



**Submission by
Free TV Australia Limited**

Department of Broadband,
Communications and the Digital Economy

Digital Dividend Green Paper

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1 Executive Summary

Australia's broadcasting policy framework and spectrum management over the past 50 years have delivered the best free-to-air television services in the world.

The high quality of the current free-to-air television system is the primary reason why only 30% of Australians households choose to pay for television services.

The overwhelming majority of Australians rely exclusively on free-to-air services for their television. They will be disadvantaged if the analogue switch-off process does not deliver a strong digital free-to-air platform that is of at least as good a quality as the current analogue system.

Free TV broadcasters recognise the public policy objectives in achieving a Digital Dividend as a result of switching off analogue transmissions.

Australia's size and its heavy reliance on free-to-air television makes the switchover challenge unique.

A Digital Dividend of 126 MHz, whilst technically possible, will present challenges for television viewers and free-to-air broadcasters due to the need for a broad restack of existing frequencies.

Achieving a smooth transition to digital only services in accordance with the agreed timetable and completing a restack with minimum disruption and in a timely manner can only be done with the full commitment of all free-to-air broadcasters.

The broadcasters' investment in digital has been significant. So far broadcasters have:

- Spent up to \$1 billion in rolling out digital services
- Successfully administered an interference management scheme so that Australians did not lose access to their free-to-air television services during the digital roll-out
- Made a sizeable investment in establishing Freeview to educate viewers and drive the take-up of digital services (since the launch of Freeview, take-up has risen from 47% to 61%)
- Rolled out new digital services in both metropolitan and regional markets - ONE HD, GO! and 7TWO - during the worst global financial crisis in 80 years. All three networks have announced their intention to roll out a third channel in 2010
- Met regulatory and planning obligations to ensure same television coverage for all Australians
- Continued to meet existing obligations to provide Australian content and, in the last 15-years, have paid \$3.8 billion in licence fees (CPI adjusted) as well as normal company taxes¹
- Delivered transmitted data which enables a free Electronic Program Guide (EPG) to all free-to-air digital receivers
- Structured a systems software update for refreshing DVB-T receivers
- Delivered a switchover timetable to the Government. Free TV broadcasters (and in particular the regional broadcasters) worked closely with the Digital Switchover

¹ Regional Broadcasters have received \$182 million in licence fee rebate to assist with their additional costs for digital rollout.

Task Force (DSTF) to ensure a workable phased switch-off, allowing testing and trouble-shooting before switchover reaches larger regional and metro populations;

- Established Freeview to educate Australian viewers about digital television and to drive digital take-up; and
- Provided increasing levels of captioning to deaf and hearing impaired viewers

There is still a lot of work to be done to ensure all viewers can continue to receive quality free-to-air digital television services after switch-over:

- 39% of homes must have their primary television converted
- In total, counting secondary sets approximately 9,576,000 TV sets still to be converted
- 900,000 apartment blocks and other multi-unit dwellings must be made ready
- Community facilities such as schools, hospitals, universities, nursing homes, libraries and public housing must all be made digital ready; and
- Digital TV black spots must to be addressed and new digital gap fillers installed

In the time remaining before analogue signals are switched-off in 2013, free-to-air broadcasters will play the critical role in facilitating the delivery of the Digital Dividend. Commercial free-to-air television broadcasters will:

- Continue to invest heavily in digital equipment, infrastructure and content;
- Continue to drive digital take-up through Freeview
- Roll-out more free-to-view digital services
- Manage analogue switch-off on a region-by-region basis
- Fund digital upgrades to a substantial number of self-help facilities and install additional gap-filler transmitters in population growth areas
- Deliver a free-to-view digital satellite platform for viewers in poor reception areas
- Work with the ACMA to replan the remaining broadcasting services bands spectrum in a way that ensures a robust free-to-air platform; and
- Manage the restack on a site-by-site basis including planning, technical delivery and public education of the need to retune

The Government's Digital Dividend decision cannot be viewed in isolation and comes at a time of unprecedented long term structural change in the free-to-air television industry.

Impact of a 126 MHz Digital Dividend

Free-to-air audiences are fragmenting. Competition from the internet, pay TV, game consoles and DVDs drives up the cost of premium content while driving down revenue share. Free-to-air television share of advertising has fallen from 33% in 1999 to 23% in 2009.² This will only be exacerbated by IPTV and the introduction of the Government funded National Broadband Network (NBN), which will deliver hundreds of new unregulated television services.

A 126 MHz Digital Dividend will put further pressure on the free-to-air business model as the substantial reduction in spectrum will limit the capacity for a transition to future

² CAESA data

broadcast technologies. This will preclude broadcasters from adopting more efficient transmission compression techniques or delivering additional services such as 3DTV to free-to-air viewers.

