Digital Television Switchover

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for Jamaica Broadcasting Commission
1. Outline

- What is digital television?
- Why have a switchover policy?
- Pioneers & common principles
- Research and feasibility study
- Technology selection
- Digital switch-on
- Analogue switch-off
- Initial consultation
2. What is digital television?

- Coding and compression
- More robust signal, greater capacity, more channels
- Potential for interactive services, HDTV, mobile TV, and spectrum savings
- Bigger picture: digital CDs, mobile phones, radio – and convergence of TV, telecommunications and computer technologies
3. Digital transmission platforms

1. Digital satellite
2. Digital cable
3. Digital terrestrial
4. (For the future) broadband & IPTV
4. Why have a policy?

- Do nothing – let the market take its course?
- Risk of foreign domination
- No early spectrum saving benefits

- Consumer appeal of more channels and services
- Cultural benefits of new content and new providers
- Planned transformation of domestic TV in face of inevitable technology change
- Planned achievement of spectrum savings
5. Main policy elements

- Encourage voluntary take-up, let the market do the driving (no universal distribution of free set-top boxes)
- Give incumbent analogue terrestrial broadcasters digital terrestrial spectrum
- Simulcasting plus new services
- End phase: compulsory analogue terrestrial switch-off
6. What about digital radio?

- Similar basic technology of coding and compression
- More robust technical quality, scope for better reception
- Coexists with FM and AM radio
- Some talk about eventual substitution, but only talk
- Practical obstacles
- Start digital radio but don’t count on achieving complete switchover
7. Digital TV switchover pioneers

<table>
<thead>
<tr>
<th>Country</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>2006</td>
</tr>
<tr>
<td>Finland</td>
<td>2007</td>
</tr>
<tr>
<td>Sweden</td>
<td>2007</td>
</tr>
<tr>
<td>United States</td>
<td>February 17th 2009</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2008-9</td>
</tr>
<tr>
<td>Germany</td>
<td>By 2010</td>
</tr>
<tr>
<td>Spain</td>
<td>2010?</td>
</tr>
<tr>
<td>Japan</td>
<td>July 24th 2011</td>
</tr>
<tr>
<td>France</td>
<td>2011</td>
</tr>
<tr>
<td>UK (first to start)</td>
<td>End 2012</td>
</tr>
<tr>
<td>Australia</td>
<td>Starting 2010-12</td>
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</tbody>
</table>
8. Common principles

- No country has skipped digital terrestrial
- Analogue terrestrial switch-off is the goal
- Digital spectrum for analogue broadcasters
- Free-to-view option (terrestrial and/or satellite)
- Switch-off easier where role of terrestrial is small
- Where terrestrial is dominant, high digital take-up is a pre-condition for switchover
- Subsidy can play a role
- Stakeholder collaboration to reduce risks
9. Don’t think this is easy

- Bankrupt commercial broadcasters – e.g. in UK & Spain
- Slow take-up, the market stalls – e.g. in USA, Finland, Sweden, and Australia, at the outset (with subsequent recoveries)
- Political concern about public opposition, which in a stalled market is rational
- Switch-off date postponed – e.g. USA, Australia, Italy (twice)
- Rising public costs from a protracted timetable, e.g. Australia
10. Two key relationships

- Government and regulator with incumbent analogue terrestrial broadcasters
- Broadcasters with receiver manufacturers and retailers
11. Feasibility study

- Essential research
- Assessing the proportion of households affected
- Cost-Benefit Analysis
- The consumer proposition
- Focus groups to test willingness to pay
- Modelling digital take-up & estimating timescale
12. Technology selection

- DVB (DVB-T2), ATSC, ISDB etc, criteria for selection?
- HDTV, boosted by flat-screen TV displays? also widescreen
- MPEG-4, improved compression
- Mobile TV?
- Broadband & IPTV: beyond more channels to on-demand services
- Conditional access, API, EPG
13. Achieving full digital coverage

- Match analogue terrestrial? Easiest politically, but expensive
- Free-to-view alternative with no requirement for subscription?
- Role of satellite where digital terrestrial absent?
14. Digital terrestrial switch-on

- Availability of new frequencies, any analogue changes?
- Spectrum for incumbent analogue broadcasters
- Simulcasting plus?
- New broadcasters and services? Selection criteria?
- Financial framework
- ‘Must carry’ obligations
- Switch-off obligations?
15. The use of subsidy?

- Possibility of subsidising start-up (legal risks)
- Risk of promising late adopters a subsidy
- Targeting consumers inhibited by cost
- Targeting consumers inhibited by technical complexity
- Involving charities
16. Analogue switch-off

- Setting the timetable
- Post-switchover spectrum plan & frequency changes
- Analogue cable?
- Receiver regulation and/or receiver labelling
- Recording issues
- Risk analysis
17. Public persuasion

- Communications strategy
- ‘Softly, softly’ during period of voluntary take-up?
- Why make switch-off compulsory?
- Focus on late adopters & research main factors
- Operational publicity
18. Responsibilities

- Government
  - Government policy & communications
  - Any consumer subsidy?
  - Public sector TVs, including social housing
  - Environmental issues

- Regulator
  - Licensing & regulation of broadcasters
  - Technical standards
  - International frequency coordination
  - Spectrum planning, including use of released spectrum

- Project management

- Switchover Operations
  - Marketing & communications
  - Call Centre, website & practical support services
  - Coordinated transmitter work

- Receiver & aerial industries

- Supervisory Board
19. Some general observations

- Every national market is different: platform mix and extent of analogue multi-channel are key factors.
- Political risk diminishes if households switch voluntarily, so the consumer proposition needs to be attractive.
- The value of the free-to-view proposition should match the receiver cost.
- Stakeholder collaboration is essential to the reduction of risk.
20. Getting started

- Gathering of stakeholders
- Understanding the subject and starting with the question ‘Do we need a policy?’
- Publishing an explanatory paper, including questions for consultation
- Digest consultation responses
- Research
- Feasibility study
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Thank you