SCOTTISH WATER
Water Industry Commission for Scotland (WICS) ANNUAL RETURN 2022/23
OVERVIEW

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Contents

1 Executive Summary of Performance

Our strategic plan, Our Future Together, outlines our three strategic ambitions: Service Excellence; Going Beyond Net Zero Emissions; and Delivering Great Value and Financial Sustainability. This overview reports on our performance and activities in 2022/23, the second year of the 2021 - 2027 regulatory period.

We continue to deliver high quality services to customers and our key performance measures are at similar levels to the previous year.

Water quality remains high, at 99.92% (Line B10.15a) which is unchanged from last year and comparable with pre-COVID-19 performance in 2019 (99.917%) (see Table B10 commentary). Overall, our environmental performance remained stable with 96.2% of waste water treatment works fulfilling environmental licence conditions compared to 96.6% in 2021/22 (see Table B11b commentary). Whilst the total number of Environmental Pollution Incidents (EPIs) reduced in the year we had eleven of the more serious Category 1 and 2 Environmental Pollution Incidents (EPIs), which was one more than the previous year (see Table B11a commentary).

Over the last 12 months we have faced a series of challenges to delivering water and waste water services to our customers from more frequent extreme weather events, linked to climate change. In the summer of 2022, we had some very dry weather leading to drinking water quality issues, particularly for taste and odour (see Table B10 commentary), followed by very wet weather that led to flooding problems impacting over one hundred waste water treatment works. In the winter of 2022, we had to manage the impacts of a deep freeze, quickly followed by a rapid thaw, which caused an increase in burst pipes (see Table E6 commentary) and interruptions to customers' supplies (see Table B7 commentary).

We are one of the largest electricity consumers in Scotland requiring 442 Gigawatt hours (GWh) each year – enough to power nearly 140,000 homes. Reducing our carbon emissions remains a key priority and our operational greenhouse gas emissions continues to reduce - our net operational carbon footprint (CFP) for water and wastewater services in 2022/23 was 216,840 tCO_{2e}[1] a 6% reduction from 2021/22. (Line C1.29).

A total of 51[2] GWh, of renewable power was generated on-site in the last year (line C3.5 - C3.9), including 38 GWh generated by schemes owned by Scottish Water core business and 13GWh generated by schemes owned by Scottish Water Horizons (of which, 8GWh were generated by schemes embedded in core business assets). We have also achieved 71% of our 2030 renewable target of 1320GWh generated or hosted on our land (Line C3.4)

This was the second year of our six-year regulatory period (SR21), during which we planned to significantly increase our year-on-year investment levels, in line with the expectations of regulators and government. The amount of planned investment (Tier 2) associated with enhancement,

[1] Reported as 217,000 in Annual Report: Performance and Prospects report due to rounding

[2] The 46GWh reported in the Annual Report: Performance and Prospects relate to the total renewable generation benefiting Scottish Water operational assets: 38GWh coming from schemes owned by Scottish Water and 8GWh coming from schemes owned by Scottish Water Horizons.

flooding, growth asset replacement and planned repair and refurbishment delivered this year is £694m compared to £623m[3,4] in 2021/22 (outturn prices). When we include responsive repair and refurbishment expenditure this was £886m, up £112m[5] on the previous year (outturn prices)[6].

The total available to support planned investment after charging for Long Term Normative Charge items for the year was £381 million. This was £56 million higher than that anticipated in the Final Determination for the year, due to lower costs, including efficiencies in operating costs and PFI costs, offsetting lower revenue and efficiencies in regulated operating costs and PFIs. Cumulatively, since the start of the regulatory period, the surplus to support planned investment was £64 million higher.

We have increased water and wastewater charges for 2023/24 by five percent, an average of thirty-seven pence per week per household and almost half (49%) of our customers receive some form of rebate or reduction in their water and wastewater charges.

The charges were set after discussions with the Scottish Government, to balance the need for future investment to protect services, with the significant economic challenges faced by many people and businesses across Scotland at the current time. As a consequence, the finance available for investment in the 2021-27 period will be around £0.5 billion (10%) lower than expected at the start of the regulatory period, inevitably delaying delivery of certain aspects of our investment plan.

Our transformation programme is underway with initiatives taking shape and starting to deliver benefits in service delivery, efficiency, and customer experience. Some of the initiatives~~,~~ have delivered cost and carbon savings and others have protected our environment by preventing environmental pollution and blockages.

