

6.3 DRIVERS OF CONSUMER ADOPTION

The main drivers for the take-up of DTT by consumers in South Africa are likely to be:

- Affordability of STBs and potential subsidies for STBs is the single most important driver of take-up of digital broadcasting;
- The setting of a switch-off date for dual illumination;
- Additional services – increase in the number of channels transmitted and the introduction of new types of services (EPG, teletext, interactive services, e-mail, etc) within a fixed amount of bandwidth;
- Improved picture and audio quality
- Portability and Mobility – portable indoor reception will reduce installation costs or mobile broadcasting services to new devices;
- World Cup 2010 will drive consumer take-up in terms of the improved visual and audio quality.

The WG economic model (see Appendix B) proposes a standard subsidy percentage that applies to all STBs sold, and a different subsidy for the existing TV households falling below the affordability threshold. For the latter group, it also explores the option of subsidising these households in the final year of migration or continuously over the migration period at a rate defined by the user. However partial STB subsidies alone will not address all of the low income and special groups needs, and despite subsidies there will still be a proportion of the existing TV households that would not be able to afford digital broadcasting services.⁹⁸ In addition there are those households who currently do not have access to television and have not been catered for in any of the scenarios.

The groups that need additional support and assistance to access digital broadcasting services include isolated rural and poor communities, people who are functionally illiterate, people with disabilities, the elderly and individuals dependent on social services. The assistance can take various forms including subsidies, financial, technical and installation support. The timing and implementation of targeted assistance support should further provide for sufficient production, installation and support lead-times to ensure a minimum level of service disruptions. A planned assistance rollout will also ensure the availability of reasonably priced and suitable equipment to address the needs of people with vision or hearing impairments before analogue switch off.⁹⁹

It is proposed that additional assistance schemes should draw on established government initiatives, including the Department of Local and Provincial Government's (DPLG) municipalities framework for basic service provision for indigent groups. This framework further provides for an identification criteria and a national indigent register, which serves as a means of disseminating assistance to economically vulnerable groups.¹⁰⁰ While it is originally intended for delivery of basic

⁹⁸ 2004 StatsSa Household Survey

⁹⁹ Consumer Expert Group on digital switchover for the Department for Culture, Media and Sport and the BBC, April 2006, Supporting Vulnerable Consumers with targeted assistance at and after Digital TV Switchover, page 20

¹⁰⁰ According to the Draft National Indigent Policy this refers to households with a collective monthly income of less than R1100 and are unable to afford and pay for basic services including basic water supply, sanitation, energy and refuse services, Health care, Housing etc. qualify

services and infrastructure to vulnerable groups, it proposes that implementation of national department policies should be aligned to provincial structures' service provision strategies and it can therefore be used to implement digital broadcasting universal access goals.

RECOMMENDATION

The WG recommends that government implement various take-up incentives such as subsidy criteria and mechanisms; as well as communicating the tangible benefits of migration for consumers..

6.4 CO-ORDINATION OF DIGITAL MIGRATION PROCESSES

The National Strategy needs to provide guidance to the industry. The WG, therefore suggests the following policy directions should be included in the strategy:

- Government needs to formally indicate its acceptance of the DVB-T standard for the introduction of DTT in South Africa and the DVB family of standards as a whole for the introduction of digital broadcasting on other platforms;
- Government should indicate that the minimum format requirement for DTT is SDTV in 4:3 and 16:9 aspect ratio, but allow broadcasters to choose modulation schemes thereby allowing them to reduce transmission bitrate in order to show some channels on the digital broadcasting transmission network at a higher quality of video than others and to do so at any time as may be required by the broadcast schedule;
- Government should indicate that HDTV digital broadcasting transmission networks should only be licensed on DTT, once analogue switch-off has occurred, but that there should be flexibility to authorise HDTV channels on the digital broadcasting transmission networks planned for the digital switchover process if there is capacity available.
- Government should establish a joint body with industry to develop an action plan for the region-by-region switch-off of analogue television broadcasting, monitor the switchover process in South Africa, encourage interoperable standards and promote consumer awareness;
- Government should set a target date for the switch-off of analogue television broadcasting transmissions.
- Government needs to formally indicate its acceptance of the T-DAB (Eureka 147) standard as well as the DRM (Digital Radio Mondial) for the introduction of Digital Radio in South Africa.

6.5 DIGITAL TELEVISION SWITCHOVER PROCESS

The WG propose that the digital switchover process be conducted in South Africa in three distinct phases, especially if there is a policy intention that switch-on commence in 2008 to be ready for World Cup 2010.