Retention of some Digital Dividend spectrum for broadcasting services

Free TV believes the Government should retain some spectrum in the Digital Dividend to enable viewers to continue to receive the latest technologies for free. The current proposal for a 126 MHz Digital Dividend does not provide sufficient allocation of 7 MHz of spectrum to allow for broadcasters to move to new standards such as DVBT-2 and MPEG-4. Broadcasters would also be limited in their ability to provide merging new technologies such as 3D TV. These constraints will not apply to competing platforms such as pay TV and IPTV. Viewers should not be forced to pay for these enhancements.

Planning for the restack required for a 126 MHz Digital Dividend

Given the significant substantial reduction in broadcasting spectrum proposed by the Government, the restack and planning for the remaining spectrum must maximise viewers' ability to receive digital free-to-air television services.

A comprehensive communications program will also be essential to minimise viewer confusion arising from the restack.

In order to ensure the maximum return from the spectrum and the most intensive and efficient use, the Digital Dividend should be designated for new, high-speed communications services.

In this environment the debate about a fourth commercial television licence is no longer relevant.

Free TV broadcasters are committed to working closely with Government to ensure a smooth transition to digital services for all viewers within the agreed timetable, whilst maintaining a viable and robust free-to-air television platform.



2 Introduction

Free TV Australia represents all of Australia's commercial free-to-air television broadcasters. Upcoming decisions regarding the radio frequency spectrum used by free-to-air broadcasters will determine the future of the industry and Free TV welcomes the opportunity to comment on the Government's Digital Dividend Green Paper.

The importance of free-to-air television broadcasting services to the Australian public remains high. Consumers continue to expect high levels of quality Australian and local content, free access to news and current affairs and free coverage of major sporting events. Content on the free-to-air platform continues to be more strictly regulated than other platforms.

On any given day, an average of more than 13.4 million Australians watch free-to-air terrestrial television. Free-to-air television reaches 99.7% of Australian households and over 70% rely exclusively on free-to-air television. Virtually all Australian households rely on free to-air-television for some of their television services. The majority of households (68%) have two or more TVs.

Free-to-air television is highly valued by viewers and continues to deliver a range of public interest outcomes.

The Government has announced it is seeking 126 MHz of Digital Dividend spectrum, which will require a reduction and restacking of the broadcasting services bands spectrum currently used to deliver free-to-air television.

Free TV Australia has determined that it is technically possible to deliver restacking and 126 MHz of freed spectrum. However, the realisation of the Digital Dividend will come at significant cost and disruption to the Australian public and the free-to-air television industry.

The decision, and how it is implemented, will have a substantial impact on the long-term viability of the free-to-air television platform in Australia. The significant reduction in spectrum allocated to free-to-air broadcasters will greatly restrict the ability of the digital terrestrial television broadcasting platform to grow, evolve and innovate.

There will be no remaining spectrum for migration future television broadcasting technologies, such as occurred with the conversion from analogue to digital television. This is a significant regulatory impact that will be felt not just by the industry, but by the Australian public as well, who may be denied access to new and innovative free-to-air television services which are being proposed for availability to overseas audiences.

This will further disadvantage terrestrial television broadcasters against the pay TV and IPTV platforms which will not be restricted in this way due to use of alternative platforms and which are not burdened with comparable levels of regulation, do not pay any licence fees and do not offer openly accessible Australian television programming.

For this reason we believe that some spectrum should be held back from the auction of Digital Dividend spectrum to enable these emerging technologies and their value to the Australian public to be assessed and accommodated.

Furthermore, restacking is a major capital and operational project and, if not managed properly, risks disruption to television viewers around the country. After switchover, Australians will expect to receive free-to-view digital services of at least the same quality as those received in analogue. In the UK and the US, a considerable proportion of viewers faced with disruption from switchover and retuning in the conversion to digital resorted to pay TV to continue to receive television.



The Government's decision comes at a time of significant long-term structural change in the free-to-air television industry. Beyond the current economic conditions, the industry is facing fragmenting audiences and significant revenue declines as well as new market entrants and competitors who are not subject to similar regulatory obligations. The industry faces an unknown impact from the NBN and the expected influx of competing media services. While the economic downturn is cyclical, fragmentation and reduced ad revenue share will not abate and content costs will continue to rise.

The significant costs of the digital transition, the very high fixed costs of public service obligations, reduced spectrum access and the emerging range of competing viewer options will greatly reduce the value of a commercial terrestrial television licence.