[3] This value (£623m) is reported in the AR22 submission "report year 21/22" (sum of lines G1.76 and G1.77) and in the DAG 16-23-02 Progress Report on Performance Against the Committed List Q4 2022-23. It has been revised to £621.5 for AR23. Please refer to the commentary for table G1 for further detail.

[4] equivalent to £567m and £560m in 17/18 prices

[5] equivalent total investment in 2017/18 prices is £723m compared to an average of £585m in SR15

[6] Note that the values reported on the DAG 16-23-02 Progress Report on Performance Against the Committed List Q4 2022-23 and Section G tables take account of payment received from a contractor for defective work that occurred some years ago (-£6.7m) and are reported as £687 (£686.5m – sum of Lines G1.76 and G 1.77) for Tier 2 investment and £880m (£ 879.5 Line G1.78) for Tier 2, responsive repair and refurbishment expenditure

2 Customer Experience - Levels of service and compliance

2.1 UK Customer Satisfaction Index (UKSI)

Scottish Water's benchmarking score against the Utility Sector National Survey results was 77.7 which is a small decrease of 0.7 points compared to July 2022.

Scottish Water is currently ranked 10*th* in the Customer Service Index by Scottish respondents (figure 1) moving up from 12*th* position. We sit above the Scottish average of 74.8 and are six points behind the top ranked company, Amazon.co.uk.

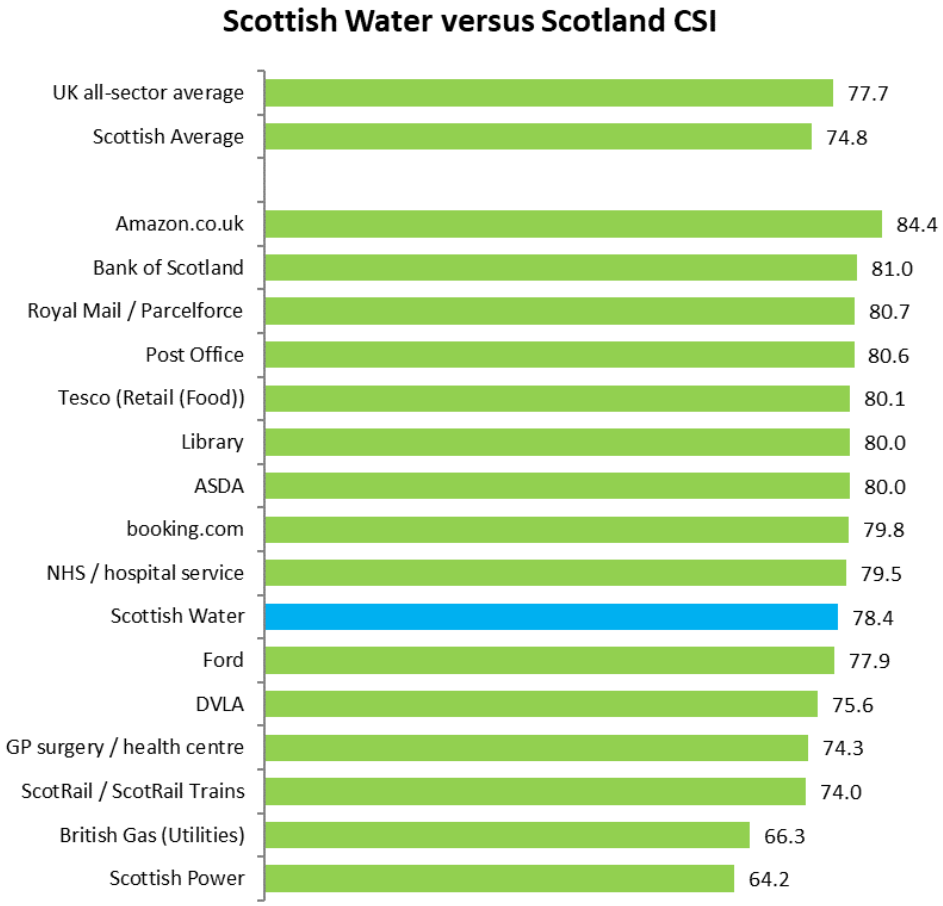

Figure 1: UKCSI Customer Service Index scores

2.2 Customer Experience Measures (CEMs)

Our Household Customer Experience Measure (hCEM) score was 86.4, similar to last year's score of 86.0 (Line B5.1). The slight improvement was primarily driven by the quantitative indicators of the measure with all the elements performing better or remaining on par from AR22 despite a spike calls in December 2022 - January 2023 due to the disruptive winter weather conditions (Table B5 commentary). Of the qualitative indicators only the Customer Experience Survey improved from AR22 (from 92.39% to 92.41% - Line B5.2).

