CHF millions)
External borrowing activities:								
Euro medium-term notes and CHF bonds	**2,611**	**2,407**	2,933	2,677	**2,611**	**2,407**	2,933	2,677
US bonds[1]	**2,185**	**2,014**	3,685	3,362	**2,185**	**2,014**	3,685	3,362
Private placement notes	**66**	**61**	66	60	**66**	**61**	66	60
Commercial paper	**2,500**	**2,305**	2,500	2,281	**-**	**-**	-	-
Credit facilities and loans	**5,677**	**5,233**	5,250	4,791	**1,825**	**1,683**	1,250	1,141
Group treasury lending, borrowing, hedging and investing activities	**36,059**	**33,239**	35,811	32,677	**17,410**	**16,049**	17,903	16,337
Group treasury external hedging activities	**9**	**9**	8	7	**9**	**9**	8	7
Total	**49,107**	**45,268**	50,253	45,855	**24,106**	**22,223**	25,845	23,584

[1] Issued under Rule 144/Regulation S under the U.S. Securities Act of 1933

External borrowing activities

Syngenta AG has fully and unconditionally guaranteed on a senior unsecured basis the due and punctual payment of the principal of and any premium and interest on the debt securities issued by Syngenta Finance N.V., which is an indirect wholly-owned finance subsidiary, Syngenta Finance AG, which is a direct, wholly-owned finance subsidiary, and Syngenta Wilmington Inc., which is an indirect wholly-owned finance subsidiary. The guarantees rank equally with all other unsecured and unsubordinated debt of the group. No other subsidiary of Syngenta AG guarantees such debt securities. Due to guaranteed intercompany on-lending of external borrowings, transactions with the same nature as external borrowings are listed more than once.

During the first quarter of 2022, a subsidiary of Syngenta AG entered into a CHF 300 million term loan with a third-party financial institution on the basis of a floating interest rate and a term of three years (plus one year extension option). The loan is guaranteed by Syngenta AG.

From the fourth quarter of 2022, Syngenta AG has fully and unconditionally guaranteed credit facilities of Syngenta LLC (Ukraine) with third-party financial institutions for a maximum amount of USD 101 million (CHF 94 million) as at December 31, 2022 of which no balances are outstanding.

Group treasury - intercompany lending, borrowing, hedging and investing activities

Syngenta AG guarantees intercompany lending, borrowing and hedging activities as well as external investments for the Syngenta AG group for a maximum amount of USD 36,059 million (CHF 33,239 million) as at December 31, 2022, out of which USD 17,410 million (CHF 16,049 million) are outstanding as at December 31, 2022.

External hedging activities – financial instruments

External hedging activities refer to financial instruments where Syngenta Crop Protection AG is the contractual party hedging exposures arising in the Syngenta AG group with external counterparties.

These financial instruments are transacted under International Swap and Derivative Association (ISDA) contracts. In addition, for certain financial instruments positions, Credit Support Annex (CSA) contracts are in place under which cash is exchanged as collateral.

Syngenta AG guarantees the financial instruments transactions entered into under these ISDA contracts. The contingent liabilities related to these financial instruments are significantly limited by the credit risk mitigation measures applicable under the ISDA and the CSA contracts and amount to USD 9 million (CHF 9 million) as at December 31, 2022.

Litigation matters

Litigation is subject to many uncertainties, and the outcome of individual matters cannot be predicted with certainty. Consequently, it is reasonably possible that the final resolution of some of these matters could require Syngenta AG to make expenditures. Further, the range of amounts involved, as well as the period of time over which many of these expenditures may be made, cannot be reasonably estimated.

VIPTERA™

Beginning on September 12, 2014, several thousand lawsuits were filed against various Syngenta legal entities, among them Syngenta AG, in state and federal courts in the United States by plaintiffs seeking damages from Syngenta for commercializing its AGRISURE VIPTERA® (MIR162) and DURACADE™ corn seed in the United States without having obtained import approval from China for those products. In September 2017 plaintiffs and Syngenta reached a settlement to resolve all claims on behalf of all U.S. non-Viptera and Viptera producers as well as grain elevators and ethanol plants and the settlement is now final.

