

行政院所屬各機關出國報告  
(出國類別：國際會議)

與「美國聯邦通訊傳播委員會(FCC)  
及國家電信暨資訊管理局(NTIA)」雙  
邊高層官式交流案出國報告

出國人員：國家通訊傳播委員會

姓名職稱：張時中 委員

派赴國家：美國

出國期間：100年3月16日至100年3月18日

報告日期：100年6月16日

## 出國報告摘要表

參訪日期：100 年 3 月 17 日(星期四)

出國地點：美國華盛頓

出國機關：國家通訊傳播委員會

出國人員：張委員時中

拜會機關：美國聯邦通訊傳播委員會(Federal Communications Commission, FCC)與國家電信暨資訊管理局 (National Telecommunications and Information Administration, NTIA)

### 內容摘要：

為落實我國加速電視數位化進程政策執行與順利達成數位轉換目標，國家通訊傳播委員會張委員時中於 2011 年 3 月 17 日美東時間上午 10 時至下午 4 時拜會美國國家電信暨資訊管理局(NTIA)及美國聯邦通訊傳播委員會(FCC)，並於下午 4 時至 4 時 30 分與 FCC 委員 Meredith Attwell Baker 女士進行會談，向 NTIA 與 FCC 與會者簡介 NCC 及我國數位匯流計畫中電視數位化工作，並藉此機會請教美國關於電視數位化執行過程之規劃、分工與執行時所遭遇之問題及經驗分享，作為 NCC 推動數位轉換之借鏡。

#### 會談議題摘要如下：

- (一) 有線電視數位化，如何進行規劃和執行？
- (二) 請教 NTIA 有關無線電視數位轉換的經驗。
- (三) NTIA 在設計折價卷(coupon)時所考慮的問題有哪些？
- (四) 關於數位轉換服務執行，NTIA 的經驗分享。
- (五) 關於數位轉換服務中心 FCC 的經驗分享。
- (六) 數位轉換所回收的頻譜用途？FCC 對於拍賣後屆期既有的頻段持有者該如何處理？

#### 與 Baker 委員會談議題如下：

- (一) NCC 三位委員 2009 年二月來訪 FCC,瞭解數位機上盒折價卷發放政策。目前 NCC 捨折價卷採補助低收入戶，請教 Baker 委員有何看法？
- (二) 類比電視數位轉換後回收頻譜用途為何？
- (三) FCC 對網通的國家安全方面有無角色或任務？
- (四) FCC 委員間有重大歧見時，如何處理？
- (五) 您從 NTIA 到 FCC，而 Ms. Gomez 在 FCC 多年後到 NTIA，兩組織間似有系統地交流，而 FCC 似在頻譜分配上有較強決定權。

關鍵詞：FCC、NTIA、電視數位化、數位轉換

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## 一、目的

為落實行政院加速電視數位化進程政策執行與順利達成數位轉換目標，了解美國電視數位化執行過程之規劃、分工與執行時所遭遇之問題，俾利 NCC 之無線電視數位轉換計畫、數位/類比電視訊號切換、數位轉換技術服務中心運作、數位轉換政策、技術與在地宣導、低收入戶機上盒發放等政策之執行順暢。

## 二、過程

### (一) 拜訪 NTIA 及 FCC 行程表如下：

<b>March 17(Thursday)</b>		
08:40	Check Out	行李置於科技組公務車上 林寶玉秘書陪同拜會 by
10:00	Meeting with NTIA (National Telecommunications and Information Administration) Ms. Anna M. Gomez, Deputy Assistant Secretary for Communications and Information Ms. Bernadette McGuire, Associate Administrator, Office of Telecommunications and Information Applications Ms. Marsha McBride, Senior Advisor to the Assistant Secretary for Communications and Information  Veune: Room 1414 U. S. Department of Commerce 1401 Constitution Ave., NW Washington, DC20230	Metro (Metro: Federal Triangle)  Contact Point: Eairla Hawkins (Elizabeth Bacon) T: 202-482-2097 or 202-482-1830 Email:EBacon@ntia.doc.gov
13:45	Federal Communications Commission Portals II Complex at 445 12 <sup>th</sup> Street, S. W. (Between Independence Ave. and the Southwest Freeway) Meredith A. Baker, Commissioner Jonathan D. Levy, Deputy Chief Economist Charles Bradford Mathias, Senior Legal Advisor Evan Kwerel, Senior Economic Advisor Anita Dey, Regional Specialist for Asia Strategic Analysis and Negotiations Division Robert B. Somers, International Visitors Program	Contact point: Robert B. Somers Outreach Initiatives & International Visitors Program Robert.somers@fcc.gov International Bureau Federal Communications Commission T : 202-418-1483 C : 703-6247-5644

