

## **LEGISLATIVE COUNCIL BRIEF**

### **Digital Terrestrial Television – Analogue Switch-off**

#### **INTRODUCTION**

At the meeting of the Executive Council held on 9 December 2014, the Council ADVISED and the Chief Executive ORDERED that the target date for switching off analogue television (“TV”) services (i.e. analogue switch-off, or “ASO” in short) should be deferred to 2020, and the ASO working target should be reviewed in 2017-18.

#### **JUSTIFICATIONS**

##### **Development of Digital Terrestrial Television (“DTT”) Services in Hong Kong**

2. The free-to-air terrestrial TV services in Hong Kong were used to be transmitted in analogue format only for over 40 years. In December 2007, for the first time in Hong Kong, the two domestic free television programme (“free TV”) service licensees, namely Asia Television Limited (“ATV”) and Television Broadcasts Limited (“TVB”), launched their digital terrestrial television (“DTT”) services<sup>1</sup> on top of their analogue TV services. The analogue TV and DTT services of Hong Kong are currently transmitted by using frequency spectrum at the Ultra High Frequency (“UHF”) band in the range of 470-806 MHz, the spectrum band allocated by the International Telecommunication Union (“ITU”) for TV broadcasting worldwide<sup>2</sup>. The worldwide trend<sup>3</sup> is to

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<sup>1</sup> ATV and TVB are providing a total of 11 free DTT channels, including the high definition television channels, 24-hour news channel, and the digital simulcast of the existing four analogue TV channels.

<sup>2</sup> This frequency band is share used by both the Mainland and Hong Kong for terrestrial TV services.

gradually move away from analogue TV broadcasting to DTT broadcasting because the latter, apart from offering enhanced picture quality and features (e.g. electronic programme guide, interactive service, etc.), is more spectrum-efficient<sup>4</sup>. In view of the increasing demand for spectrum for mobile telecommunications services, the ITU has already recommended that part of the spectrum in the UHF 470-806 MHz band (namely, UHF 698-806 MHz) is suitable for mobile telecommunications services. ASO can thus vacate spectrum to relieve the ever-increasing demand for spectrum for high value-added mobile telecommunications services, such as mobile broadband services (the so-called “digital dividend”). Enhancing spectrum efficiency and maximising the digital dividend are the main reasons for ASO.

### **Target ASO Date for Hong Kong**

3. In July 2004, the Government promulgated the implementation framework for DTT broadcasting. It was set out in the framework that our aim was to switch off analogue TV service five years after the commencement of simulcast of DTT and analogue TV services. As the DTT services were rolled out at the end of 2007, the target ASO date was thus set at end 2012. In June 2011, having regard to the development and market situation then<sup>5</sup>, the Government decided that the target date for ASO should be deferred from end 2012 to end 2015. We noted then a deferral would –

- (a) give the two free TV service licensees, i.e. ATV and TVB, more time to extend and optimise their DTT network, with the aim to exceed the analogue TV coverage;
- (b) allow more time for the remaining viewers to switch to DTT; and
- (c) allow more time for us to coordinate with the Mainland authorities on the use of digital dividend to yield the maximum economic benefits for Hong Kong.

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<sup>3</sup> As of now, some countries, including Singapore, Malaysia and Thailand, are contemplating to implement ASO between 2015 and 2020. Some others, including USA, Japan, UK, and Australia, have implemented ASO.

<sup>4</sup> In other words, the use of DTT enables the transmission of more programme channels than analogue TV for a given bandwidth of spectrum.

<sup>5</sup> The network coverage then was over 95% and user take-up rate was about 63%.

We had, however, stressed in public that end 2015 was but a working target and the Government would closely monitor the actual market situation and the prevailing DTT take-up rate before taking a firm decision on ASO.

### **Hong Kong's Readiness for ASO**

4. Given the pervasiveness of free TV service in Hong Kong, totally switching off analogue TV broadcasting service will inevitably result in disruption to the concerned viewers. It is therefore necessary for us to achieve a high degree of DTT network coverage and a high DTT penetration rate to minimise such disruptions. More importantly, a crucial benefit arising from ASO is the realisation of digital dividend through devoting the spectrum in UHF 698-806 MHz for mobile telecommunications services. For the digital dividend to be usable for high value-added mobile telecommunications services, it must be free from radio interference in the same frequency range. This requires the coordination and harmonisation of the use of spectrum in the UHF 470-806 MHz band with Hong Kong's neighbouring Mainland cities.