The settlement of the producer cases does not cover claims of the exporter plaintiffs such as Cargill, ADM, Louis Dreyfus, Trans Coastal Supply Company, Inc. ("Transcoastal"), The DeLong Company ("DeLong"), and Agribase International, Inc.. ADM and Syngenta reached in December 2017 a settlement of the Viptera litigation that ADM had brought against Syngenta in Louisiana Court. Louis Dreyfus and Syngenta reached a settlement in May 2019. Agribase and Syngenta reached a settlement in February 2020. Transcoastal and Syngenta reached a settlement in October 2020. These settlements do not resolve the lawsuits brought by other grain exporters such as Cargill (trial date set for October 2023). On February 3, 2021, the Federal District Court in Kansas granted Syngenta's motion for summary judgment and dismissed the DeLong lawsuit. DeLong appealed the dismissal. On May 13, 2022, the Tenth Circuit reversed the dismissal and remanded the case back to the district court. On February 28, 2023, the district court decided outstanding summary judgment motions filed by both Syngenta and DeLong by granting the motions in part and denying them in part. The district court in Kansas has indicated that it will not try the case but will remand the case for trial to the district court in Wisconsin where it was originally filed. There is no trial date at this time. In July 2021, Syngenta and Heartland Corn Products (the ethanol plant that opted out of the producer settlement) reached a settlement. Cargill claims to have suffered damages relating to delayed, rejected and re-routed shipments of U.S. corn to China of over USD 90 million and additional lost profits. Syngenta strongly believes that Cargill's & DeLong's claims in their respective cases are without merit and will vigorously defend the lawsuits.

In December 2015, a claim was filed in Ontario, Canada by a proposed representative plaintiff on behalf of a putative class comprising all farmers in Canada against Syngenta Canada Inc. and Syngenta AG seeking damages from Syngenta for commercializing its AGRISURE VIPTERA® (MIR162) and DURACADE™ corn seed in the North American corn market without having obtained import approval from China for those products. The causes of action referred to in the lawsuit include negligence and negligent misrepresentations. The allegations include claims that Syngenta actively misled farmers about the importance of the Chinese market, the timing and substance of the application for approval in China, its ability to channel VIPTERA™ corn into non-Chinese markets and its ability to contain the infiltration of VIPTERA™ corn to the North American corn supply. The proposed representative plaintiff is seeking on behalf of the putative class general and special damages of 300 million Canadian dollars (USD 222 million at December 31, 2022 exchange rates), punitive and aggravated damages of 100 million Canadian dollars (USD 74 million at December 31, 2022 exchange rates), the costs of distributing all monies awarded to class members, pre-judgment interest, and costs on a substantial indemnity basis. Syngenta's motion to strike this action was argued in April 2018, and on November 28, 2018, the judge dismissed the plaintiff's action in its entirety. The plaintiff appealed this decision. The appeal was heard in June 2019 and while the Court of Appeal denied plaintiff's appeal of the lower court's decision dismissing the claim as to the negligent misrepresentation and Competition Act claims, it granted the appeal as to the premature commercialization claim which would allow the lawsuit to continue as to that claim alone. Syngenta filed the documents necessary to seek leave to appeal the Court of Appeal's decision to the Supreme Court of Canada. On December 10, 2020, Syngenta's application for leave to appeal to the Supreme Court of Canada was denied. The parties proceeded to the certification stage of the proceeding. The motion for certification was heard on May 10-12, 2021. On September 29, 2021, the Superior Court certified the lawsuit. The certification decision was procedural and made no determination on the merits of the case. Syngenta maintains this lawsuit is without merit and will continue to vigorously defend it.

On February 14, 2017, a similar action was filed in Quebec against Syngenta Canada Inc. and Syngenta AG. The Petitioners are seeking essentially the same relief as in the Ontario action on behalf of all corn producers conducting business in Quebec who sold corn for commercial purposes after November 18, 2013. They allege that Syngenta was negligent and engaged in illegal commercial practices, contrary to the Competition Act and the Civil Code of Quebec, and that damages (amount unspecified) will continue to accrue until the corn business between North America and China is re-established at the levels that existed before Syngenta's negligence occurred. Punitive damages, pre-judgment interest and costs are also claimed. Syngenta has entered an appearance in the action. No other steps have been taken. Syngenta is continuing to vigorously defend against the Canadian actions and strongly believes that they are without merit.