## (二) 討論內容

### 拜訪 NTIA 及 FCC 記錄

10:00-16:30, 03/17/2011



張委員向 NTIA 與會者簡介 NCC 及我國數位匯流計畫中電視數位化工作。



張委員致贈 NTIAMs. Anna M. Gomez 紀念品。



張委員向 FCC 副主任經濟學家 Dr. Jonathan D. Levy 與 P. Michele Ellison 局長等人簡介 NCC 及我國數位匯流計畫中電視數位化工作。



張委員與 FCC 與會者就無線電視數位化工作內容規劃、推動問題交換意見。

問: 有線電視數位化，如何進行規劃和執行？

答: 1. 對於 NCC 積極以政策推動有線電視數位化方面，感到十分特別。在美國有線電視數位化純為商業推動，而政府沒有介入推動。主要原因是衛星電視與有線電視在美國為主要競爭者(NTIA)。

2. 執行面部分：對於還在使用類比的民眾，有線業者會主動提供免費的機上盒(如紐約市)(NTIA)。

3. 在市場方面，68%為有線或衛星收視戶，而20%為無線電視戶，目前全美約1100萬戶 over the air。全美約210個特定市場(Designated Market Area; DMA，類似我國的有線電視經營區概念)(FCC)。

4. 有線電視與無線電視之間的關係：一家無線電視台可以在有線電視上必載一個頻道，而每三年可重新協商，透過協商進行內容修訂。1992年開始有Cable Act，但到目前為止還沒有完全完成(FCC)。

問: 請教 NTIA 有關無線電視數位轉換的經驗。

答: 1. 政策方向：涵蓋率方面並不要求100%，政策為數位轉換後的涵蓋率不小於原有類比電視訊號涵蓋率，也就是原有的收視戶收視權益不受影響。(NTIA)

2. NTIA 與 FCC 合作，NTIA 主要負責折價卷的發放部分，而機上盒安裝及天線調整則是由 FCC 負責。

3. 2009年1月國會追加650萬美元預算作為NTIA及FCC提供轉換服務之用。

問: NTIA 在設計折價卷(coupon)時所考慮的問題有哪些？

答: 1. 「家戶」的定義為何?誰可以領折價卷? NTIA 是以郵寄的地址當作一戶，每個地址發放二張。

2. 單一地址但有多戶，如老人安養院，該發放多少數量? 解決方法為先依照規定發放，同時尋求全國性的公益團體協助進行折價卷的募集，募集其他家戶不需要的折價卷提供給安養院使用。

3. 在轉換過程中也有設計「軟性測試(soft test)」，是 market by market 的測試(很接近 NCC 的「逐區關閉」概念)。先期實驗是進行小區域的實驗，如北卡羅萊納州(North Carolina)的威明頓市(Wilmington)、羅德島州(Rhode island)等區域。

4. 整體資訊提供的協調是很重要的，包括 walk in center、有線電視業者及製造商之間的協調與合作。製造商方面，包括進口商與本國製造商都在2003年以前就已經開始配合政府的數位轉換政策，停止供應類比電視機。