This has been recognised internationally, particularly in the UK where licence fees have been slashed and local content obligations repeatedly reviewed and reduced. The UK communications regulator Ofcom has conducted three major reviews into commercial free-to-air television's role in a digital world since 2004. Each time Ofcom concluded that the advertiser-funded public-service broadcaster model is vulnerable and adjusted the regulatory framework to reflect the changing market. It is widely accepted that free-to-air television broadcasters are no longer privileged, facing flat revenues and decreasing advertising share.

The Government's Digital Dividend decision cannot be viewed in isolation and its true impact can only be understood in the context of the above outlined factors, wider public policy settings, international developments and the massive changes currently underway in the media environment.

Successive Australian Governments have chosen the advertiser-funded television model to deliver these public policy outcomes and any threat to the long-term viability of the Australian free-to-air platform will also threaten the continued delivery of public policy outcomes. The impact would be felt most immediately in terms of local content production and in the delivery of other public service outcomes such as children's content, news and current affairs and free, universal coverage of major sporting events. These pressures have already impacted on US free-to-air broadcasters, who have recently announced drastic cuts to news divisions heavily reliant on shrinking advertising dollars.³

Free TV broadcasters are working closely with Government to ensure a smooth transition to digital services for all viewers within the agreed switchover timetable in a way that minimises the impact on the public and ensures a viable future for free-to-air terrestrial television broadcasting in Australia.

3 Rationale for the Digital Dividend

As a result of the switchover from analogue to digital television, many countries around the world are looking to realise a Digital Dividend of returned UHF analogue broadcasting spectrum, suitable for use by new, high-speed communications services.

In Australia, free-to-air television broadcasters have already played a crucial role in allowing the Government to determine a Digital Dividend, having delivered digital television services to all Australians.

Commercial free to-air-television broadcasters have:

- Spent up to \$1 billion in rolling out digital services

³ <http://www.nytimes.com/2010/03/01/business/media/01network.html> (viewed March 2010)



- Administered an interference management scheme so that Australians did not lose access to their free-to-air television services during the digital roll-out
- Delivered a digital switchover timetable to Government
- Driven the take-up of digital services through Freeview and the launch of a range of new free-to-air multi-channels (since the launch of Freeview, take-up has risen from 47% to 61%); and
- Delivered transmitted data which enables a free Electronic Program Guide (EPG) available to all free-to-air digital receivers

In the time remaining before analogue signals are switched-off in 2013, free-to-air broadcasters will play a critical role in facilitating the delivery of the Digital Dividend.

Commercial free-to-air television broadcasters will:

- Continue to drive digital take-up
- Roll-out more free-to-view digital channels
- Manage analogue switch-off on a station-by-station basis
- Offer to fund digital upgrades to a substantial number of self-help facilities and install additional gap-filler transmitters in population growth areas
- Deliver a free-to-view digital satellite platform for viewers in poor reception areas
- Work with the ACMA to replan the remaining broadcasting services bands spectrum in a way that ensures a robust free-to-air platform; and
- Manage the restack on a site-by-site basis

For free-to-air commercial television broadcasters, the realisation of a 126 MHz Digital Dividend means:

- a massive reduction in spectrum, severely limiting future growth opportunities and threatening long-term viability; and
- restacking of services and the risk of large scale disruption to our viewers

This comes as the free-to-air television industry faces long-term structural upheaval, with the fragmentation of audiences, sharp and ongoing declines in ad revenue share and the rapid emergence of competing media platforms.

Despite the massive impact on broadcasters of the Digital Dividend, switchover and rapidly changing media market, there is yet to be a high-level reassessment of the regulatory settings which apply to the industry. The regulatory framework for free-to-air television broadcasters was developed in a pre-digital environment and the position of the industry has changed dramatically since that time.

Free TV is committed to working closely with the Government to address these issues in a way that allows free-to-air broadcasters to continue their level of commitment to Australian content and other public service obligations as we make a successful transition to digital only services.

4 Determining the Digital Dividend

Free TV understands the Government's intention to realise a Digital Dividend and make spectrum available for new, high-speed communications services.



Free TV has consistently noted that decisions to change the existing use of spectrum result in major financial implications for existing spectrum users, and the potential loss of capacity and quality of an existing service.

Free TV therefore welcomes the acknowledgement in the Green Paper that “the approach to realising the Dividend should be determined, recognising that there may be some trade-offs between efficiency on the one hand, and the level of disruption to current spectrum users on the other (including inconvenience and costs for television viewers and broadcasters).”

The impacts on broadcasters and the Australian public of reduced spectrum and restacking will be the key impacts arising from the Government’s Digital Dividend decision.

