

THE BENEFITS OF CLOSING ANALOGUE TV BROADCAST

And its potential effect on other Communications policies

ALEX ENCEL

The Premise

That there is around \$3 billion¹ in cost savings the government could make on digital TV between now and a realistic closedown date for analogue broadcasting. The savings could be channeled into assisting the funding of a high speed broadband solution for Australia. This is before we consider the potential community benefit from the uses and or sale of the analogue spectrum once it is surplus to the needs of the current TV networks. This spectrum was once valued at \$12 billion dollars in the heady early days of the digital TV debate. It would be worth a lot less than that now but this largely depends on what the buyers are allowed to do with it.

The estimate of billions of dollars lost maintaining analogue is based on a combination of official figures and realistic estimates. I have been trying to get the unreported actual cost figures from DCITA for over a year, first via FOI, then the ombudsman who said he did not have the jurisdiction, and after that the AAT. The hearing at the AAT indicated how much DCITA and the government do not want to reveal the figures, with government people flying from Canberra to attend and engaging lawyers to explain there is no public interest in the subject. In one part of their documentation It stated that I would have to pay to get the figures, in another part that the figures weren't available and in yet another part that the figures were accessible on the public record. Just minutes before the hearing was due to commence I was duly presented with 380 pages of material [previously unreceived] relevant to the proceedings. The hearing decision has been reserved

Part of DCITA statement of facts issued on the 13th April 2006 can quoted in full as saying "the government expects to spend over \$1250 million over the next 10 years on conversion of national broadcasters and providing funding to assist regional broadcasters in converting to digital transmission". Since analog must continue while such conversion is taking place This means that analog is planned to continue by government until 2016.

The Proposal

The proposal is very simple. The government provides a generic no-frills but reliable set top box (STB) along with a good set of instructions for every working TV in Australia so that each TV can continue to operate once analogue is switched off. It doesn't have to be an expensive set top box, and could cost the government around \$7 per unit² if its manufacture

¹ Anyone who wishes for more details on my costings and projected savings is welcome to contact me on, (03) 9429 0822 during business hours.

² In case this figure seems low, I would point out that currently some DVD players having a variety of internal moving components, many buttons and much more overall complexity along with nicely presented cartons are exported at well under \$20. Such exports are in minute quantities in comparison with the many millions that would be required for Australia.

was commissioned in the quantities that would be entailed. The cost to pursue such a solution would be quickly compensated for by the immediate savings that would result from no longer having to broadcast in both analogue and digital until further notice. Any short-term expenditure necessary would be paid for from the potentially \$3 billion or more in cost savings to the government that a more rapid closedown of analogue would make possible. Then there is the potential sale of the analogue spectrum that could subsequently take place, a possible further source of government revenue.

The background to the proposal

Developing a workable strategy for a communication infrastructure appropriate for Australia is not as difficult as it might first appear. In the first instance establish where we are, in the next we decide where we would want to be, and in the third we identify the most sensible steps to take in order to get there.

There is general agreement that Australia's communication infrastructure lags behind where it should be and the sooner something is done about it the better situated we will be in terms of international business. Many countries are currently well ahead of us technologically and therefore better placed in the new global on-line economy. The general consensus is that the longer we leave it, the more difficult it will become to succeed.

We also know that even with the infrastructure largely in place, digital television in Australia has had a slow take up rate, much slower than the government's original forecast and in practical terms a long way from where the analogue network could be shut down. The true cost of this delay is not widely understood. For a start it means the cost of maintaining two systems of broadcast must be met, possibly for closer to a decade or even longer without decisive steps being taken. It also means two valuable communication spectrums are tied up largely delivering the same service. New uses for the freed analogue spectrum would mean the nation obtains improved services from the same resources.

So in terms of where we are now, we can see we have inadequate broadband infrastructure for the new global economy on the one hand, and on the other a new communication technology in DTV that is currently not well utilised by the public at large. At present have a contrast between Australia's computer users and their understandable desire for speed and Australia's television viewers in no hurry to make the complete transition to digital. In many cases we are talking about the very same citizens. High speed internet they value, but many of them don't see Digital TV as a worthwhile priority.

Where would we like to be? The exact description may vary but broadly speaking most would agree that is more desirable to be at the higher standard of the rest of the developed world with our global communication capacity, even if this meant lagging behind with our domestic TV system. Yet the two aspirations are not mutually exclusive. Quite the contrary, one can have a substantial contribution to make to the other. To understand why and how, a little history is in order.

