

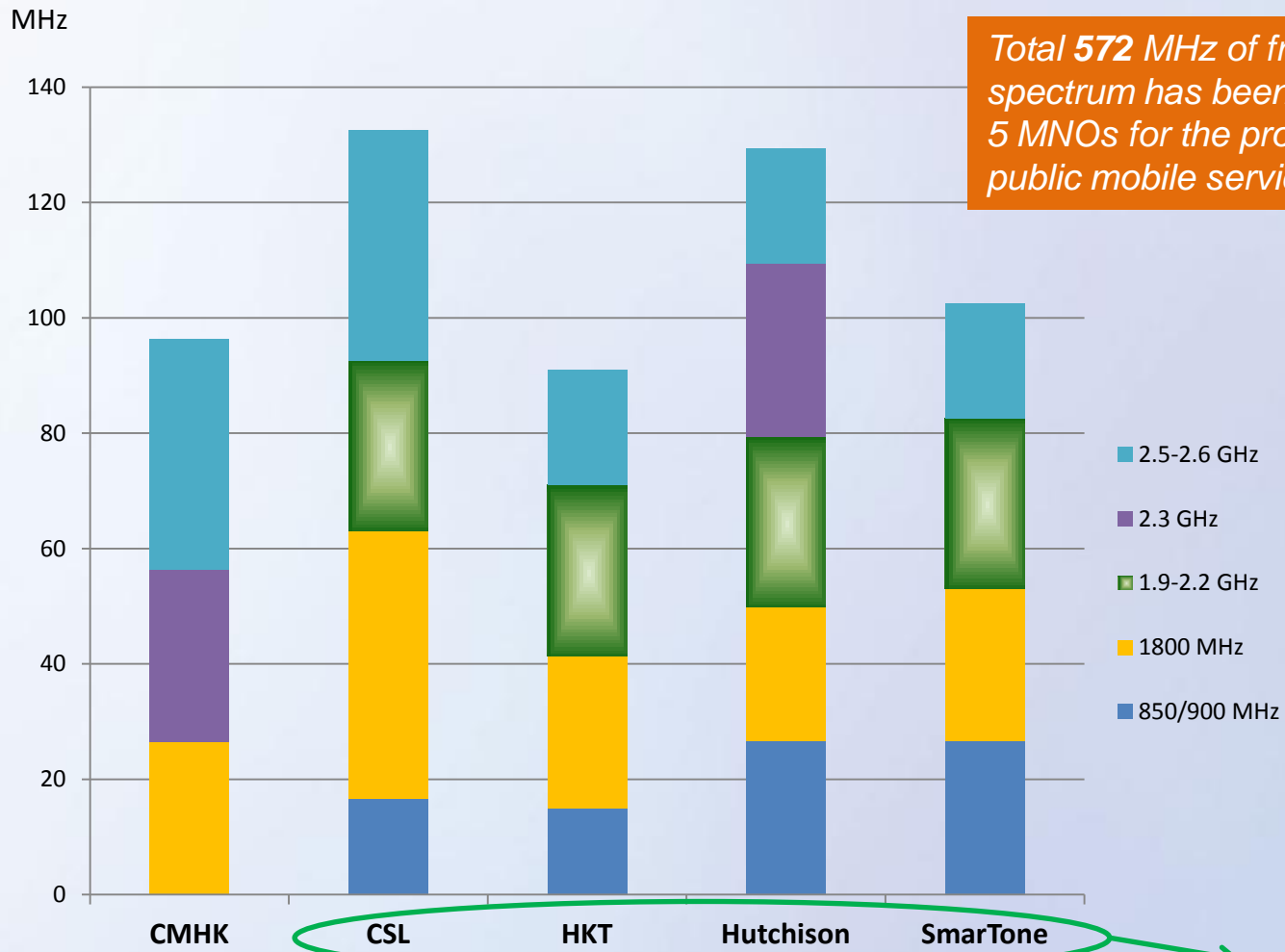
Arrangements for Re-assignment of the 3G Spectrum and the Spectrum Utilisation Fee