The likely impact on broadcasters and the public of greatly reduced broadcasting services bands spectrum is explored in further detail below in Section 5 - 6 but we wish to make some preliminary observations regarding the Government’s approach to determining the Digital Dividend.

4.1 International comparisons

In its Green Paper, the Government has indicated its intention to seek a Digital Dividend comparable in size to those identified in overseas markets such as the United Kingdom and the United States.

However, a simple comparison of the amount of freed spectrum in various countries does not provide a full understanding of the likely impact of a 126 MHz Digital Dividend in Australia.

Worldwide, the impact of the switchover process varies, depending on the level of reliance within the population on free-to-air terrestrial television, and its social and cultural importance.

Australia has one of the highest levels of reliance on free-to-air terrestrial television (72%), compared to the UK (52%) and the US (5%). This means that the impact of any disruption to or restriction of the free-to-air television platform will be much higher in Australia than in countries such as the UK or US.

Australia’s differing geography and population density mean that gap filling and black spots are likely to be much bigger issues in Australia than in European countries and this must be taken into account when comparing spectrum requirements and allocations.

Comparisons with overseas countries’ Digital Dividends must also consider how much spectrum was originally used for analogue television broadcasting.

For example, in the UK and Europe, more spectrum was originally assigned to analogue television broadcasting in the UHF band than in Australia, meaning more spectrum can be more easily released following switch-off.

As the table below shows, achieving a large Digital Dividend in Australia will mean free-to-air broadcasters are left with substantially less spectrum than broadcasters in the UK, US and other comparable jurisdictions.



Country	Dividend (MHz)	Spectrum Retained For TV		
		TV Channels	Channel Width	Spectrum (MHz)
Australia	126	32	7	224
UK	112	32	8	256
USA	108 (84 auctioned)	49	6	294
Sweden	72	40	8	320
France	72	40	8	320
Germany	72	40	8	320
Japan	50	41	6	250

Note that in Australia, an additional 28 MHz of spectrum in Bands I and III has been returned. Television broadcasters have also lost access to 14 MHz of spectrum in the VHF band, which has been allocated to DAB+. In its planning for DTTB in Australia, the ACMA has avoided, where possible, allocation of channels 68 and 69.

5 Potential benefits of the Digital Dividend

This section of the submission addresses Chapter 3 of the Green Paper which outlines a number of potential uses of Digital Dividend spectrum.

Given the substantial disruption and long-term impacts on the free-to-air broadcasting platform likely to arise from the Government's decision to pursue a large Digital Dividend, it must ensure the benefits derived from that spectrum are maximised.

Free TV recognises that in order to ensure the maximum return from the spectrum and the most intensive and efficient use, most countries are moving towards the designation of the Digital Dividend for new, high-speed communications services.

However, Free TV supports the retention of some Digital Dividend spectrum for migration to future broadcast technologies to safeguard the future of the free-to-air television platform.

5.1 Non-broadcasting uses – new, high-speed communications services

Overseas experiences strongly suggests that designating Digital Dividend spectrum for use by new, high-speed communications services maximises the return to the public from the sale of the spectrum and ensures the most intensive use of the available spectrum.

Most nations which are moving to auction the Digital Dividend are doing so in a way which favours mobile technology. This approach provides certainty to the most likely bidders (telcos) and in doing so, maximises the value of the spectrum.

5.1.1 Technology specific - the Digital Dividend in the United States

The United States auction was highly successful in maximising the financial return for taxpayers and ensuring the most intensive use of the available spectrum. The 2008 auction of the United States Digital Dividend raised \$US19.1 billion. This was almost double the US\$10 billion estimated by the US Congress.



Prior to the auction, the Federal Communications Commission (FCC) imposed Technical Licence Conditions regarding the use of the spectrum. These rules restricted the power limits of base stations to 50KW or less. Similar restrictions were applied to hand-held user equipment. This was ideally suited to cellular network structures, protecting them from high-power transmissions, such as television broadcasting.

This made the spectrum as attractive as possible for the technology considered most likely to use it. Precluding mixed use of the band meant significant interference issues, and hence the need for large guard bands, were avoided. This maximised the amount of spectrum which could be auctioned. Licences were offered for specific frequency blocks in a variety of sizes, for a variety of licence area types, giving bidders certainty and choice when preparing their bid.

The financial success of the US approach demonstrates the value which is obtained by creating clear technical rules for an auction process. Because bidders had certainty about the usefulness of the spectrum for mobile purposes, they were prepared to pay full value for it.