My involvement with digital TV policy began in 1997. Many of the pronouncements being made at the time in relation to the introduction of the technology were at odds with my decades of experience with the industry. Key assumptions were being made on behalf the Australian people that bore little resemblance to reality. I challenged these at Senate and Productivity Commission hearings. Time has long seen the take up predictions I made validated, but back in the late nineties and early 2000s my views were often derided. It seemed the government and their advisors had worked out a plan to the general satisfaction of

all the major media players, and any criticisms were an unwelcome distraction from the good news story being put forward.

Central to their misunderstanding of market forces was an assumption that still holds them back today, namely that quality in itself would drive mass change. As someone who had first begun in business through identifying a market for quality in audio, I could agree there was a market for quality at a premium price but unlike the government I understood that it was by nature a minority market. This position also put me at loggerheads with certain technophile consumers who could not understand how they could possibly be a minority.

There was little cause for optimism in the Government's plan succeeding. Yes Australians had been among the quickest in the world to adopt VCRs and mobile phones, but both these technologies had allowed people to do things they had never been able to do before. Prior to their introduction you could not have a phone in your pocket or watch your choice of movie uninterrupted by advertisements. Quality in itself was not the major factor with the success of these product categories. In fact the picture quality of the VCR was inferior to broadcast TV at the time but people in general didn't really care. They wanted to tape their favourite programs and watch their own choice of movie. The transition from LP to CD also had a strong utilitarian element, offering consumers no more crackles and pops, instant track selection and a longer playing time. As a more recent example Apple's iPod killed the Discman through sheer convenience not through sound quality. It put a thousand songs in your pocket versus the twenty tracks that might squeeze on a CD.

Prior to the commencement of digital broadcast there were strong assertions that the Australian public will take to this new technology like "ducks to water". That they would immediately rush out and buy televisions built to a specification that had in fact not yet reached the mass manufacturing stage and would not do so for some years. To match the specifications necessary for the government's initial specification of the only kind of DTV broadcast intended for Australia (1920 x 1080 i) would have meant spending around \$20,000 at the time. Such televisions did not become a viable reality in mass-market terms until years later, when the first flatscreens to offer 1920 x 1080i arrived in commercial terms for consumers. This was several years after the introduction of DTV to Australia and not so long before the government's optimistic original cut-off forecast for analogue broadcast. Prior to digital broadcast commencing the government eventually bowed to reality and introduced SDTV broadcast as part of the mix. (I had hundreds of sometimes hate emails from technophiles at the time blaming me for the changes, but the decision was inescapable.) The government also had to relax the rules on what products could be called HDTV, so that HDTV sales would not appear to be zero.

What we have today, however, is no viable analogue cut off date as yet in firm view and for much the same reasons as 2008 approaches without the government's original expectation being even remotely met. To understand why you need to first understand the key challenges of the problem. First and foremost of these is the scale of what you are trying to achieve. There will be around 20 million televisions in Australia depending on the closedown date. Many households have more than one set and many such households have several.

To illustrate the point, let's look at radio. When FM was first introduced, people may have bought one new radio to access the technology but this did not mean they threw out every AM only radio in the house. Yes they were reasonably quick to equip themselves, but when they did so they received a number of new radio stations. Would take-up have been as urgent if all that they got for their money was the same content as what they obtained from AM? Hardly. Once again it was utility more so than quality that provided the necessary incentive for change.

Someone today may go out and buy a new flatscreen TV with inbuilt digital tuner, but they instead might go out and replace the broken TV in their bedroom with a cheap analogue set of the same size they can buy at the supermarket or discount store. It is a fallacy to think that it has been digital broadcasting that has driven the sales of flatscreen TV in Australia to this point. The numbers of plasma screens sold in Australia without DTV set top boxes bear testimony to that. The inclusion of a DTV tuner in the panel itself has only been a comparatively recent phenomenon, and many consumers have been buying plasma panels only to look at analogue images stretched to widescreen. It has been the size and thinness of the panel that has captured the public imagination far more so than the differences in picture quality. I recall many early customers saying that plasma did not offer picture quality as good as a cathode ray tube TV but buying the plasma anyway.

Even if someone does buy a set top box, it is usually only for the main TV, all the others in the home remain analogue. (Think of how the VCR usually was in one room only) So while the household penetration level is most frequently the figure quoted, the really telling statistic is the percentage of televisions digitally equipped. Free to air DTV Household penetration may be around 30%³ these days, but in terms of the percentage of televisions digitally equipped the figures would be more in the above 10%⁴ level. It is not as if cost is the issue. The starting price for Digital Set Boxes has been well below \$50 for some months now.