Our Non-household Customer Experience Measure (nhCEM) score was 86.7 and has decreased slightly from 87.2 (Line B6.1). On the quantitative side we experienced fewer Service Issue

Contacts in AR23 compared to AR22, and fewer Escalations. However, there was an increase in Formal Complaints primarily driven by an increase in wastewater related complaints (+ 34.38%). On the qualitative side we saw an increase in Licensed Provider Satisfaction scores offset by a small decrease in Business End User Satisfaction scores.

Further details for the measures are covered in the commentary for Tables B5 (hCEM) and B6 (nhCEM)

2.3 Overall Performance Measure

The Outcome Performance Assessment (OPA) is a points-based measure that scores our performance across a range of activities essential to maintaining levels of customer service and environmental protection. Our OPA performance for the last year was 401, slightly higher than the previous year's score of 398[7] This was mainly driven by an improvement in interruptions to supply with 5,707 weighted properties with interruptions greater than 6 hours compared to 9,504 in 2021/22 (Line B2.29). There were also small improvements in leakage, internal sewer flooding and Category 3 Environmental Pollution Incidents.

2.4 Drinking Water Quality

We have maintained performance in many of our key performance metrics at or around the same level as last year. In 2022 the zonal program was affected by COVID-19 restrictions between 1 and 23 of January. Following discussion with the DWQR, those samples were rescheduled after the 24 of January and a full regulatory sampling programme retaken from customer properties.

Our water quality compliance remains high at 99.92% and we are committed to building on this solid foundation to increase the reliability and resilience of our water service.

Water quality compliance at customer's taps remained high at 99.914% which is consistent with the previous year (99.919%), with comparable results for microbiological, disinfection by-product, discolouration, and internal plumbing parameters. However, taste and odour has seen a deterioration with 12 failures in comparison to 7 in 2019, the last comparative year. The majority of these have occurred since the start of July 2022 to the end of October 2022 reflecting the peak in the presence of compounds related to algae in our reservoirs, driven by climate change, increases in source water temperature and our asset capability to remove taste and odour precursors.

Water Treatment Works (WTWs) performance has been sustained at a high level for 2022 at 99.959% and performance at Service Reservoirs (SR) (99.946%) was primarily impacted by 5 failures at the Darvel SR in Ayrshire, which was subsequently taken out of service, refurbished and returned to service end of May 2023. Two other sites with multiple failures were taken out for cleaning and temporary repairs and further investment is underway or planned to address integrity issues.

There were 19 *Cryptosporidium* detections not mitigated by ultraviolet (UV) treatment, which is 9 higher than in 2021. Nine of these were in October and November 2022 following heavy rain across much of the country reflecting the high raw water load from the first flush after a dry summer period impacting on some water treatment works with capability issues.

[7] OPA figures are extracts from Annual Report Performance and Prospects and contained in AR23 - SR21 OPA Reporter's Report)

We continue to invest at several water treatment works to improve capabilities and maintain the high levels of water quality compliance and treated water storage points (service reservoirs and clear water tanks) carrying out maintenance identified through current inspection and cleaning programme as well as the known backlog of essential maintenance requirements which will take two to three years to reduce.

Further detail on water quality performance measures and planned investment is contained in the commentary to Table B10

2.5 Interruptions to Supply

In mid-to-late December we experienced challenging weather conditions; initially with extensive freezing weather causing frozen valves followed by a rapid thaw causing a large increase in bursts water mains.

Despite the challenges we saw an overall reduction in properties experiencing unplanned interruptions to supply across all durations. This can be widely attributed to improved planning and preparation for severe weather events.

The number of unplanned interruptions to supply to properties greater than six hours in 2022/23 saw a significant decrease to 5,707 compared with 9,504 in 2021/22[8] (Line B2.29). Impact to our customers were mitigated by rezoning our network or using tankers to bring supplies back on quickly while we completed repairs.