6.5.1 Digital Switch-on

The first phase (2007-2008) should be focused on the following aspects of the digital switchover process:

- Publication of a national strategy to commit South Africa to a digital switchover by no later than first quarter 2007.
- Establishment of a committee to develop an action plan, co-ordinate and monitor the digital switchover by no later than second quarter 2007.
- Establishment of a technical sub-committee of the joint government-industry organisation to deal with technical aspects of the digital switchover by no later than second quarter 2007.
- Conversion/Amendments to the licences of existing broadcasting services and broadcasting signal distributors to allow for the introduction of DTT by no later than the fourth quarter 2007 and public processes to licence the remaining frequencies available for metro level digital transmission networks by no later than first quarter 2008.
- Consumer awareness campaigns and the introduction of DTT certified STBs in the market, this aspect of the switchover should also be applied to new digital radio broadcasting services and digital radio receivers.
- New network infrastructure and the replacing/upgrading of existing network infrastructure for the metropolitan areas of Johannesburg, Pretoria, Durban, Pietermaritzburg, Cape Town and Port Elizabeth to enable dual illumination in those areas by fourth quarter of 2008.

6.5.2 Digital Switchover

The second phase (2008-2011) should be focused on the following aspects of the digital switchover process:

- Authorisation of new channels and services by ICASA on the frequencies assigned to broadcasting services and electronic communication network services for establishing digital broadcasting transmission networks;
- Consumer campaigns promoting DTT and Digital Radio and additional programming services
- New network infrastructure and the replacing/upgrading of existing network infrastructure for the remaining analogue “legacy” terrestrial coverage areas in South Africa by 2010, as well as the use of DTH where required for universal coverage obligations;
- Phased introduction of new channels and additional digital services;
- Monitoring of consumer take-up and roll-out of digital transmissions;

6.5.3 Analogue Switch-off

The third phase (2012-2015) should be focused on the following aspects of the digital switchover process:

- The roll-out of government subsidised STBs. The economic model developed by the WG assumes that this will commence in 2012, but this roll-out could commence earlier in order to achieve a more rapid switchover in specific areas;
- An area-to-area switch-off commencing in 2012, according to a project plan of analogue switch-off based on target dates and dependent on television household take-up in the area having reached 85% or a government decision to switch-off (whichever comes first).
- Monitoring of consumer take-up and analogue switch-off.
- All remaining analogue transmissions to be terminated by 2015, assuming that the targets for a complete analogue switch-off having been reached. At that point all remaining analogue spectrum used by existing broadcasters will revert to ICASA.¹⁰¹

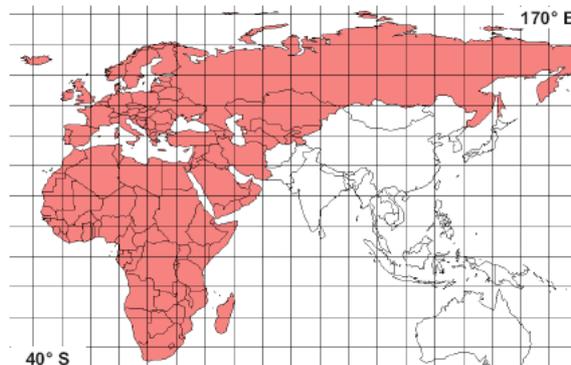
6.6 DIGITAL DIVIDEND

The WG has looked at the digital dividend from two views, the first being the RRC-06 plan which will govern the use of frequencies in the all digital television frequency bands post 2015 and the demands that digital broadcasting services will make on such spectrum which will reduce the overall digital dividend somewhat for usage by non-broadcasting services.

6.6.1 Where does the Digital Dividend come from?

The ITU Regional Radio Conference, RRC-04/06, was convened to update the Stockholm 1961 and Geneva 1989 VHF/UHF television broadcasting Plans for the European and African Broadcasting Areas, respectively. It takes account of the spectrum needs for digital radio and television terrestrial services in the European and African Broadcasting Areas, and also in neighbouring areas (see Figure 12). The first Session, RRC-04, was completed in May 2004 and established the planning criteria and parameters for the later second Session, RRC-06, held in May 2006.

FIGURE 17: THE EXTENT OF THE PLANNING AREA FOR RRC-06



¹⁰¹ The proposed digital switchover process does not preclude any broadcasting service from selecting to do a “hard” switchover in this period.