The FCC specifically considered these issues when planning its spectrum auction:

“the inherent interference difficulties presented by sharing between these dissimilar services require that we orient our service rules to one service or the other, if efficient and intensive use of this spectrum is to be realised [...] Establishing regulatory flexibility sufficient to accommodate conventional television broadcasting would impose disproportionate, offsetting burdens on wireless services, constraining their technical effectiveness and, consequently, their economic practicability.”⁴

[With these power limits the spectrum] “became much more suited to the provision of these mobile services. This made a significant difference in the attractiveness of these blocks to service providers wanting to provide mobile broadband.”⁵

5.1.2 *Protection of broadcast services in the redefined broadcasting services bands*

Free TV has participated in ITU-R studies with the European Broadcasting Union investigating the impact of 3G hand sets and base stations in spectrum immediately above 790 MHz. Those studies have found that guard bands will be required to protect the reception of the broadcasting service from the mobile service in the same geographical area.

The Government's desire to obtain a Digital Dividend of 126 MHz means that the upper limit of the Broadcasting Services Bands would be 92 MHz lower in the spectrum band than where the current studies have focussed.

No studies have been undertaken on the potential impact on DVB-T reception at this lower frequency of 694 MHz. No interference mitigation strategies have been established to protect DVB-T (eg, reverse duplex of the new, high-speed communications services).

⁴ Source: FCC First Report and Order – Service Rules for the 746-764 and 776-794 MHz bands (7 January 2001)

⁵ United States FCC Chairman Kevin Martin, 15 April 2008



It is highly likely, however, that interfering signals from 3G services have the potential to reach greater distances, particularly from a base station array of 3G antennas at 30 metres over households.

In order to protect the strength and viability of the broadcast platform, broadcasters will require unconstrained operation within the redefined BSBs. This includes the ability to use full broadcast power on Channel 51, with no restrictions imposed on broadcasters by the new licensee in the adjacent band above 694 MHz.

Broadcasters will also require that the adjacent band licensee has some form of interference management applied to protect broadcast services and reception of weak signals by our viewers. This would include a sufficient guard band or a transmit power restriction on the band above 694 MHz.

Detailed consultation with all affected stakeholders will be required before the technical and regulatory framework for the Digital Dividend spectrum can be finalised.

5.2 Broadcasting uses

5.2.1 *Improving the quality and scope of existing broadcasting services.*

The Government's Green Paper notes that potential sources of demand for broadcasting services band spectrum include extending the terrestrial coverage of digital television services and converting local government or community run analogue television self-help retransmission facilities to digital.

Free TV has always emphasised that the overriding objective in the digital switchover process must be to ensure that every home that currently receives free-to-air television in analogue must receive a free-to-air digital television service of equal or greater quality after switchover.

On 5 January 2010 the Government announced its intention to fund a direct-to-home satellite service to provide digital television to homes which do not receive adequate digital terrestrial television services after switchover.

Free TV broadcasters acknowledge the Government's decision and have been working cooperatively to develop the satellite service ahead of the first analogue switch-off event in Mildura in June this year.

However, Free TV remains of the view that terrestrial television broadcasting is a superior delivery platform in terms of cost-effectiveness and the ability to deliver local, targeted services to Australian communities.

With the intention of maximising the number of households which are able to receive digital terrestrial television after switchover, broadcasters have committed to the installation of additional terrestrial broadcasting facilities ('gap fillers') and have developed a conditional offer of digital transmission equipment upgrades for a select number of self-help retransmission facilities.

Broadcasters are currently working closely with the ACMA and the DSTF to finalise the location and planning arrangements for these facilities. At this stage, it is understood the proposed expansion of the digital terrestrial network can be achieved with no impact on the proposed Digital Dividend, however the significant reduction in the size of the BSBs will likely make the project complex and difficult for viewers and broadcasters.



5.2.2 *Migration to next generation broadcasting technologies – DVB-T2 and MPEG-4*

The Government's decision to pursue a 126 MHz Digital Dividend effectively freezes the free-to-air television platform in its current state of technological development. This is a significant and overly burdensome regulatory impact.

A 126 MHz Digital Dividend will seriously inhibit the ability of free-to-air television broadcasters to grow, evolve and innovate and thereby limits their ability to compete with other media platforms in a challenging media market.

The impact will also be felt by the Australian public, who stand to miss out on innovative new free-to-air television services. The negative impact on the long-term viability of the free-to-air platform will also diminish free-to-air television's capacity to continue to deliver important public policy outcomes such as local content, quality Australian drama, news and current affairs and free coverage of major sporting events.

If the broadcasting services bands are redefined, as proposed, with an upper limited at 694 MHz, there will be no remaining spectrum available to permit future technology migration such as the conversion from analogue to digital television. It will be very difficult to switch to spectrally efficient DVB-T2 and MPEG-4 systems in the future without access to additional channel sets.