During 2022/23 a total of 2,281 individual customers contacted us who had experienced three or more interruptions to their water supply in the year or five or more interruptions over the last three years. The majority were associated with the failure of asbestos cement (AC) water pipes which make up around 12% of our water distribution mains. Around 70%-80% of the investment in small diameter water mains is being targeted to replace deteriorating AC pipes (see Table B2 commentary).

Up to the end of AR23 period, we have committed almost £155m in responsively repairing water mains and activities to minimise the rate of failure, such as mains rehabilitation & transient pressure management.

Further detail on interruptions to supply is contained in the commentary to Tables B2

2.6 Leakage

Leakage levels reduced slightly to 454 ML/d compared to 459ML/d in AR22.

In 2022/23 we improved our reporting methods and employed a new method of calculating non-domestic water use at night. Innovation and digital technology will help us further improve monitoring, detection and repairs.

[8] Toral weighted properties for OPA purposes

Our improved leakage management technology has helped us detect issues quicker, meaning burst pipes were found and repaired more quickly. We are installing two thousand smart meters on our networks to enable us to better understand demand and leakage.

Further detail on leakage is contained in the commentary to Table B8.

2.7 Waste Water Treatment Works (WWTW) Compliance

The number of waste water treatment works (WWTWs) which failed the Total Compliance measure in 2022/23 is 22 out of 580 assets listed on the Annual Monitoring Plan (AMP) and sampled under Operator Self-Monitoring (OSM) (Line B11b.29). This is an increase on 20 from AR22 and equates to a 96.2% compliance rate, comparable with 96.6% in 2021/22.

We continue to carry out mitigation to prevent compliance failures and have seen an increase in the number of temporary process units brought on site to ensure ongoing compliance whilst investigations are completed or longer-term improvements are procured. We also continue to invest in upgrading our assets to enable growth within catchments as some works may be operating at higher risk as catchment growth continues and treatment works capacity reduces. In AR22, we invested £3.7m at 8 wastewater treatment works to provide over 14,000 PE (population equivalent) additional capacity to enable development.

We are also progressing our transformation activities to enable an Intelligent Asset Base including the Exemplar Waste Water Initiative. This will build on the work to improve real time data received from our treatment works, scaling up to 67 WWTW and incorporating data from 15 final effluent monitors to improve monitoring and allow proactive intervention.

Further detail on WWTWs compliance is contained in the commentary to Table B11b and B11c

2.8 Environmental Pollution Incidents

In 2022/23 there were a total of 206 Environmental Pollution Incidents (EPIs), including 193 waste water EPIs (Line B11a.15), down from the previous year's total of 282 (AR22 Line B11a.13). In 2022/23 (fiscal year) there were a total of 13 water-related[9] EPIs (sum of Line B11a.9 and Line B11a.10) up from 9 the previous year. 8 of the wastewater and 3 of the water-related EPIs were in the more serious Category 1 and 2 (compared to 8 and 2 respectively in the previous year).

Most of these incidents are associated with wastewater networks, sewer chokes and with maintenance activities. Where such incidents occur a full analysis of root cause is undertaken to inform any required improvement plans.

As we move through SR21 our focus will be on reducing the incidents that occur on our wastewater network through increased intelligence and targeted planned maintenance.

We are investing in in real time network monitoring to help shift our response from predominantly reactive, relying on SEPA or customers to inform us of issues, to proactive. To date we have piloted network monitoring in four operational drainage areas, trialling the role it could play in predicting

[9] This includes water and surface water

blockages and pollution risks. The data generated from the monitors installed in these areas has led to 25 successful interventions and has prevented 6 potential EPIs to date.

To further improve our monitoring capability, we have agreed a methodology with our regulator SEPA to identify where we will instal monitors for near real time reporting, we are on track with our commitment to install one thousand new monitors by December 2024.

In addition to resolving EPIs once they have occurred and increasing monitoring capabilities to prevent them from occurring, we are continuing with our Nature Calls campaign which is now in its second year. The campaign is aimed at achieving a reduction in sewer blockages caused by wipes and other unflushable items in the sewer network by encouraging members of the public to only flush the three Ps (pee, poo and paper) and calls on the Scottish and UK governments to ban the sale of wipes that contain plastic.