The second Session, RRC-06 held in Geneva adopted the New Agreement and associated Frequency Plans. There appears to be a misconception by people who were not part of the RRC-06 process that RRC-06 would plan for the Digital Dividend. This is not the case, the objectives of the RRC-06 were to plan for digital terrestrial broadcasting and to define an all digital plan for use by broadcasting services after all analogue television broadcasting services had been closed.

The GE-06 essentially puts in place the following foundations:

- A list containing the frequency of each transmission site (assignment) or service area (allotment);
- A procedure to co-ordinate any future requirement with other affected countries; and
- A concept of an interference envelope (mask concept) to enable:
 - Broadcasting services with different parameters to that which has been planned for (for example, DVB-H or HDTV);
 - Spectrum uses other than broadcasting.
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In essence this means that you can add new types of services if you do not cause increased interference and if you do not demand additional protection beyond that defined in the plan.

Based on this we can say that the “digital dividend” would be the frequency spectrum in 174-230 MHz and 470-862 MHz vacated following the conversion of all existing terrestrial analogue television broadcasting transmission systems into digital television transmission systems. In most countries a conservative estimate is that up to 100 MHz of frequency spectrum will be freed-up by the switchover to digital broadcasting and the consequent switch-off of analogue transmissions.

The WG has noted that there has been a lot of hype that this freed-up spectrum can be used for a range of non-broadcasting services such as mobile services, wireless broadband, defence, and hybrid satellite/terrestrial services. It is true that frequency spectrum in this band has a lot of potential uses, but it is also true that there are a number of constraints to such usage. The first constraint is that such service must fit into the interference envelope planned for at RRC-06, and the RRC-06 plan is best suited for applications with interference patterns similar to what has been planned for (for example, downlinks to mobile/fixed terminals). Once a reception mode (rooftop, portable or rooftop/portable) has been chosen by a country for the GE-06 plan, any future evolution must be kept within the envelope chosen or coordinated with other countries. This would mean that the plan is sufficiently flexible if the digital dividend is used only for broadcasting or mobile/fixed downlinks, but mobile uplinks would not be easily or efficiently catered for.

In fact extensive use of mobile uplinks would require further work and potentially the re-planning of the entire frequency band in order to be accommodated. Re-planning may also be required for usage of other broadcasting services in the frequency bands as the 100Mhz that may potentially be freed-up does not exist in a single block of spectrum, but is scattered randomly amongst the frequencies which were planned for the digital transmission networks to be used during the switchover phase. A re-planning would then result in a second migration of broadcasting services from these frequencies to new frequencies.

6.6.2 Digital Broadcasting needs post-2015

As indicated previously in this report the needs of the broadcasting sector could not be met when planning for switchover in the context of the RRC-06 because of frequency scarcity. This will result in broadcasters not receiving frequencies for digital transmission networks that will be equivalent to their existing analogue transmission networks in the switchover phase leading up to 2015. Television broadcasting services post a 2015 switch-off will expect that they will be awarded frequencies to enable them to emulate their current analogue transmission networks both in terms of coverage and sole-ownership. Currently, an obstacle to extensive digital radio transmission networks being rolled out is the occupation of frequencies in Band III by existing analogue television broadcasting services. After an analogue switch-off, prospective digital radio broadcasting services will expect that licence applications for freed-up spectrum in Band III, as planned for at RRC-06, will enjoy a priority over other usage of spectrum in Band III.

Currently, in the frequency plan for digital switchover there is not much scope for the licensing of mobile television broadcasting services targeting mobile phone, car entertainment systems, laptops or PDAs. It will be expected post switch-off that provision would be made for competitive licensing of frequency spectrum to address the needs of the public in this regard. There will be other broadcasting services in the areas of education, community television and local television that will be interested in acquiring licences to provide standard definition television services.

There will also be a need to plan for the introduction of High Definition Television (HDTV) on the DTT platform to allow the platform to compete effectively with satellite and cable platforms. HDTV even using MPEG-4 compression will likely only result in two to three channels on a single frequency.

The potential value of the digital dividend has been calculated in the economic model and report, please refer to Appendix B.

RECOMMENDATION:

The WG recommends that in planning the use of the freed-up spectrum after switch-off, due consideration must be given to the needs of the broadcasting sector to grow and development on a terrestrial platform in South Africa (including future terrestrial HDTV use). HDTV must be planned for to ensure platform competitiveness, otherwise DTT will not be able to compete with Cable and Satellite platforms offering HD broadcasting services.