**Telecommunications Regulatory Affairs Advisory Committee
29 November 2013**

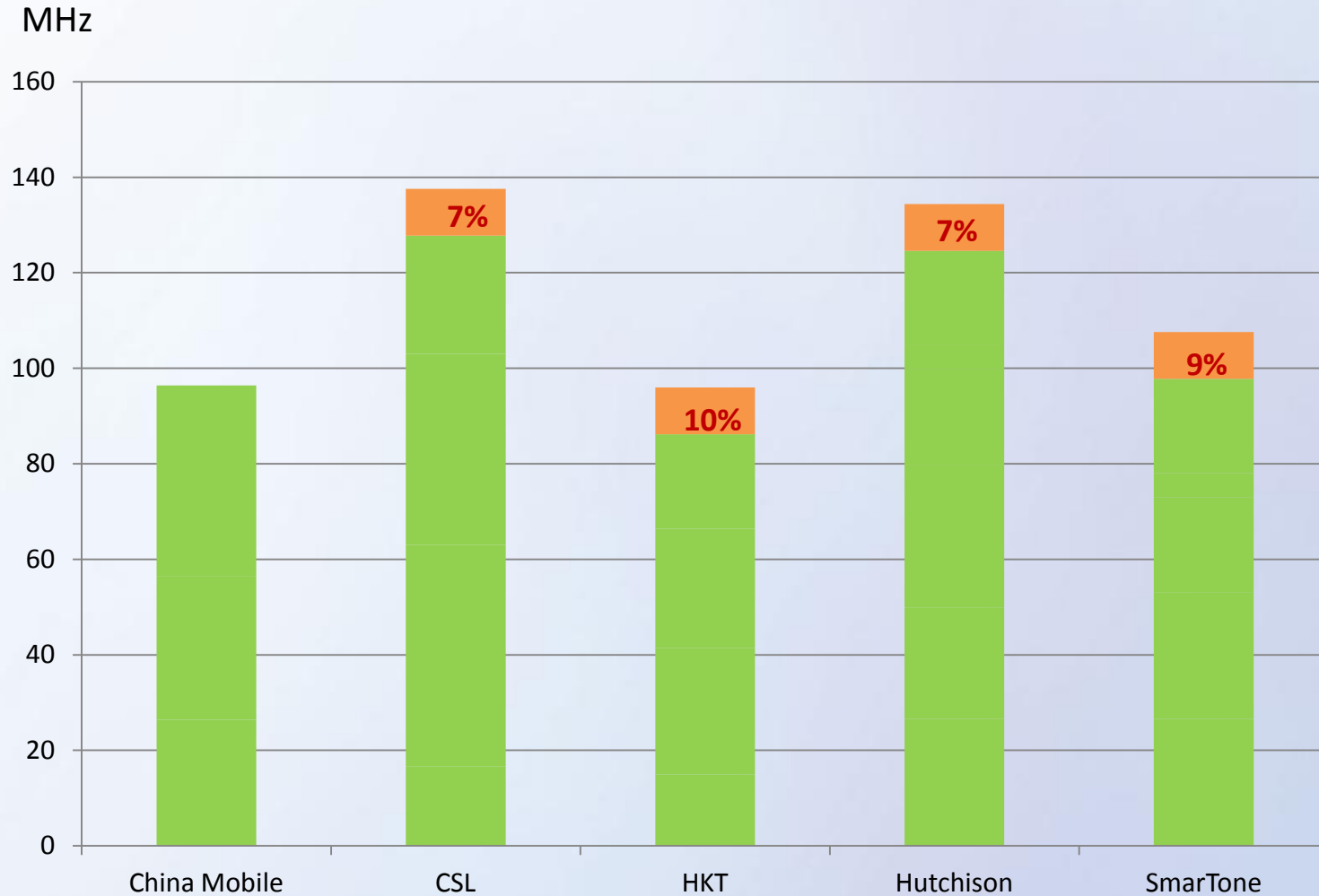
The Communications Authority (“CA”)'s Decision

- ✚ Adopt a hybrid administratively-assigned cum market-based approach to re-assign the 120 MHz of paired spectrum in the 1.9 – 2.2 GHz band (“3G Spectrum”) upon expiry of the existing assignments in October 2016
 - 2/3 of the spectrum to be re-assigned through right of first refusal to the incumbent 3G operators (“RFR Spectrum”)
 - The remaining to be re-assigned through auction

Spectrum Holdings of MNOs



One-third of the 3G Spectrum



Factors Considered by the CA in Formulating Its Decision

- ✚ Its statutory duty under the Telecommunications Ordinance and the Communications Authority Ordinance
- ✚ The Radio Spectrum Policy Framework
- ✚ Views and comments received in the two rounds of public consultation
- ✚ Findings of the consultancy study commissioned by the Government
- ✚ Policy views of the Secretary for Commerce and Economic Development (“SCED”)
- ✚ Independent assessment of the CA

