

SUBSIDY SCHEME TO EXTEND FIBRE-BASED NETWORKS TO VILLAGES IN REMOTE AREAS

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1. With a view to incentivising telecommunications operators to roll-out optical fibre infrastructure, the Chief Executive of the Hong Kong Special Administrative Region of the People’s Republic of China proposed in the 2017 Policy Address that the Government should take the lead to provide telecommunications companies with financial incentives in the form of subsidies to encourage the extension of fibre-based network to villages in remote locations. This initiative would also provide the telecommunications infrastructure necessary for the conservation and revitalisation of rural and remote areas in future. In July 2018, the Finance Committee (FC) of the Legislative Council (LegCo) approved a commitment of \$774.4 million for the implementation of the Subsidy Scheme to Extend Fibre-based Networks to Villages in Remote Areas (hereinafter referred to as the “Subsidy Scheme”). The Office of the Communications Authority (OFCA) is responsible for administering the Subsidy Scheme. The Subsidy Scheme covers 235 villages across nine districts in the New Territories and outlying islands. These 235 villages are grouped under six projects. In the period from November 2019 to May 2020, OFCA awarded six contracts to two fixed network operators (FNOs) for the implementation of the projects, with three contracts awarded to each FNO. For the six contracts, the project works under five contracts were completed and the project works under the remaining contract were in progress as of December 2025. As of December 2025, fibre-based networks were connected to 233 (99%) of the 235 villages. Of the approved commitment of \$774.4 million, \$665.9 million (86%) had been incurred under the six contracts. The Audit Commission (Audit) has recently conducted a review to examine OFCA’s work in administering the Subsidy Scheme.

Planning and implementation of project works

2. *Scope for improving the consultation process for preparing a reasonable estimation on the number of villages to be covered and number of villagers to be benefitted.* In the period from October 2017 to June 2020, OFCA reported the estimated number of villages to be covered under the Subsidy Scheme and the

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estimated number of villagers to be benefitted from the Subsidy Scheme to LegCo and the public on various occasions. There were differences in the estimated number of villages to be covered under the Subsidy Scheme and the estimated number of villagers to be benefitted from the Subsidy Scheme as reported by OFCA in the period: (a) the estimated number of villages to be covered under the Subsidy Scheme was adjusted downwards by 21% from 380 as at October 2017 to 300 as at June 2018 and further adjusted downwards by 22% to 235 as at January 2019 and June 2020, with an overall downward adjustment of 38%; and (b) the estimated number of villagers to be benefitted from the Subsidy Scheme was adjusted downwards by 29% from 170,000 as at October 2017 and June 2018 to 120,000 as at January 2019 and further adjusted downwards by 8% to 110,000 as at June 2020, with an overall downward adjustment of 35%. According to OFCA: (a) the estimated numbers were reviewed and updated through its continuous engagement with all the relevant stakeholders; and (b) the full list of villages was prepared under a multi-stage approach and this accounted for the apparent differences. While noting the apparent differences in the estimated numbers as reported by OFCA, Audit considers that there might be scope for OFCA to draw lessons from planning of project works under the Subsidy Scheme, including improving the consultation process through engagement of the relevant stakeholders with a view to preparing a reasonable estimation on the number of villages to be covered and the number of villagers to be benefitted in a timely manner in implementing similar scheme in future (paras. 2.2 to 2.5).

3. ***Longer time taken to complete project works for some villages.*** There is no requirement under the six contracts of the Subsidy Scheme on the duration for completing project works for individual villages. As of December 2025, project works for 233 (99%) of the 235 villages were completed as reported by the FNOs. For 8 (3%) of the 233 villages, the FNO concerned did not provide OFCA with information on the commencement dates of project works. Audit analysed the time taken to complete project works for the 225 (233 less 8) villages with the commencement dates of project works provided and found that longer time was taken to complete the project works for some villages. For 48 (21%) of the 225 villages, it took more than 4 years to complete the project works. Audit also found that OFCA did not have readily available information on the time taken to complete the project works for individual villages (para. 2.12).