Canada beekeeper lawsuits

In September 2014, a claim was filed in Ontario, Canada by two proposed representative members on behalf of a putative class comprising all beekeepers who have owned or continue to own and operate honey producing, pollinating, and/or queen bee rearing businesses in Canada since January 1, 2006, against a number of Syngenta legal entities together with certain entities of a second manufacturer of neonicotinoid insecticides. Plaintiffs allege negligence through the sale by that manufacturer and by Syngenta of products containing such insecticides in the knowledge that they would be injurious to bees and by virtue of misrepresentations and concealment relating thereto. Plaintiffs claim 400 million Canadian dollars (USD 296 million at December 31, 2022 exchange rates) general and 50 million Canadian dollars (USD 37 million at December 31, 2022 exchange rates) punitive damages. The pleadings in the Ontario proceedings were subsequently amended by plaintiffs' counsel to add waiver of tort and unlawful conspiracy to the single cause of action, negligence, which was previously pleaded. Both of the additional causes of action are ancillary to and largely dependent on the negligence claim. The class has not yet been authorized.

In October 2014, a Motion for Authorization was filed by the same firm of plaintiffs' counsel in Montréal, Quebec seeking permission to bring a similar class proceeding in that province. The proposed representative plaintiff operates a family business specialized in the breeding of queen bees. The Quebec litigation closely resembles the original Ontario lawsuit claiming negligence except that, rather than a nationwide class, it alleges a class limited to Quebec. At this early stage damages are unspecified. The Motion for Authorization was argued in November 2017. The Quebec class has been authorized on August 20, 2018, and notices have been sent to potential class members. Plaintiffs' motion to add Syngenta AG as a defendant has been granted.

Syngenta will defend these lawsuits, the claims in which are without foundation.

Paraquat Parkinson's disease litigation

Since September 2017, excluding the lawsuits that have been voluntarily or involuntarily dismissed, a total of more than 3,600 lawsuits have been filed against Syngenta in state and federal courts in the United States by plaintiffs seeking damages from Syngenta arising from their use of or exposure to Syngenta's paraquat products. Plaintiffs allege that their use of or exposure to Syngenta's paraquat products has caused them to develop Parkinson's disease and/or kidney disease. The cases name Syngenta AG, Syngenta Crop Protection, LLC, and Syngenta Seeds, and variously name other alleged distributors of paraquat as additional defendants.

While the counts raised in each complaint differ slightly by plaintiff and jurisdiction, they tend to include: (1) Strict Liability - Design Defect; (2) Strict Liability - Failure to Warn; (3) Negligence; (4) Public Nuisance; (5) Violation of Consumer Fraud & Deceptive Business Practices Acts; (6) Breach of Implied Warranty of Merchantability; and (7) Punitive Damages. Certain suits also include claims by the spouses of individuals with Parkinson's disease for Loss of Consortium. The pending state court cases are in California, Delaware, Illinois, Florida, Pennsylvania, and Washington. The pending federal court cases were filed in various U.S. District Courts, though the majority of new cases are being filed directly in the Southern District of Illinois as part of the pending Multi-District Litigation.

Multi-District Litigation (MDL). On June 7, 2021, the Judicial Panel on Multidistrict Litigation determined that consolidation is appropriate and that the pending actions would be transferred to the Southern District of Illinois for pretrial purposes. The first Case Management Order, issued June 10, 2021, stayed all responsive pleading and related deadlines for the coordinated cases. The Court also appointed a Special Master to oversee discovery, and discovery is ongoing. On February 14, 2022, the Court granted the defendants' motions to dismiss as to all public nuisance claims and certain state consumer protection claims and denied the motions to dismiss as to the other causes of action without prejudice. On April 13, 2022, Syngenta submitted answers in sixteen potential bellwether cases identified by the Court. On the same date, the Court selected six of those bellwether plaintiffs for further case-specific discovery; that discovery is currently in progress. On August 17, 2022, the Court selected 20 additional plaintiffs and ordered limited discovery and depositions in each of those cases to collect representative data and evaluate claims. The first trial in the MDL is scheduled to begin on October 16, 2023, with additional trials set thereafter.