#### *Disruption to Existing Viewers*

5. The development of the coverage of the DTT network and penetration of DTT services since mid-2011 is as follows –

- (a) according to our public survey conducted in September 2014, the penetration of DTT services (the percentage of households capable to receive DTT services) is slightly above 80%. About 20% of the population, or some 480 000 households, have yet to switch to DTT; and
- (b) the two free TV service licensees have further extended and optimised the DTT network. By September 2013, their overall DTT network coverage has already reached at least 99% of the Hong Kong population, on a par with that of analogue TV.

If we are to implement ASO in 2015, the above 480 000 households using analogue TV sets will need to purchase a new digital TV set or install a DTT set-top box before they can receive DTT signals. This will inevitably cause disruptions to the concerned viewers.

### *Frequency Coordination with Mainland Authorities*

6. The Mainland authorities have all along been facilitating the frequency coordination between Hong Kong and the Mainland. For instance, between 2000 to 2003 (i.e. even before DTT was launched in the Mainland China in 2008) the Mainland authorities helped out in the coordination of some frequency bands to enable the launch of DTT and mobile TV services in Hong Kong in late 2007.

7. The Office of the Communications Authority (“OFCA”) has conducted frequency coordination meetings with the relevant Mainland authorities. Such coordination efforts are required to ensure that both Hong Kong and the Mainland can achieve the most optimised utilisation of spectrum, and that Hong Kong can yield the maximum economic benefits from realising digital dividend. The Mainland authorities have indicated that, for planning purposes, the earliest ASO timeframe for Guangdong Province would be end 2020. Prior to that, without technical coordination, ASO in Hong Kong will not yield any usable digital dividend.

### **Revised ASO Target**

8. The above developments suggest that the public is not fully ready. Implementing ASO in 2015 will unnecessarily force a considerable number of analogue TV viewers (about 20% of the population or some 480 000 households) to switch to DTT in order to continue to watch free TV broadcast. At the same time, we are not yet in a position to reap the benefits of the digital dividend should we implement ASO in 2015. The original working target ASO date of end 2015 is therefore not tenable. On balance, as the realisation of digital dividend in Hong Kong, a crucial benefit arising from ASO, is unlikely to be achieved earlier than 2020, we should set the revised ASO target date at end 2020 correspondingly. It would also be prudent to review the situation around 2017-18 and confirm the ASO date<sup>6</sup>.

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<sup>6</sup> It is an established international practice to align one’s ASO target date with that of its neighbouring countries/areas. We understand that Singapore has also deferred its ASO target date to 2020 in deference to the need for frequency harmonisation with Malaysia.

## **IMPLICATIONS OF THE PROPOSAL**

9. The deferral of the ASO target date has financial implications as set out in **Annex**. It has no significant economic implications, as the currently available spectrum is expected to be sufficient to meet the demand for mobile telecommunications services in Hong Kong in the short term. The proposal is in conformity with the Basic Law, including the provisions concerning human rights. The proposal has no productivity, civil service, environmental, family, or significant sustainability implications.

## **PUBLIC CONSULTATION**

10. We will explain that the deferral of the ASO target date is a practical option. The Government has always stressed in public that the original target ASO date of end 2015 is subject to review. The two free TV service licensees are also aware that the original target of end 2015 is subject to review.

## **PUBLICITY**

11. We will issue a press release on 9 December. We will also brief the Legislative Council Panel on Information Technology and Broadcasting.

## **ENQUIRIES**

12. For enquiries, please contact Mr Edward TO, Principal Assistant Secretary for Commerce and Economic Development (Communications and Technology) A at 2810 2708.

Communications and Technology Branch  
Commerce and Economic Development Bureau  
December 2014

## **Financial Implications**

The two incumbent free TV service licensees, i.e., ATV and TVB, are each holding a fixed carrier licence issued under the Telecommunications Ordinance (Cap. 106). They are each paying the OFCA Trading Fund an annual carrier licence fee of about \$10 million, comprising a fixed fee of \$1 million and a variable spectrum fee of about \$9 million at rates stipulated in Schedule 3 of the Telecommunications (Carrier Licences) Regulation (Cap. 106V). The variable spectrum fee is directly proportional to the amount of spectrum allocated to the licensee for providing its carrier services. Hence a deferral of the ASO date will mean a reduction in variable spectrum fee payment (about \$5 million per annum for each licensee at current rate) will be deferred as well.

2. The proposal does not have implications on the licence fees payable by ATV and TVB under their respective free TV service licences issued under the Broadcasting Ordinance (Cap. 562). Upon ASO, and subject to frequency coordination, any vacated spectrum upon implementation of ASO may be put up for auction for use in telecommunications and the proceeds in the form of spectrum utilisation fee shall be credited to General Government Revenue.