4. ***Need to ensure that a feasible location is stipulated in contract for implementing project works.*** The project works under a contract involved construction of a common manhole of the Network Termination Point of Village A. According to the contract, the Network Termination Point shall locate on unleased

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Government land/public street within a distance of 15 metres from the Reference Network Termination Point. After the commencement of project works for Village A, the FNO concerned found that the areas within the 15 metres radius from the Reference Network Termination Point were private land areas and received objection to the proposed project works from the villagers concerned. In January 2022, after reaching an agreement with the village representative of Village A, the FNO concerned identified another location on public land area for constructing the common manhole of the Network Termination Point. The FNO concerned submitted an application in April 2022 and an updated application in December 2022 for a variation to construct the common manhole of the Network Termination Point of Village A at the new location. In December 2022, OFCA approved the application for the variation. In the event, while the project works commenced in January 2020, the project works were completed in February 2024 (i.e. a project duration of 49 months) (paras. 2.15 to 2.17).

5. ***Scope for improving site investigations on underground utilities.*** The project works under a contract involved the roll-out of lead-in connection to the vicinity of the entrance of Village B. According to the contract, the Network Termination Point shall locate on unleased Government land/public street within a distance of 15 metres from the Reference Network Termination Point. After the commencement of project works for Village B, the FNO concerned found that the areas within the 15 metres radius from the Reference Network Termination Point were fully occupied with underground utilities including drainage, water pipes, electricity cables and cables for public lighting. After checking with the utility undertakers, the FNO concerned identified a new location. In September 2023, the FNO concerned submitted an application for a variation to revise the location of the Network Termination Point. Subsequently, the FNO concerned found that there were some underground electricity cables of a utility company in the revised location of the Network Termination Point. In May 2024, the FNO concerned submitted another application for a variation to further revise the location. In July 2024, OFCA approved the application for the variation. In the event, while the project works commenced in November 2020, the project works were completed in September 2025 (i.e. a project duration of 58 months) (paras. 2.19 to 2.21).

6. ***Variations of project works implemented before obtaining prior written approval.*** According to the contracts, subject to the provisions of the contracts, no waiver, cancellation, alteration or amendment of or to any provisions of the contracts shall be valid unless made by an instrument in writing and duly signed by the contracting party and the Government. As of December 2025, there were a total of

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50 applications of variations made by the FNOs under the six contracts. Audit examined the 50 applications of variations and found that 11 (22%) applications (involving 17 villages) were approved by OFCA after the respective dates of completion of project works. Approvals for the 11 applications were obtained 3 to 428 days (averaging 122 days) after the respective project works were completed (para. 2.23).

7. *Need to enhance guidelines on conducting Milestone Acceptance Tests.* According to the contracts, the FNOs are required to complete the relevant works for each contract by 4 contract milestones before the deadlines specified in the tender documents. According to OFCA's guidelines, for conducting Milestone Acceptance Tests by FNOs, the FNOs will submit a draft test plan for OFCA's approval one month prior to conducting the Milestone Acceptance Tests. Upon approval of the test plan by OFCA, the FNOs will conduct the Milestone Acceptance Tests. The FNOs will then prepare and submit the Milestone Acceptance Test Reports to OFCA. Audit examined the 17 test plans and the relevant Milestone Acceptance Test Reports of the 20 contract milestones with milestone assessment completed as of December 2025 and found that: (a) for all 17 test plans, the dates of conducting Milestone Acceptance Tests by the FNOs were not documented. OFCA's guidelines did not require the documentation of such dates; and (b) for 6 (35%) test plans, the dates of submission of relevant Milestone Acceptance Test Reports were 1 to 120 days before the dates of OFCA's approval of the test plans (averaging 70 days) (paras. 2.28 and 2.30).

8. *Need to set timeframe for approving milestone assessment reports.* According to OFCA's guidelines, upon finalising the Milestone Acceptance Test Reports by the FNOs and on-site inspection reports by OFCA, OFCA staff will conduct a milestone assessment and prepare a milestone assessment report. If OFCA is satisfied that all requirements specified under the contract milestones have been met before the completion deadlines, it will approve the milestone assessment reports and issue milestone completion certificates to the FNOs. OFCA's guidelines did not stipulate the timeframe for the approval of the milestone assessment reports. Audit examined the 17 milestone assessment reports of the 20 contract milestones with milestone assessment completed as of December 2025 and found that the time taken for approving the milestone assessment reports ranged from 7 to 156 days (averaging 40 days) (paras. 2.35 and 2.36).