Two Rounds of Public Consultation

- ✚ 1st Public Consultation : March – July 2012
 - Option 1 : To offer right of first refusal to the incumbents for all the 3G Spectrum
 - Option 2 : To re-auction all the 3G Spectrum
 - Option 3 : Hybrid approach

- ✚ 2nd Public Consultation : December 2012 – April 2013
 - Hybrid approach proposed for further consultation
 - Two methods proposed for setting the SUF of the RFR Spectrum

2007 Radio Spectrum Policy Framework

- ✚ Two guiding principles in spectrum management
 - There is no legitimate expectation on the part of the spectrum assignees that there will be any right of renewal or right of first refusal of any spectrum assignment upon expiry
 - A market-based approach in spectrum management will be used wherever the CA considers that there are likely to be competing demands from providers of non-Government services, unless there are overriding public policy reasons to do otherwise

Overriding Public Policy Reasons

+ Policy views of the SCED

➤ Auction outcome under Option 2 highly uncertain

- Risk of 3G service coverage loss in certain indoor areas during the transitional period
- Potentially severe and long lasting effects on service quality and reception

➤ There exists an overriding public policy reason to deviate from the full-fledged market-based approach (i.e. Option 2)

+ The CA shares the view of the SCED

+ Option 1 & Option 3 remain in consideration

Objectives in Spectrum Re-assignment

- ✚ Ensuring customer service continuity
- ✚ Efficient spectrum utilisation
- ✚ Promotion of effective competition
- ✚ Encouragement of investment and promotion of innovative services

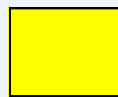
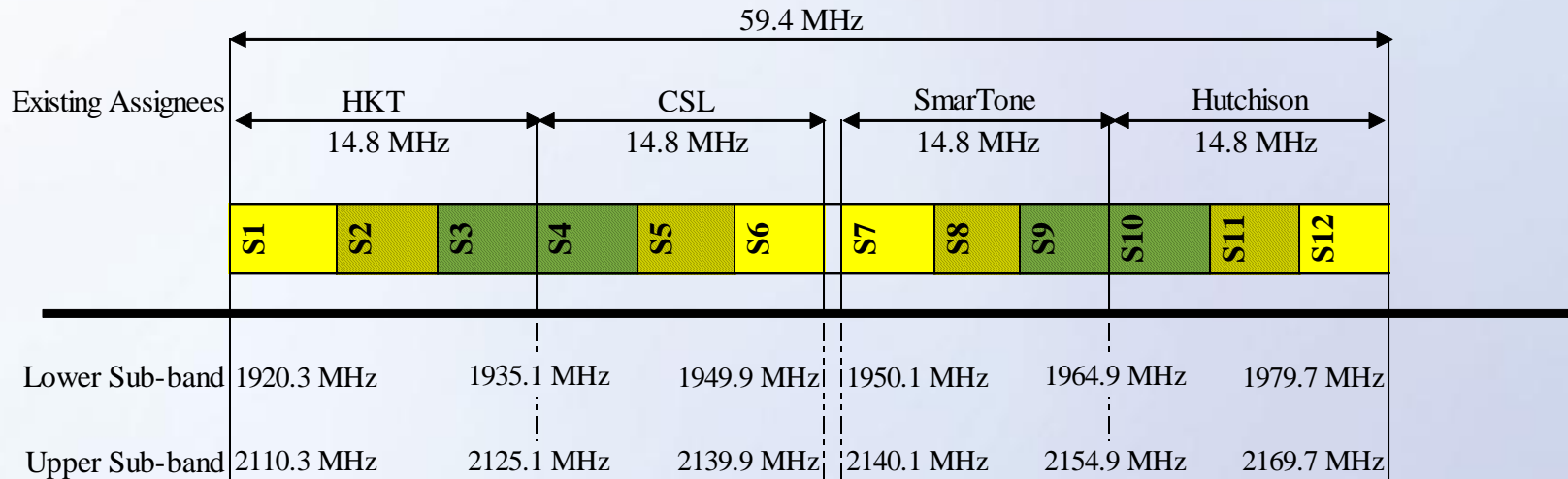
Customer Service Continuity