This entrenched and continuing dependence on analogue is what makes its cut off date so persistently elusive. After all, what government is going to flick a few switches that make the majority of televisions instantly inoperable? Yet by the same token, how long can it wait for people to do what comes unnaturally, spending time and effort (apart from money) on something they don't particularly value and therefore don't recognise as a priority.

The point is that completion of new communication infrastructure is too far important to be left purely to market forces. Although in some instances market forces may be sufficient to guarantee change, in the case of a broadly democratic communication technology such as television, market forces alone are simply not the right drivers if you want migration to be swift. And in the case of digital TV in Australia slow migration comes at a cost.

While developing the suggested solution to the digital TV take up problem it soon became clear that should the government not adopt the plan, it was destined to spend billions of dollars unnecessarily. These billions could be put to far better use in communication terms by assisting to deliver the kind of broadband infrastructure we so desperately need to be a viable player in the global wired economy.

It is a strange sensation to come to a realization that is so clear and logical as to be blindingly obvious and yet still have the good news fall on deaf ears. The proposal has been presented in many technical and academic forums. So far no one refuted the reasoning yet still no action is taken. This is despite billions of dollars being involved and the country's ability to compete globally in a growth market being compromised by the lack of expenditure in another policy area.

Imagine if the government had taken the same attitude with the introduction of push button phones decades ago.

³ Note the percentages, numbers of TV's etc are not precise as based on surveys and estimates from various authorities. Any variation will not be large enough to effect the situation.

⁴ As above.

Telecom at the time did not leave the last step necessary for the change from decadic to tone dialling in the hands of consumers. They simply equipped them with the kind of telephone necessary to work in conjunction with the new technology and made the old technology redundant. The choice was “use the new phones we gave you or no phone”. Universal implementation was thus complete. This meant transition was orderly, swift and economical, the latter especially when measured as it should be over time. The crazy thing with DTV is that it would appear the necessary dollars to complete the task at the consumer end are so small compared to the cost of going digital overall. So far the broadcasters have spent much more, and the government has spent much more each year and will continue to do so with no real end in sight.

Right now we have adequate digital broadcast coverage across the vast majority of the population, recently estimated as approaching 90%. Yet we will continue to expensively fund a parallel analogue system until further notice in these areas because the last link in the chain is left to millions of individual decision makers rather than a government department with a clear plan.

It is interesting to note the South African approach to digital TV. It has been able to sit back and learn from the mistakes from others. South Africa recognizes the high cost of dual coverage as well as the cost entailed in delaying the sale of the analogue spectrum for other purposes. So even though a sizeable percentage of their population is poor, South Africa aims to close down analogue three years after digital’s introduction to their country. It can be done.

Yet so far we have taken near seven years with still no end in sight. Will it be 10 or more additional years? However it is not too late to change. By adopting the free set top box model as proposed, we could realistically close down analogue for most of Australia’s population within a year if it were given the necessary effort.

The South African DTV approach, unlike that of Australia, clearly understands that voluntary migration will not be appropriate for television. A lack of migration will simply cost them too much. Having done their sums they know they cannot recklessly afford to maintain two broadcast systems long term. By contrast, however, they are happy to leave consumer adoption of their new digital radio service as an entirely voluntary decision because the new form of radio does not make AM/FM redundant. South Africa also understands the symbiotic relationship between spectrum value and set top boxes. The sale of the former will finance the government expenditure on the latter.

South Africa aims for 90 percent of South African households being DTV equipped within three years. This has been named as the penetration target from the outset. Mandating a low cost entry level Set Top Box is fundamental to the South African strategy, this means a retail price of under \$50 being available from the beginning.

South Africa has clearly done its homework. It is also rather telling that in their listing of the factors affecting the success of digital migration, picture quality is not mentioned once. Yes they mention it in describing digital TV itself, but it is notably absent as an identified success factor in terms of digital migration. A wider choice of programs, portability and mobility, ease of reception, ease of content navigation were all considered as factors. As were affordability and accessibility of set top boxes, and in the rapid transition to digital, market certainty for new digital broadcasters so that a potential audience of sufficient size to attract advertisers would be forthcoming quickly enough.

As part of their planning South Africa has identified that 4.5 million households in their country are unable to afford a digital set top box at any price. The South African government will therefore make up the difference via subsidy. (In discussions with their representative, I

pointed out free STBs would actually be much lower in cost, but it would seem they have their political issues in South Africa too.) Among the other differences with Australia to be found in the plan the following are worthy of note. South African HDTV services have been restricted to satellite delivery until digital migration is complete, and the supply of analogue sets to the consumer market will be curtailed once DTV broadcasts commences, meaning existing sets can be replaced with DTV models only. Two years after their introduction of DTV the South African government aim to have 70% of households connected (multiple TV's per household are not a factor approaching the Australian level). Two years after our DTV introduction we could not manage 5%. South Africa could be over optimistic with their forecasts, but at least they have set some concrete goals with which to check their progress. They also know that if all else fails, providing basic set top boxes, free of charge, wherever needed is another option and one guaranteed to succeed.