問: 關於數位轉換服務執行，NTIA 的經驗分享。

答: 1. 服務中心需仔細檢視隨時間演變的可能採行方案，在2009年6月完成轉

換之後還持續運作了 6 個月的時間處理後續問題。服務中心針對長輩的實施措施，詳細內容可參看 <http://www.dtv.com>

2. 跟國會議員、聯邦機構及地方行政機構(州政府)進行協調，特別是透過國會議員來在各州加速推動工作。

3. 每周持續在網路上更新各州民眾折價卷的發放與兌換進度，促成各州加速發放。

問: 關於數位轉換服務中心 FCC 的經驗分享。

答: 1. 收視(訊號涵蓋、天線與機上盒)的技術服務由 FCC 負責，全會上下總動員至全國各地提供相關服務。

2. 必須找出為什麼特定地區的收視戶沒有訊號，此部分是透過「consumer outreach」結合相關廠商為民眾進行技術協助，如天線及機上盒的調整。

3. 特別的經驗：原類比訊號涵蓋邊緣的住戶，在原先類比訊號時所收看的可能不見得是清楚的畫面，但是可以收視到畫面，而數位轉換後則不是有畫面就是沒有畫面，有部分訊號涵蓋邊緣的收視戶會因此而完全失去收視。

問: 數位轉換所回收的頻譜用途？拍賣後，屆期既有的頻段持有者該如何處理？(FCC)

答: 1. 有一部分將用做公眾安全的用途，如公共緊急預警訊息發布。目前規劃以 LTE 技術來建置跨州可通的系統。

2. 頻譜以拍賣的方式進行是從 1994 年開始。執照屆期後，既有執照擁有的業者後續參進與新進業者該如何公平競爭部分，FCC 專家尚未就換照預期永續性(Renewal Expectancy Perpetuity)研擬出很周延的辦法。



張委員 NTIA 拜會結束後於美國商務部入口留影。

### 拜訪 FCC Meredith Attwell Baker 委員記錄

4:00pm -4:30pm, 03/17/2011

問: NCC 三位委員 2009 年二月來訪 FCC,瞭解數位機上盒折價卷發放政策。目前 NCC 捨折價卷採補助低收入戶，請教 Baker 委員有何看法？

答: 明智的決定。” When people ask me what the problem is with the coupons, I tell them the problem is the coupon itself.”

問: 類比電視數位轉換後回收頻譜用途為何？

答: 一部份撥出供公共安全(public safety)目的之用，一部份拍賣。在公共安全用途方面，已確定採 LTE 技術，以解決各州/地方間共同運作(interoperability)的問題。

問: FCC 對網通的國家安全方面有無角色或任務？

答: 完全沒有，由其他單位負責，如商務部。何以見得美國自製設備便沒顧慮？

問: FCC 委員間有重大歧見時，如何處理？

答: 1. 以 National Broadband Plan 為例，5 位委員各有看法,無法全盤形成共識，最後是抽取出有共識的高層理念部份來作決議。

2. 最終還是訴諸多數決，由於委員來自總統任命，表決結果自然 “goes to the

President. ”

問: 您從 NTIA 到 FCC，而 Ms. Gomez 在 FCC 多年後到 NTIA，兩組織間似有系統地交流，而 FCC 似在頻譜分配上有較強決定權。

答: 1. 希望 FCC、NTIA 間有更密切的系統性互動。未來 cognitive radio 時代，將必須更密切合作。短期(10年)內 FCC 負責商用、NTIA 負責聯邦之用的 spectrum allocation 方式與態式，不太會改變。

2. FCC 人員數較多，2000(FCC):300(NTIA)，專業研析上更完整、深入。

問: 代主委表達邀訪之意。

答: 謝謝，會考慮。



會後張委員致贈 Baker 委員紀念品並合影。

### 三、心得及建議事項

#### (一) 政府組織與功能

1. NTIA 與 FCC 對於無線電視數位轉換之分工十分清楚，更重要的是密切合作，透過雙方密集的工作協調會議，方克竟全功。
2. FCC 有專職研究人員與團隊且為數眾多，政策研究能量充沛，在政策研擬方面創新性、嚴謹度及計量深度均值得借鏡。
3. 以 FCC Baker 委員及 NTIA Ms. Gomez 為例，在公-私部門間轉換跑道，相對我國容易，對通傳監理業務可有不同視野的歷練，對形成政策應大有助益。