Because of the impact on households with legacy reception equipment, a transition to DVB-T2 and MPEG-4 cannot occur without a reasonable period of simulcast. Otherwise many viewers face a loss of or unacceptable interruption to free-to-air television services. Under the proposed Digital Dividend, broadcasters will have no capacity to simulcast.

Free TV has previously raised the spectrum demands of technology migration (specifically in relation to DVB-T2 and MPEG-4) in its submissions to Government.⁶ Freeview has already incorporated MPEG-4 into the specifications for its consumer equipment to facilitate a transition without disadvantaging viewers.

There has been a high level of consumer and media interest in developments in 3D television broadcasting. This is an example of the kinds of services which consumers may come to expect in Australia as they are rolled out overseas.

The ability of Australian broadcasters to provide programming in 3D, and other innovative new formats will be severely constrained unless some spectrum is retained for future technology migration (including simulcast).

Free TV urges the Government to consider retaining a small amount of Digital Dividend spectrum to allow free-to-air broadcasters to transition to future technologies and compete with the ever expanding range of media options. A transition to new technologies in future will allow more consumer choice, increased diversity, extra business opportunities and, over time, more efficient use of spectrum.

This approach would be consistent with the approach taken towards spectrum planning for other communications services, such as telecommunications and

⁶ [Free TV Australia submission to ACMA's Five Year Spectrum Outlook](#)



mobile broadband, where spectrum has been planned according to the need to develop and transition to new technologies.

5.3 Retention of broadcasting spectrum for new broadcasting or similar services

Free TV supports the allocation of spectrum for digital transmission of existing community and indigenous television services using part of the Channel A allocation.

Free TV does not support the retention of spectrum for additional commercial television services.

Given the significant disruption which will be caused by the Government's decision to pursue such a large digital dividend, it must ensure the benefits derived from that spectrum are maximised. A decision to allocate spectrum for additional commercial television services is likely to cause long-term damage to the free-to-air television platform and its ability to continue to deliver local content. This would not be consistent with the need to maximise the benefits derived from cleared spectrum.

A new entrant would damage the existing Australian Free TV sector by fragmenting advertising revenue and audience share while driving up prices for premium content (both overseas and local).

Existing broadcasters will be forced to cut back on programming costs, particularly expensive Australian content. Programming is the most substantial cost category for television networks, accounting for nearly two-thirds of total costs of metropolitan networks. Australian programs represent about 70% of the total programming expenditure by metropolitan television networks.

Australian content is expensive because most or all of the costs must be recovered in the local market (which is the whole country for most entertainment programming and much sport, but may be only a single licence area for news and other highly local programs). Overseas programs are much cheaper than Australian programming because their cost of production has usually been recovered in their country of origin, while export sales provide additional revenue beyond break-even.

Australia is a small market by international standards. Our small and scattered population base generates only a limited amount of advertising revenue. Maintaining high levels of service coverage, Australian content and localised programming across extensive geographical areas is expensive.

A restriction on licence numbers ensures that each licensee, operating at a high level of efficiency, is able to achieve sufficient revenue to meet its statutory requirements and to meet a strong audience demand for high standards of Australian programming and premium overseas programs.

A successful new entrant would acquire the majority of its advertising revenue from existing metropolitan stations, some from existing regional stations and the remainder from SBS, pay television and other sources. There is no doubt that a new entrant would severely impact the revenues of existing broadcasters. During an economic downturn or advertising recession, the impact would be even greater due to the additional impact of reduced advertising revenues.

Further fragmentation of the advertising market would mean the existing networks would face pressure to reduce costs by spending less on Australian content overall, at exactly the time the costs for Australian product were being forced up due to the new player.



A considerable revenue contraction for existing commercial networks would mean stations would have to rely on programming of much lower cost, and reduce many hours of non-quota Australian and local programming they currently broadcast. The impact on viewers would be:

- less quality
- less Australian content
- less drama
- cut-backs to news and current affairs
- less local content such as local news

This would represent poor return on the substantial cost and disruption caused in order to obtain the Digital Dividend. It would be inconsistent with the Government's stated objective of increasing the benefit that the Dividend spectrum will bring to the Australian community and economy over time.

Free TV therefore opposes the retention of spectrum for additional commercial television licences. As part of its implementation of the Digital Dividend, the Government should remove the requirement for a statutory review of whether additional commercial television broadcasting licences should be allocated in the BSBs.

6 Costs of maximising the Digital Dividend

Free TV Australia welcomes the Government's acknowledgement that the attainment of a large Digital Dividend will involve a level of disruption to current spectrum users, including inconvenience and costs for television viewers and broadcasters.