Yes there are problems that will need to be overcome before analogue in Australia can be switched off, but these are problems that will need to be addressed eventually regardless of when shut down is feasible. They are problems South Africa is prepared to face within a three-year time frame, and arguably in a country that faces far greater difficulties.

Certainly people will need to be educated about what is necessary. Communities will need to look after people unsure of what to do. The needs of poor reception areas will need to be addressed. But it is not as if the technology itself is likely to be the problem. It is more far likely that the speed of implementation is what is holding us back.

Under the current scenario, we are destined to spend billions of dollars on old technology unnecessarily. Why not avoid the cost and enjoy better technology at the same time?

Put simply the best outcomes in communication policy depend less on government raising funds, but more on the application of common sense to the use of existing and forecast expenditure. Funding genuinely high-speed broadband could be expedited through the savings possible in the delivery of Australia's digital television services if the free STB plan was to be adopted.

A P P E N D I X 1

Regarding recent government proposals in general

Some proposals the government has been considering can be worked out as impractical in the time it takes to travel between two traffic lights. Take subsidising STBs for the disadvantaged for example. Forget the outcry from the people not included, and the complex assistance difficulties inherent with scores of models of STBs on the market, just think of the cost. To provide a \$50 voucher for 20% of televisions, for example, will actually cost more than providing a set top box for all televisions at \$7 each.

Re: Mandating that only digital TVs can be sold in Australia?

Forget the outcry when the prices go up, especially at the lower end and how many models will disappear from shelves. Just think of the cost. It would take years to implement based on experience and with a replacement rate of somewhat over two million per year it would still take many more years to clear the analogue TVs in existence, a high proportion of which have been purchased since digital broadcast began.

Re: The Government's Recent Digital Action Plan & Digital Australia

I have done a lot of impromptu surveying of clients and people I know. I have yet to find anyone in the general community who has read the media policy changes announced or of the Digital Action Plan or of Digital Australia that are supposed to drive the change to digital.

RE Getting retailers and others to promote DTV

What sensible retailer is going to promote and spend money on products with a dollar profit that may be in the single digit category as compared to big ticket items.

A P P E N D I X 2

Regarding government objections to the free set top box proposal specifically

After months of communications in person and by email with Senator Coonan's department, I received the government's answer in writing as to why they did not consider the free set top box proposal as viable. For privacy reasons I will not table their letter, but my replies as shown below will indicate their comments.

Re Govt Concern 100% Digital conversion is impractical

I have been talking about a basic closedown of analogue, especially in the major population centres. There is no technical requirement to close down analogue everywhere Australia-wide at the same point of time. Some time ago, 85% of Australian households were said to be within digital coverage. I assume it would have improved since then if any real efforts had been made. 2008 was the originally mentioned figure with closedown in mind so I also assume the rollout plans should have been organised with that in mind. The real problem appears to be lack of interest in completing more comprehensive coverage. One indisputable point is that where analogue is switched off digital coverage will improve due to the increase in signal strength that will result once interference with analogue is no longer an issue and full power can be utilised.

It would be interesting to see the detailed figures of the extra cost of doing a more rapid rollout as compared to the total costs of keeping analogue under the present policies. Closing analogue in basic terms rapidly will be by far the most economic option, even if some areas have to wait.

Re Govt Concern with Aerials

It is true that some aerials will need to be upgraded but this will happen irrespective of closedown time. Aerials have been upgraded from time to time since television started in Australia. UHF antennas are an example.

Re Govt Concern with Blackspots

Finding these in major metro areas is very straightforward and can be quick and low-cost to rectify compared to the national continuance of analogue (if the will is there).

Re Govt concerns with existing blackspot/self-help sites and remote broadcasters

I repeat there is no requirement to have 100% national digital coverage before closedown can commence. It can be done as prompt effective planing allows.

Re Govt Concern about Direct to home delivery.

I do not see what the problem is here apart from inappropriate decision-making. I would also point out that Direct to Home delivery refers to less than 1% of Australian households.

Re Govt support for its Digital Action Plan

“This plan will fall to achieve a general closedown by 2012. Australian consumers have had plenty of time to get set for digital television and have shown insufficient interest. I have detailed the figures many times to show that 2012 is not possible under present policies irrespective of your digital action plans. Even your department carefully refers to “commencement in 2012” rather than give a definite completion date.”