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Monitoring of selected fixed network operators

9. *Need to enhance arrangements in conducting monthly on-site inspections.*

OFCA conducts monthly on-site inspections with each of the selected FNOs to monitor the implementation progress and verify the actual progress against the progress reported by the selected FNOs. Since the implementation of the Subsidy Scheme and up to December 2025, OFCA conducted 122 monthly on-site inspections. Audit examined records of the 122 monthly on-site inspections and noted that: (a) OFCA had not issued any guidelines on the conduct of monthly on-site inspections, such as the criteria for selection of projects, villages, locations and inspection items to be covered; (b) for each of the 122 monthly on-site inspections, the date, time, projects, villages, locations and inspection items to be covered were proposed by the FNO. OFCA conducted the monthly on-site inspections according to the FNOs' proposals. There was no documentary evidence showing that OFCA had selected the projects, villages, locations or inspection items to be covered taking into account the risk factors identified in project implementation; (c) the number of monthly on-site inspections conducted for each project and each village varied. The number of times each project was selected ranged from 6 to 43 times, averaging 23.2 times. Of the 235 villages covered under the Subsidy Scheme, 93 (39%) villages had never been selected for monthly on-site inspections and 86 (37%) villages had been selected once. There was no documentary evidence showing the rationale for selecting the projects and villages for each monthly on-site inspection; and (d) the frequency of inspection items covered in the 122 monthly on-site inspections varied. Of the 12 inspection items for monthly on-site inspections, some inspection items were only covered in 1 to 4 monthly on-site inspections. There was no documentary evidence showing the rationale for selecting the inspection items to be covered for each monthly on-site inspection (paras. 3.2 and 3.3).

10. *Need to improve disclosure of additional service commitments.* The selected FNOs have made additional service commitments, including providing high-speed broadband services, installing Wi-Fi hotspots within the common area of villages for provision of free public Wi-Fi services and offering high-speed broadband services at prevailing market offer. Audit examined records in relation to the disclosure of additional service commitments and noted that: (a) the additional service commitments made by the selected FNOs for the respective projects were not published on OFCA's website; and (b) according to OFCA, upon verification of milestones completion and issuance of completion certificates, OFCA will issue letters to relevant village representatives and Rural Committees informing them of the information on additional service commitments. Of the 20 contract milestones with completion certificates issued by OFCA as at 31 December 2025: (i) in the letters

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issued to relevant village representatives and Rural Committees for all the 16 contract milestones involving installation of Wi-Fi hotspots by the selected FNOs, the information on the availability of the free public Wi-Fi services and the locations of the Wi-Fi hotspots for the villages concerned was not included; and (ii) in the letters issued to relevant village representatives and Rural Committees for all the 6 contract milestones involving offering of high-speed broadband services at prevailing market offer by one selected FNO, the information on the offering of high-speed broadband services at prevailing market offer was not included (paras. 3.19 and 3.23).

11. ***Need to improve installation of Wi-Fi hotspots and provision of free public Wi-Fi services.*** According to the contracts, for 5 of the 6 projects, the FNOs have made additional service commitments to install at least one free Wi-Fi hotspot operated by the FNOs within the common area of the villages for provision of free public Wi-Fi services (para. 3.25). Audit noted the following issues:

- (a) ***Need to facilitate the use of free public Wi-Fi services by the public.*** According to OFCA, the FNOs should facilitate the use of the free public Wi-Fi services by members of the public and put up labels around the Wi-Fi hotspots indicating the availability of the free public Wi-Fi services. Audit examined the Milestone Acceptance Test Reports or the on-site inspection reports for 100 Wi-Fi hotspots under the 16 contract milestones that involved installation of Wi-Fi hotspots and noted that: (i) for 6 (6%) Wi-Fi hotspots, no photographs of the labels indicating the availability of the free public Wi-Fi services could be found in the reports; and (ii) for 24 (24%) Wi-Fi hotspots, the labels indicating the availability of the free public Wi-Fi services were affixed at non-prominent locations. In January and February 2026, Audit visited 20 Wi-Fi hotspot locations under the 16 contract milestones and noted that for 15 (75%) of the 20 locations visited, no labels indicating the availability of the free public Wi-Fi services were put up around the Wi-Fi hotspots. Audit also noted that the list of the locations of all Wi-Fi hotspots installed for all projects was not published by OFCA or the selected FNOs (para. 3.28);
- (b) ***Free public Wi-Fi services not available at some Wi-Fi hotspots.*** In January and February 2026, Audit visited 20 Wi-Fi hotspot locations under the 16 contract milestones to ascertain the availability of the free public Wi-Fi services. Audit noted that: (i) for 3 (15%) locations, the Wi-Fi hotspots could not be located based on the locations provided in the Milestone Acceptance Test Reports or on-site inspection reports; and (ii) of