As noted above in section 5.2, the restricted amount of spectrum available for terrestrial television broadcasting in future will have significant long-term impacts for free-to-air television broadcasters and their viewers.

Further significant impacts for the public and the industry will be caused by the requirement to restack broadcasting frequencies below 694 MHz to deliver a contiguous block of vacant spectrum.

It is therefore imperative that the remaining broadcasting spectrum is carefully planned to maximise the benefits of the spectrum for the industry and for viewers. Australians value free-to-air television services very highly. They will expect that the Government and the industry will take all reasonable steps to optimise the terrestrial broadcasting system in the course of such an extensive restack.

Free TV supports a 'first-principles' approach to planning the restacked spectrum. The restack provides a unique opportunity to remove many legacy planning problems and Free TV supports an approach based on allocating five blocks of contiguous channels for all six multiplexes (commercial broadcasters, national broadcasters and Channel A spectrum).

Within this approach, it is possible to take into account existing transmission and receiver infrastructure in each licence area when planning allocations, so as to minimise the need to replace transmission and receiver equipment.

The use of closely grouped channel sets will allow optimisation of antennas, and would mean that if a viewer receives one service, they will receive all available services in their area. Over time, there would be a reduction in the size and complexity of receive antenna



systems, with a single compact antenna replacing the two or three currently seen on rooftops today.

Free TV would not support an approach to restack planning which involves only relocating those services which currently sit above 694 MHz. This would represent a false economy, resulting in a patchwork solution that is not in the long term interest of viewers or broadcasters.

6.1 Impact of restacking on viewers

As noted in the Government's Green Paper, the decision to pursue a large Digital Dividend necessarily increases the likely impact of restacking on viewers, as more services need to be restacked.

Free TV has determined that whilst it is technically possible to deliver a restack below 694 MHz, there is a risk that if not properly managed, viewers will experience substantial disruption to free-to-air television services.

The impact of restacking on viewers will be in large part determined by whether there is a period of simulcast of services on the existing and new ('restacked') frequencies in a television licence area. Given the additional cost and spectrum requirements of simulcasting, it is expected restacking will occur 'overnight' in the majority of areas, with viewers required to retune their television sets immediately in order to continue to receive free-to-air television services.

The restack will require viewers across the country to retune their digital receivers. The ease of the process depends greatly on the technical knowledge and capability of the individual.

All TV equipment in every house, business, school, hospital, nursing home, etc, will require adjustment overnight to continue to receive all free-to-air television services.

Viewers will need to know how to rescan equipment on the morning after the restack occurs. Some people (particularly those who live in multi-dwelling units (MDUs)) may require a trained technician to adjust their aerials before they can regain free-to-air services.

The level of potential disruption should not be underestimated. When the UK switchover project commenced in Whitehaven, 60% of the calls to the help-line were about re-tuning. When Freeview UK recently undertook a retune to accommodate HD services the call centre was receiving 200 calls per minute.⁷

A comprehensive communications program will therefore be essential to minimise viewer confusion. The plan must include above the line advertising, call centre, online information, localised programs and assistance for vulnerable groups.

It must be acknowledged that transition planning will be very complex and disruptions are inevitable. These complex transition issues need to be resolved and aligned with the ASO timetable for each region. Free TV broadcasters are committed to working with the Government to address these complex planning issues and to minimise the disruption to viewers.

⁷ <http://www.experiencelab.info/2009/10/national-digital-retune-causes-problems.html>



6.1.1 *Multi-dwelling units*

Whilst it is expected that in most areas restacking will occur 'overnight', this will not be feasible in areas with a high concentration of MDUs. In these areas, overnight restacking would likely result in large numbers of viewers losing television services for an extended period of time.

Free TV understands that the MATV distribution systems in many MDUs carry other television services in addition to free-to-air television services (for example, pay TV). In these circumstances, a change to the transmission frequencies of free-to-air television services will necessitate adjustments and checks of the MATV system by a trained RF technician, to ensure all services continue to be available to residents of that MDU.

For example, in an area such as inner and eastern Sydney (receiving transmissions from the site at Kings Cross) there is a very high concentration of MDUs. If frequencies were restacked overnight at that transmission site, there would not be sufficient time or enough trained technicians to make the required changes to MATV distribution systems in that area and it may take some weeks for this work to be undertaken.

Free TV therefore supports a short period of simulcast of transmissions on old and restacked frequencies in areas with a high concentration of MDUs. This will ensure viewers in those areas continue to have access to television services.

6.2 **Impact of restacking on broadcasters**

The restacking and shifting of terrestrial television broadcasting frequencies is a major capital and logistical exercise requiring large scale engineering work at every transmission site in the country.