Illinois State Court Claims. In September 2017, a complaint was filed in St. Clair County, Illinois state court on behalf of plaintiffs Thomas and Diana Hoffmann. On October 6, 2017, an amended complaint was filed in the same court on behalf of 12 plaintiffs, including the Hoffmanns. Syngenta's Motion to Dismiss was denied in July 2018. Syngenta filed its answer to the amended complaint in October 2018. On July 16, 2020, the state court dismissed without prejudice the claims brought by four plaintiffs pursuant to a motion for withdrawal filed by those plaintiffs. On April 27, 2021, all of the claims besides the Illinois Consumer Fraud & Deceptive Business Practices Act and corresponding Loss of Consortium claims were voluntarily dismissed by plaintiffs. Also, in 2021 and 2022, additional cases were filed in state court in Cook, Madison, McLean, and Vermillion Counties. The McLean county case was voluntarily dismissed in November 2021. Syngenta moved to dismiss the Cook and Vermillion county cases. On July 22, 2022, the Vermillion county court denied Syngenta’s motion to dismiss; Syngenta has subsequently filed its answer in that case. On October 19, 2022, Syngenta removed the Madison County case to federal court. The other Illinois state court cases remain at the pleading stage, with fully briefed motions to dismiss pending. In addition to the above, lawsuits have been filed in the state courts of California, Florida, Pennsylvania and Washington. The first state court trial is scheduled to begin on September 5, 2023, in California. An additional state court trial is scheduled to begin January 8, 2024, in Florida.

Settlement. On June 1, 2021, Syngenta and a third party co-defendant reached a settlement agreement with certain paraquat claimants. In exchange for (and contingent upon) dismissal of all pending cases represented by the lead counsel and a broad release from the covered claimants, Syngenta agreed to pay $187.5 million. Syngenta paid its share into the Qualified Settlement Escrow Fund on July 21, 2021, for purposes of third party verification and allocation among the claimants.

Canadian Litigation. Lawsuits alleging that Syngenta’s paraquat products to have caused their Parkinson’s disease have been filed by plaintiffs seeking class certification in Quebec, Ontario and British Columbia. The Plaintiffs proceeded first in Quebec seeking to authorize a national class. Syngenta opposed the motion, and maintained that if authorized, the class should be limited to Quebec. The authorization motion was heard June 6, 2022, and a Quebec only class was authorized on July 27, 2022.

In February 2023, the court granted the plaintiff’s motion to discontinue the Ontario proceeding to pursue the action in British Columbia.

In British Columbia, a date for the hearing of the certification motion has been tentatively set for November 27-December 1, 2023, pending the determination of the sequencing and jurisdictional challenges. The claim remains in its initial procedural stage and there has not yet been any substantive determination.

Syngenta continues to believe that all of these claims are without merit and will continue to defend the lawsuits.

Federal Trade Commission and related litigation

On September 29, 2022, the FTC and ten states filed a complaint in the United States District Court for the District of North Carolina against Syngenta Crop Protection AG, Syngenta Corporation, Syngenta Crop Protection, LLC., and Corteva, Inc. alleging violations of federal and state antitrust laws. The allegations cover what the complaint asserts are “many years,” and involve the distributor loyalty programs of Syngenta Crop Protection, LLC. and Corteva, Inc. and claim that the programs are used to exclude generic competition. The complaint sought to enjoin the defendants from engaging in the alleged unlawful conduct, now and in the future, regarding all crop protection products and active ingredients. The complaint further sought unspecified monetary and other equitable relief, as well as civil penalties on behalf of the state plaintiffs under their respective state laws, and costs including attorneys’ fees. Additional complaints were subsequently filed in the federal courts in Indiana, North Carolina, and Mississippi by individuals against the Syngenta entities, Corteva, Inc. and other unrelated parties alleging violations of federal and state antitrust laws as well as other statutes and common law (“the Individual Lawsuits”). The allegations involved the loyalty programs which were the subject of the FTC complaint. The Individual Lawsuits seek class certification and compensatory and treble damages (as yet unspecified) as well as injunctive relief, costs, attorneys’ fees and post and pre-judgment interest.