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the remaining 17 (85%) locations where the Wi-Fi hotspots could be located, for 6 (30%) locations, Wi-Fi signal for the free public Wi-Fi services could not be detected, and for 2 (10%) locations, while connections to the free public Wi-Fi services could be established, Internet access was not available through the connections (para. 3.30); and

- (c) ***Scope for enhancing operation and maintenance of Wi-Fi hotspots.*** While the contracts stipulated the requirements on the installation of Wi-Fi hotspots by the FNOs, there were no requirements on the operation and maintenance of the Wi-Fi hotspots and the service level of the free public Wi-Fi services to be provided (e.g. minimum operation period after installation of Wi-Fi hotspots, minimum service duration for each connection session and provision of usage information of Wi-Fi hotspots to OFCA) (para. 3.32).

12. ***Room for improvement in facilitating FNOs in reaching network capacity agreements.*** To introduce market competition and for better use of public resources, the selected FNOs are required to open up at least half of the capacity of the subsidised fibre-based lead-in connections and submarine fibre-based cables for use by other FNOs for free. The selected FNOs shall use all reasonable endeavours to reach network capacity agreements with other FNOs asking for shared use of the subsidised network. Audit examined records in relation to reaching network capacity agreements and noted that: (a) as at 31 December 2025, network capacity agreements had been reached for 2 (33%) of the 6 projects; and (b) according to OFCA, for the remaining 4 (67%) projects, FNOs commenced negotiations with the selected FNOs for sharing the use of the subsidised network in mid-2023. However, as at 31 December 2025, no network capacity agreement had been reached for the 4 projects. The time elapsed from the commencement of the negotiations to 31 December 2025 was about 2.5 years (paras. 3.48 and 3.49).

Other issues

13. ***Room for improvement in conducting tender exercise.*** When seeking funding approval for the Subsidy Scheme from FC in June 2018, OFCA informed FC that OFCA would invite eligible FNOs to participate in the Subsidy Scheme by way of tender. Audit examination of records of the tender exercise revealed that: (a) while OFCA originally planned to complete the preparation of tender documents by December 2018 according to OFCA's tentative implementation plan reported to FC,

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the revised tender documents were endorsed by end of May 2019, i.e. 5 months later than the original plan; (b) OFCA issued tender documents to invite 15 eligible FNOs to bid for the six projects under the Subsidy Scheme in early June 2019, i.e. 5 months later than the original plan of commencing the tender exercise in January 2019 reported to FC; and (c) the agreements with the selected FNOs were signed in November and December 2019, i.e. 5 to 6 months later than the original plan of signing the agreements by June 2019 reported to FC (paras. 4.2 and 4.3).

14. ***Need to encourage competition in tender exercises.*** In September 2019, OFCA received tenders submitted by 2 of the 15 eligible FNOs. Audit noted that: (a) no tender was received for 1 project; (b) 1 conforming tender was received for each of 3 projects; and (c) 2 conforming tenders were received for each of 2 projects. OFCA conducted a re-tender exercise in January 2020 for the project with no tender received. Audit noted that OFCA shortened the tendering period from 3 months for the tender exercise commenced in early June 2019 to 2 months for the re-tender exercise commenced in January 2020. However, no documentary evidence was available showing the justifications for shortening the tendering period (paras. 4.6 and 4.7).

15. ***Need to conduct a review on overall effectiveness of the Subsidy Scheme.*** Audit noted that in a meeting of the LegCo Panel on Information Technology and Broadcasting held in June 2020, a Member stated that in some villages where fibre-based networks were rolled out to the village entrances only, villagers had experienced difficulties in connecting to the networks. The Member suggested the Government to conduct a survey to assess the circumstances of the villagers who were still unable to connect to the fibre-based networks and to identify possible solutions. The Deputy Chairman suggested that the Government should monitor the effectiveness of the Subsidy Scheme through a survey. In another meeting of the LegCo Panel on Information Technology and Broadcasting held in May 2022, the Government stated that the effectiveness of the Subsidy Scheme would be reviewed upon its conclusion. Audit considers that OFCA needs to conduct a review on the overall effectiveness of the Subsidy Scheme after its full completion, taking into account the audit observations and recommendations in this Audit Report (para. 4.23).