#### (二) 無線電視數位轉換

1. 數位電視涵蓋率目標宜將執行能量專注於確保原有類比收視戶權益，再朝服務更多民眾的方向努力。
2. 數位轉換宣導與機上盒技術服務方面可參考 FCC 之分工及人力與預算配置。
3. FCC 技術服務諮詢至數位轉換後仍持續運作 6 個月，NCC 之技術服務中心預計於 100 年 6 月開始運作，建議比照 FCC，於類比訊號關閉後仍繼續運作至少半年的時間，以服務民眾。
4. 與地方政府的溝通協調方面可考慮參考 NTIA 作法，透過立法委員或地方議員的協助，加速並加強數位轉換推動速度與能量。
5. 日後若需增加考量其他弱勢民眾的機上盒補助政策，可參考 FCC 做法，透過與國內公益團體合作進行推動。
6. 對民眾之資訊揭露方面，可參考 NTIA 做法，於數位轉換專題網頁上持續更新各地區低收入戶機上盒的發放、安裝進度，促成各縣市加速發放。

感謝駐美國台北經濟文化代表處科技組張組長和中與林秘書寶玉於交流過程中之行程安排與協助。

#### 四、附錄

##### (一) 攜回資料

1. 附件一：DTVReport – Outsidethebox (pdf 檔)
2. 附件二：張委員 FCC 參訪流程 (pdf 檔)
3. 附件三：FCC 組織架構圖 (pdf 檔)
4. 附件四：FCC 參訪相關資料彙整報告(ppt 檔)

##### (二) NCC 資料

1. 附件五：NCC 簡介(NCC introduction)(ppt 檔)
2. 附件六：提問大綱 (NTIA&FCC visit Agenda)(word 檔)

# Outside the Box

THE DIGITAL TV CONVERTER BOX COUPON PROGRAM



U.S. Department of Commerce  
National Telecommunications and Information Administration



December 2009





# Outside the Box

## THE DIGITAL TV CONVERTER BOX COUPON PROGRAM

**U.S. Department of Commerce**

*Gary Locke, Secretary*

### **National Telecommunications and Information Administration**

*Lawrence E. Strickling, Assistant Secretary for Communications and Information*  
*Anna M. Gomez, Deputy Assistant Secretary for Communications and Information*  
*Bernadette McGuire-Rivera, Ph.D., Associate Administrator,*  
*Office of Telecommunications Information and Applications*

### **TV Converter Box Coupon Program**

*Anita L. Wallgren, Program Director*  
*Anthony J. Wilhelm, Ph.D., Consumer Education Director (2006 – 2009)*  
*Mary Lou Kenny, Consumer Education Director (2009)*

### **Acknowledgements**

*NTIA would like to thank Bart Forbes, Rochelle Cohen, Sara Morris, Wayne Ritchie, Diane Steinour, and Edward “Smitty” Smith for their contributions to this report.*



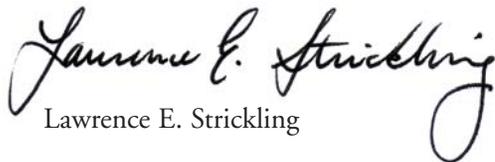


**UNITED STATES DEPARTMENT OF COMMERCE**  
**The Assistant Secretary for Communications**  
**and Information**  
Washington, D.C. 20230

The TV Converter Box Coupon Program was a tremendous success and is one of the reasons the digital television transition in the United States went so smoothly. Over a two-year period, the Coupon Program educated millions of Americans about how to get ready for the transition and helped reduce the cost of purchasing a converter box for millions of households.

This report describes the challenges NTIA faced in administering the Coupon Program and the solutions we developed to address those issues.

As many countries around the world prepare to make their own transition to digital television, we hope this report provides useful information on how the United States prepared for this historic change. I am pleased to share “Outside the Box: The Digital TV Converter Box Coupon Program” with you.