On December 12, 2022, Syngenta filed a motion to dismiss the FTC complaint. Following the filing, the FTC amended its complaint in an effort to address the deficiencies pointed out in Syngenta’s motion. The amended complaint also added two additional states as plaintiffs, bringing the total number of state plaintiffs to twelve. Syngenta has filed a revised motion to dismiss directed at the amended complaint. On December 30, 2022, the state of Arkansas filed a separate lawsuit in federal court in Arkansas modeled on the FTC complaint.

Plaintiffs in some of the Individual Lawsuits moved the United States Judicial Panel on Multidistrict Litigation (the “JPML”) to transfer and consolidate the Individual Lawsuits in the Southern District of Indiana (the “MDL Motion”). Syngenta and other defendants filed a response to the MDL Motion requesting that the JPML instead transfer all Individual Lawsuits to the Middle

District of North Carolina. The JPML held a hearing on the MDL Motion on January 26, 2023. On February 6, 2023, the JPML issued an order centralizing the Individual Lawsuits in the Middle District of North Carolina.

Syngenta believes that the allegations of these complaints are totally without merit and will defend the lawsuits.

Other

In a Deed of Guarantee dated December 6, 2017, Syngenta AG guaranteed to Syngenta Pensions Trustee Limited (the "Fund"), that if Syngenta Limited, or other Syngenta affiliates ("Employers"), which participate in the Fund, do not pay punctually amounts they owe to the Fund, then Syngenta AG will pay that amount instead of the Employers.

In a Deed of Guarantee dated December 23, 2019, Syngenta AG guaranteed to Jealott's Hill Unit Trust the rental payments for part of the Jealott's Hill research station to be paid by Syngenta Limited.

In a Deed of Guarantee dated December 23, 2021, Syngenta AG guaranteed to the Bankers Commercial Corporation, California, lease payments for Greensboro to be paid by Syngenta Crop Protection, LLC, Delaware.

Syngenta AG is part of a group of Swiss entities of Syngenta which are jointly and severally liable for the whole Swiss VAT amount due to the Swiss Tax authorities by this group.

6. Full-time equivalents

Syngenta AG does not have any employees.

7. Subsequent events

No events occurred between the balance sheet date and the date on which these financial statements were approved by the Board of Directors that would require adjustments to or disclosure in the financial statements.

Appropriation of Available Earnings of Syngenta AG

	2022 (USD millions)	2022 (CHF millions)
Available earnings:		
Balance brought forward from previous year	4,101	3,794
Net profit of the year	472	437
Total available earnings	**4,573**	**4,231**
Appropriation of available earnings:		
Full amount of the available earnings to be carried forward		
Total available earnings after appropriation	**4,573**	**4,231**

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Report of the Statutory Auditor to the General Meeting of Syngenta AG, Basel

Report on the Audit of the Financial Statements

Opinion
We have audited the financial statements of Syngenta AG (the Company), which comprise the balance sheet as at 31 December 2022, and the income statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements comply with Swiss law and the Company's articles of incorporation.

Basis for Opinion
We conducted our audit in accordance with Swiss law and Swiss Standards on Auditing (SA-CH). Our responsibilities under those provisions and standards are further described in the "Auditor's Responsibilities for the Audit of the Financial Statements" section of our report. We are independent of the Company in accordance with the provisions of Swiss law, together with the requirements of the Swiss audit profession, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

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

Board of Directors' Responsibilities for the Financial Statements
The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the Company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern, and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Auditor's 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 our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law and SA-CH, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' 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 the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

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

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the Company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

KPMG AG

Marc Stadelmann
Licensed Audit Expert
Auditor in Charge

Artem Chumakov

Basel, 17 March 2023

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