This April the UK Government announced it intends to implement a ban on wipes containing plastic and the Scottish Government has indicated it is seeking to work with Westminster and devolved governments in Wales and Northern Ireland on a joined-up 'four-nations' approach to a ban.

Further detail on EPIs is contained in the commentary for Table B11a.

2.9 Sewer Flooding

In 2022/23 the total annual rainfall volume increased in comparison to 2021/22, however fewer short duration high intensity storms were experienced. In general, with fewer dry periods, ground conditions are more permeable because of consistent relatively high levels of saturation; allowing more surface water to drain naturally rather than enter the sewers. The level of rainfall experienced in most events was such that our sewer network was able to drain effectively resulting in less flooding due to overloaded sewers.

The total number of properties impacted by internal sewer flooding in the last year was 364 (This excludes the number of properties who experienced Internal Flooding due to severe weather (13.)) The most significant cause of internal sewer flooding continues to be sewer blockages and collapses, with 329 properties affected in the year, compared to 279 in 2021/22. In 2022/23 there were forty-eight properties affected by internal flooding due to overloaded sewers which is significantly lower than last year 291 properties. This is due to a different pattern of rainfall events through this year, where we did not experience the same high number of intense summer storms as 2021 and continued investment in this area to prevent sewer flooding and protect customers for the impacts of flooding through enhanced mitigation measures.

Further detail on sewer flooding is contained in the commentary for Table B3

3 Beyond net Zero Emissions

3.1 Energy Efficiency and Carbon Emissions

Whilst the last year has thrown up some challenges in progressing activities to reduce our carbon footprint, we have delivered cumulative emissions reduction in the last two years of 15,691 tCO2e (8,253 tonnes in 2022/23 and 7,428 tonnes in 2021/22) We will continue to focus on delivery and

are confident we will deliver our 2021-24 target of cumulative emissions reduction of at least 20,000tCO2e.

Electricity remains our largest source of emissions and we continue look at ways to reduce the amount we use. Total consumption for regulated operations (485.099GWh) increased by 19.654GWh mainly because of returning PFI assets. The predominant source of electricity consumed is the grid (454.684GWh) which was 12.635GWh higher than the year before. Approximately 9GWh are attributed to former PFI wastewater assets coming back into the regulated business and approximately 4GWh were an increase in water operations (primarily the pumping of raw and treated water). During AR23 some 5.87GWh annual equivalent energy efficiency was delivered in wastewater through adoption of lower energy equipment and by the Exemplar Wastewater Treatment.

Our operational greenhouse gas emissions also continued to reduce, and our carbon footprint (CFP) was 216,840 tCO2e - a 6% reduction on the previous year.

Following good work by our supply chain partners, we are starting to see some emission reductions reflected in projects being promoted. Importantly we are significantly increasing our understanding of carbon associated with all projects.

Further detail on energy efficiency and carbon emissions is contained in the commentary for Section C Tables

3.2 Renewables

We are one of the largest electricity consumers in Scotland requiring 442 Gigawatt hours (GWh) each year. A total of 51[10] GWh, of renewable power was generated on-site in the last year (line C3.5- C3.9), including 38 GWh generated by schemes owned by Scottish Water core business and 13GWh generated by schemes owned by Scottish Water Horizons (of which, 8GWh were generated by schemes embedded in Scottish Water core business assets). A further 28 GWh was generated by our PFI[11] partners from biogases produced by waste water treatment processes (Line C3.8). Renewable energy sources are a vital part of reducing our operational emissions. The largest contribution (76%) to on-site renewable generation for the regulated business comes from hydro turbines and the total generation increased by 5.8 GWh in 20223/23 (Lines C3.5 - C3.8) mainly because the generation from bioresources now accounts for the former PFI CHPs.

Further detail on energy efficiency and carbon emissions is contained in the commentary for Tables C3

3.3 Tier 1 Operating expenditure (before LTNC items)

Costs before items subject to LTNC for the year were £729 million £55m lower than the Final Determination.

[10] The 46GWh shown on the P&P relate to the total renewable generation benefiting Scottish Water operational assets: 38GWh coming from schemes owned by Scottish Water and 8GWh coming from schemes owned by Scottish Water Horizons.
[11] PFIs (excluding those in Scottish Water's Group) and Scottish Water Grampian.