“My point about the change in telephones was not concerning the detail of the ownership/leasing arrangements. It was simply that no cost phones were provided universally and the process was relatively innocuous and not remembered by many as everything went relatively smoothly.”

A tongue in cheek comment made at the end.

“I have made an estimate many times in the media that the additional costs of maintaining analogue deal and realistic real closedown will be in the order of \$3 billion. I have been trying to get more accurate figures so I can refine my estimates accordingly.”

“I suspect if we provided \$500 million for people with aerial problems and \$10,000 for each of the direct to home people we would still be in front.”

A P P E N D I X 3

General Objections (Some of which may overlap from previous pages)

Q1. Reception is bad in many areas.

A. There are various estimates in the area of 90% of the population being now covered. When analogue is closed down and the power of Digital transmission (currently kept lower to avoid interfering with analogue) is turned up, reception quality will improve. Digital TV is being used on indoor antennas and portable TVs in different countries. There will be some problem pockets to be dealt with on an individual basis all with solutions possible. There are problem areas for analogue as well. If we don't want to put in the effort to sort out the few problem pockets quickly we can leave analogue running in them for a period.

Q2. Some people don't know how to hook up set-top boxes. Grandmothers won't be able to be operate them (yes this really was raised in public comments)

A. Our experience after selling thousands of set-top boxes is that with current STBs most problems are due to not reading the instructions which sometimes leave a lot to be

desired. Solution. Good instructions and reading them. Even elderly and disadvantaged people seem to operate their TVs, drive cars etc. Neighbours, friends or voluntary agencies like the one I belong to could help the very few who will really need special assistance.

- B. Most grandmothers I know seem to operate digital cameras and computers that are far more complicated than a TV. Even if grandmothers are a problem of great magnitude the longer we wait the more grandmothers we will have.

Q3. What about people with defective antennae poor connections etc?

- A. Digital reception problems due to these factors will lessen with more digital transmission power but in the end such problems simply need to be fixed which must happen whatever is the particular close down date ultimately chosen.

Q4. A philosophical point brought up by some. Why don't we let the market do it?

Due to government restrictive policies the market has not been allowed to do it up to now and will not be allowed to do it in the future.

Q5. We should wait till better set-top boxes with more facilities are available.

Nothing would stop people buying equipment with more facilities in the future. Technology will keep improving. If we always wait for improvements we would never buy a digital camera phone or computer. What we need most urgently is the ability to stop paying for two forms of broadcast.

Q6. Why doesn't the government do it if it's so simple and saves so much money?

My experience there is that the people making decisions don't know or want to know even the simple inescapable facts and therefore come up with impossible scenarios designed to suit their position. The political side is complex and I don't consider myself an experienced political analyst.

The overarching point. If we think the above points have any validity why did we spend the time, money and effort to go digital so early in the first place?

Under the present policies analogue will not be closed until 2015 or later.

Q7 Won't supplying free set top boxes destroy the market for set top boxes?

On the contrary this will increase the market for set top boxes once people see the differences on offer. If you gave everyone in Australia a cheap digital camera, for example, it would not mean that cameras offering better facilities would cease to be purchased.

A P P E N D I X 4

CRIKEY.COM.AU Coverage

Earlier this year Crikey.com.au took up the DTV issue where Margaret Simons wrote an informative article on the subject. Among her observations were the following:

“Industry figures I have spoken to think Encel is basically correct, although they point out there would be other costs - such as helping the elderly and non-tech-savvy to install their set top boxes. Such problems, Encel argues, could be overcome and will exist in any case.”

“Perhaps there are good arguments against his scheme, but if so it's very hard to get the Department of Communications or the Minister, Helen Coonan, to cough them up. The Department will neither confirm nor deny his calculations on the cost of simulcasting, nor provide its own figures.”

“Crikey put questions to the Minister's office last week about Encel and his figuring. After two days there was a four paragraph response, which did not address his calculations nor his arguments. The statement said:

"The Government is confident that Digital Australia is best placed to drive the conversion from analogue to digital."

The government's record in predicting the future of digital entertainment is not something to put money on. Government media releases once told us that digital radio was expected to coincide with the start of digital TV in 2001. The date they now suggest is 2009. When it comes to analogue closedown, the government mentioning a date is tantamount to a guarantee it will not eventuate.

Interestingly the switching off of analogue is now being raised as a negative federal election issue for 2010. What government of either persuasion could possibly entertain it? Under the current situation, neither could. But with the immediate adoption of the free set top box solution, either of them could comfortably with more than a year to spare.