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Audit recommendations

16. Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Director-General of Communications should:

Planning and implementation of project works

- (a) draw lessons from planning of project works under the Subsidy Scheme, including improving the consultation process through engagement of the relevant stakeholders with a view to preparing a reasonable estimation on the number of villages to be covered and the number of villagers to be benefitted in a timely manner in implementing similar scheme in future (para. 2.6);
- (b) in implementing project works in future, ascertain the reasons for the longer time taken to complete the project works for some villages and step up monitoring of project implementation to ensure that the project works for individual villages are completed as soon as practicable (para. 2.26(b));
- (c) in implementing project works in future, take measures to ensure that a feasible location is stipulated in the contract for implementing the project works (para. 2.26(c));
- (d) in implementing project works in future, take measures to ensure that the FNOs have conducted thorough site investigations on underground utilities to support their applications for variations to project works (para. 2.26(d));
- (e) for variations to the project works, take measures to ensure timely submission of applications of variations and all necessary information by the FNOs for obtaining prior written approvals by OFCA (para. 2.26(e));
- (f) enhance guidelines on conducting Milestone Acceptance Tests by requiring proper documentation of the dates of conducting the Milestone Acceptance Tests (para. 2.40(a));

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- (g) continue to take measures to ensure that the draft test plans are submitted and the Milestone Acceptance Tests are conducted in accordance with the guidelines (para. 2.40(b));
- (h) set the timeframe for approving milestone assessment reports and take measures to approve the milestone assessment reports within the specified timeframe (para. 2.40(e) and (f));

Monitoring of selected fixed network operators

- (i) formulate guidelines on the conduct of monthly on-site inspections for the Subsidy Scheme, including the criteria for selection of projects, villages, locations and the inspection items to be covered, and take measures to ensure that monthly on-site inspections are conducted in accordance with the guidelines (para. 3.17(a));
- (j) take measures to ensure that the projects, villages, locations and inspection items to be covered in monthly on-site inspections are selected taking into account the risk factors identified in project implementation and the rationale for the selection is properly documented (para. 3.17(b));
- (k) publish information on the additional service commitments made by the selected FNOs for the respective projects on OFCA's website (para. 3.46(b));
- (l) include information on the availability and details of services provided according to additional service commitments in the letters to be issued to relevant village representatives and Rural Committees (para. 3.46(c));
- (m) take measures to ensure that labels indicating the availability of the free public Wi-Fi services are put up at prominent locations around the Wi-Fi hotspots by the selected FNOs (para. 3.46(e));
- (n) take measures to ensure that the free public Wi-Fi services are available at all Wi-Fi hotspot locations under the Subsidy Scheme (para. 3.46(f));

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- (o) **in implementing similar schemes in future, stipulate requirements on the operation and maintenance of the Wi-Fi hotspots and the service level of the free public Wi-Fi services to be provided, and ensure compliance with the stipulated requirements (para. 3.46(g));**
- (p) **keep in view the timeframe for the selected FNOs to reach network capacity agreements with other FNOs who have expressed interest in sharing the use of the subsidised network, and take actions to facilitate reaching of such agreements where necessary (para. 3.51);**

Other issues

- (q) **in conducting tender exercises for similar schemes in future, take further measures to ensure that tender documents are prepared and tender exercises are conducted within the timeframe of the tentative implementation plan reported to FC (para. 4.10(a));**
- (r) **in conducting tender exercises for similar schemes in future, take measures to encourage competition in tender exercises (para. 4.10(b));**
- (s) **in conducting tender exercises for similar schemes in future, take measures to ensure that the justifications for setting a shorter tendering period in the tender exercises are documented (para. 4.10(c));**
- (t) **conduct a review on the overall effectiveness of the Subsidy Scheme after its full completion, taking into account the audit observations and recommendations in this Audit Report (para. 4.24(b)); and**
- (u) **in light of the results of the review, draw experience from the implementation of the Subsidy Scheme with a view to enhancing the administration of similar schemes in future (para. 4.24(c)).**

Response from the Government

17. The Director-General of Communications agrees with the audit recommendations.