Exposure to increased inflation was managed effectively. Operating costs increased by £27m or 7% to £416m (2022: £389m) due to inflationary impacts associated with payroll, including increased national insurance costs, and chemical costs with the latter increasing by 60% or £12m.

PFI costs increased by £6m or 4%, to £177m (2022: £171m). PFI costs increased by £6m or 4%, to £177m (2022: £171m). This was predominantly due to contract indexation, particularly the impact of gas indexation on the Levenmouth contract, offset by savings from the folding of the Aberdeen Environmental Services Group of companies into Scottish Water's wastewater operations. Please refer to Section 3 of Section M Commentary for detailed information.

Interest charges in the year decreased by £6m to £136m (2022: £142m) mainly as a result of increased interest income from funds on deposit.

Further detail on Tier 1 operating expenditure and the absorption of the Grampian PFI activities into the Regulated business of Scottish Water can be found in the M tables

3.4 Capital investment expenditure

Our investment programme is one of the largest infrastructure programmes in Scotland – delivering the vital assets that enable us to maintain and improve the water and wastewater services people depend on every day. In the last year we have significantly increased the amount of planned investment delivered - we invested £694m, up from £623m in 2021/22. When we include responsive repair and refurbishment expenditure it was £886m, up £92m on the previous year (outturn prices).

The significant year on year step up in investment has only been possible by upskilling our people and working in collaboration with our supply chain partners to bring in new skills and greater capacity into the construction sector. Innovation has been key, embracing the benefits brought from digital construction rehearsals; offsite manufacture; new water and wastewater technology; and innovative construction techniques.

Much of our planned investment (£405m – outturn prices, £330m in 17/18 prices) has been in the refurbishment and replacement of existing assets to continue to deliver a high level of service to our customers (sum of lines G1.16 and G1.73). However, we have also invested significantly in adding to our asset base to enhance water quality, environmental performance and to facilitate growth.

During 2022/3 a total of 7708 projects - an average of around twenty-one projects each day - were delivered compared to 6212[12] last year. This is the largest number to date. The increase in the number of projects is due to the rise in investment in refurbishing our existing assets where multiple smaller projects are needed.

Our investment performance measures, which we introduced for this regulatory period, focus on ensuring the pace of investment is maintained and commitments met on project delivery. These include - Progress to Committed List (PCL) and Indicator of Progress of Delivery (IPOD). PCL allows us to focus on the initiation of work in the system and promotion rates, ensuring there is sufficient volumes of investment flowing through to delivery. The IPOD measure allows us to focus

[12] 2021/22 Annual Report and Accounts: Performance and Prospects Report

on delivery once an investment project is in delivery and maintain a focus on the commitments made to customers and stakeholders.

Both measures were within the target range as shown in Table 1 below. This indicates that we are promoting sufficient volume of investment across the programme to achieve planned investment in future years (PCL) and the delivery of the overall programme is, on average, 1 month ahead of forecast (IPOD).

Table 1: Capital Investment delivery performance measures

Measure	Performance for year	Target range
Progress to the Committed List (PCL)	113%	100% – 110%
Indicator of Progress of Overall Delivery	-1.01 months (609 points)	+/- 3 months (564 to 683 points)

3.5 SR15 Completion programme

At the end of the SR15 regulatory period a number of projects remained to be completed. These fall into two categories:

- Delayed Projects – projects that were expected to complete by the end of SR15 but were impacted by COVID-19, scope change, construction risk and third-party risk

- Planned Projects – projects that commenced in SR15 but were always expected to complete during SR21

At the end of the financial year, we had planned to have 80 of the 86 delayed projects through the acceptance milestone. Twenty-one of the 80 projects have still to achieve this milestone due to third party issues, changes in scope, the need to align their delivery with other planned work in the programme or construction risk being realised. We expect all of the SR15 delayed projects to be complete by the end of the SR21 period.

The delivery of 57 projects initiated in the SR15 period were planned for delivery in SR21 with 43 of these having now achieved the acceptance milestone against a target of 52. Ten projects have been impacted by delays including scope reviews.

Further detail capital investment expenditure is contained in Table G and associated commentary, the IPPG 16-23-02 Progress of interventions to meet needs on the development List Q4 22-23 report and DAG 16-23-02 Progress Report on Performance Against the Committed List Q4 2022-23