- ✚ Government appointed Network Strategies Limited as an independent technical consultant (the “Consultant”)
- ✚ Based on the assessment of the Consultant, service continuity and quality under the hybrid option is capable of being on a par with that under Option 1 with implementation of appropriate mitigation measures

Efficient Spectrum Utilisation

- ✚ The hybrid option is more likely to enhance the efficiency in spectrum utilisation
 - Auction enables the spectrum to be assigned to the mobile network operators (“MNOs”) which value it the most and hence put it to the most efficient use
 - Different MNOs have different spectrum needs, auction allows the MNOs to review and optimise their spectrum holdings
 - The band plan (on next page) enables the incumbents to acquire contiguous spectrum block of up to $\sim 2 \times 20$ MHz in the 1.9 - 2.2 GHz band, thus readily utilising the full potential of the LTE-Advanced technology
 - Perpetual spectrum assignment as under Option 1 provides less incentive or pressure for the incumbents to strive to enhance spectral efficiency

Band Plan for Re-assigning the 3G Spectrum



Slots of 2 x 5 MHz bandwidth to be offered to incumbent 3G operators under the right of first refusal



Slots of 2 x 4.9 MHz bandwidth to be offered to incumbent 3G operators under the right of first refusal



Slots of 2 x 4.9 MHz bandwidth which would be made available for re-auction

Promotion of Effective Competition

- ✚ The hybrid option is more likely to promote effective competition
 - It provides an opportunity for new entrants to enter the mobile market, especially there will not be new spectrum release before the availability of the digital dividend
 - It provides an opportunity for MNOs to rationalise their spectrum holdings according to their own commercial considerations, hence enabling them to compete more effectively

Encouragement of Investment and Promotion of Innovative Services

- ✚ The hybrid option is more likely to encourage investment and promote innovative services
 - New 3G Spectrum assignees will invest to put the spectrum to use
 - The incumbents, having been re-assigned 2/3 of the 3G Spectrum, will continue to invest. If any of them does not acquire any of the re-auctioned spectrum, they need to invest further in its network infrastructure to compensate for the reduction in spectrum capacity
 - The opportunity to build up a contiguous spectrum block of up to ~2 x 20 MHz of spectrum will enable the provision of more innovative services using the LTE-Advanced technology

CA's Decision on 3G Spectrum Re-assignment

	Market-based Approach	Administratively-assigned Approach	Hybrid Approach
Ensuring customer service continuity	✗	✓	✓
Efficient spectrum utilisation	✓	✗	✓
Promotion of effective competition	✓	✗	✓
Encouragement of investment & promotion of innovative services	✓	✗	✓

- ✚ The hybrid option best meets the multiple objectives in spectrum re-assignment

SCED's Decision on Spectrum Utilisation Fee (“SUF”) of the RFR Spectrum

- ✚ SUF per MHz of the RFR Spectrum to be set at the higher of \$66 million or the averaged SUF as determined by auction for the re-auctioned spectrum, subject to a cap of \$86 million
 - The per MHz SUF of \$66 million is the royalty payable by the incumbent 3G operators for using the 3G Spectrum in 2016 under the existing term of assignment
 - With the per MHz SUF of the RFR Spectrum capped at \$86 million, the incumbent 3G operators will be certain about their maximum financial commitment for the RFR Spectrum
 - The per MHz SUF thus set covers the next 15-year term of assignment

Spectrum Auction

- ✦ Planned to be conducted in the 4th quarter of 2014, after offer of the right of first refusal to the incumbent 3G operators
- ✦ Open for bidding by all interested parties
- ✦ Auction reserve price : \$48 million per MHz as determined by SCED
- ✦ Using the Simultaneous Multi-round Ascending auction format
- ✦ A minimum of four frequency slots of 10 MHz each will be available for auction
- ✦ Spectrum cap : 40 MHz of spectrum in the 1.9 – 2.2 GHz band
 - Inclusive of the RFR Spectrum for the incumbent 3G operators

Licensing Arrangements

+ Licence validity period

- 15 years : 22 October 2016 – 21 October 2031

+ Network and service rollout obligations

- Apply to new entrants to the band, and incumbent 3G operators which acquire any re-auctioned spectrum not originally held by them
- Minimum coverage in terms of a specified percentage of population and/or number of commercial and/or residential buildings within 5 years from grant of licence
- A performance bond is required

+ No open network access requirement

Thank you