The process of restacking is not simply a matter of remotely resetting a frequency at a given transmission site. Every transmitter will require replacement or reconfiguration. It is likely that frequency combiners (which are built specifically for the intended broadcast frequency they operate on) will require replacement with custom-made combiners pre-configured for the new transmission frequencies at each site.

So, for example, at a low-power UHF site, the restack will involve a site survey followed by equipment and access checks. A new combiner will need to have been pre-ordered, installed and commissioned. The cutover to the new combiner would need to be scheduled to take into consideration any tuning required of the new transmission infrastructure. The old combiner would need to be removed and field surveys and EMR checks then undertaken.

At larger, high-power sites, additional time would need to be scheduled to take account of additional fine tuning. At some complex sites, extra activities will be required, including replacement of rigid waveguides and reconfiguration of the input feed from and to antennas. At some transmission sites there would also be a need to undertake complimentary changes to transmission antennas and feeds, potentially involving structural changes on transmission antenna towers.

The success of the restacking process will largely depend on the availability of appropriately trained technical staff and very carefully developed and administered project plans.



It should be noted that free-to-air broadcasters operate in a horizontal market. Unlike pay TV operators we do not own the equipment or the viewers (subscribers, in pay TV's case).

In the free-to-air digital market we broadcast to an Australian transmission standard which is mandatory on broadcasters. However the receiver standard is not mandatory on equipment suppliers and viewers purchase whichever STB/IDTV they choose.

The receiver is not under broadcasters' control and each brand of STB/IDTV will act differently.

Freeview has developed a receiver standard, but it is up to the viewer whether or not they choose to purchase a Freeview branded receiver.

All free-to-air broadcasters are using their allocated digital spectrum efficiently to deliver multi-channels, captioning and the EPG.

The Freeview receiver standard does require that service changes can be identified and we understand there are some other receivers which will automatically identify when a service is changed. However as the receiver standard does not mandate this functionality there is no way of knowing how many receivers in the market have this capacity.

In the recent switch-off of analogue services in the US and the ongoing switch-off in the UK, there have been major issues with the need for viewers to re-tune their television receivers.

As previously noted, when the Freeview platform in the UK recently required a retune of receivers following channel changes to enable the broadcasting of HD services Freeview received up to 200 calls per minute from concerned viewers.⁸

It should also be noted that the potential disruption to viewers of free-to-air television services stands to impact on broadcasters. The success of the mass-market, advertiser-funded free-to-air television model depends on audiences having access to stable and reliable television services. Overseas experience has shown that audiences may feel compelled to migrate to a subscription service if they are concerned about disruptions to their free-to-air services.

In the UK, for example, in the Whitehaven area, of the 30% of homes that were analogue at the time of the 2006 DSO announcement, 38% converted with Sky and 62% converted with Freeview.⁹ Digital UK reported that "Sky conducted significant marketing activity in the area before the switchover, and panel interviews indicate that some may have regarded Sky as a 'safe' option in case anything "went wrong" with the terrestrial switchover."

In the Scottish Borders region, of those homes which were analogue before the switchover, 30% chose to convert with Sky and 50% chose Freeview. The remainder did not specify their platform.¹⁰

In the US, of those homes yet to convert in June 2009, around a quarter chose a subscription television service.¹¹

⁸ <http://www.experiencelab.info/2009/10/national-digital-retune-causes-problems.html>

⁹ Source: Digital UK Copeland Switchover Tracker Survey

¹⁰ Source: Digital UK Review of the Scottish Borders Digital TV Switchover

¹¹ Source: Nielsen http://blog.nielsen.com/nielsenwire/media_entertainment/the-switch-from-analog-to-digital-tv/ (Viewed February 2010)



7 Conclusion

Free TV broadcasters have worked closely with Governments, regulators and the public broadcasters for more than a decade to ensure a smooth transition to digital television services for all Australians.

As detailed in this submission, broadcasters have made a major contribution to the successful digital rollout through investments in infrastructure, new services, interference management, development of Freeview and an EPG.

There is still a lot of work to be done to ensure all viewers can continue to receive quality free-to-air digital services after analogue switch-off in December 2013. All free-to-air broadcasters will play the critical role in facilitating switch-off, delivering the Digital Dividend of 126 MHz of prime UHF broadcasting spectrum and re-stacking so that the Government will be able to maximise the public return from the sale of the released spectrum.

While the switch-off timetable, the size of the Digital Dividend and the re-stack necessary to deliver it will provide challenges for viewers and broadcasters, Free TV remains committed to working with the Government to ensure a smooth transition to digital only services for all viewers. We are also committed to maintaining a viable and robust free-to-air television platform that will continue to deliver quality local content to all Australians for free.