  
Lawrence E. Strickling





# Outside the Box

## THE DIGITAL TV CONVERTER BOX COUPON PROGRAM



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# Introduction



The United States government's novel TV Converter Box Coupon Program (Coupon Program) was pivotal in assisting the nation's conversion from analog to digital television. The Coupon Program provided information about the digital transition and distributed coupons to defray part of the cost of TV converter boxes which were used to allow older analog TV sets to work with digital TV broadcasts.

**The experience of the U.S. government may help other countries that are undertaking a similar transition.**

**The Coupon Program was an effective public-private partnership.** The Coupon Program was involved in setting technical standards, certifying products, monitoring retail operations, providing consumer education, fulfilling coupon orders, and offering customer support. Voluntary and wide-scale involvement of manufacturers, retailers, cable operators and broadcasters, community groups, and other federal agencies made success in these areas possible.

**This comprehensive program depended on innovative solutions.** As an unprecedented program, the Coupon Program staff, at every turn, had to think "outside the box" in new and creative ways.



## Background

**The U.S. Congress enabled television stations to receive additional spectrum in order to develop digital broadcasting.<sup>(1)</sup>**

In 2006, Congress required analog broadcasting to end in 2009. As a result, consumers would have to ensure that each television set in their home was capable of receiving digital signals.

To do so, consumers could buy a new digital television; subscribe to cable, satellite or other pay television service; or purchase a digital-to-analog converter box.

**Many Americans had analog TV sets that could not receive digital TV signals over the air.** Congress, therefore, provided financial assistance to help consumers purchase converter boxes. These boxes would allow analog TV sets to receive and to display digital TV broadcasts.

In the U.S. House of Representatives, Commerce Committee Chairman Joe Barton of Texas first announced a plan for a converter box subsidy in March 2005.<sup>(2)</sup> Congress eventually developed and funded the Coupon Program at \$1.5 billion.<sup>(3)</sup>

At that time, Congress permitted each U.S. household to request up to two \$40 coupons to purchase basic converter boxes. The new converter boxes were expected to cost approximately \$50 each. No converter boxes at this price were available in stores at that time, however.

### Congress & the Coupon Program

#### **Telecommunications Act of 1996:**

Allowed the FCC to issue licenses for "advanced television service" (digital TV).

#### **Balanced Budget Act of 1997:**

Set deadline for ceasing analog TV broadcasting as December 31, 2006, with some exceptions.

#### **Deficit Reduction Act of 2005** (*Title III: Digital Television Transition and Public Safety Act*):

Set firm deadline of Feb. 17, 2009, for TV stations to end their analog service; established the Coupon Program, with strict guidelines for its implementation; and provided \$1.5 billion for the Coupon Program.

#### **DTV Delay Act of 2009:**

Moved the February 17, 2009 deadline to June 12, 2009; gave consumers four more months to request coupons, to July 31, 2009; extended length of Coupon Program; authorized Program to issue replacement coupons.

#### **American Recovery and Reinvestment Act of 2009 (Recovery Act):**

Provided NTIA with \$650 million for additional coupons, administrative costs (such as first-class postage), and consumer education.





*U.S. Capitol, Washington, D.C.*

**Congress directed the National Telecommunications and Information Administration (NTIA), an agency within the U.S. Department of Commerce, to run the Coupon Program.** Congress also established the requirements of the Coupon Program. NTIA proposed rules and received many comments on how to craft the regulations governing the Program. NTIA issued the final regulations in March 2007.<sup>(4)</sup>

**Through a competitive bidding process, NTIA selected a contractor to provide services for the Coupon Program.**

The prime contractor coordinated sub-contractors that ran the coupon distribution and consumer support system, worked directly with retailers, and coordinated consumer education with NTIA staff.<sup>(5)(6)</sup>



*U.S. Department of Commerce, Herbert C. Hoover Building, Washington, D.C.*

NTIA staff was also directly involved with manufacturers to certify converter box standards. In addition, NTIA developed relationships with industry, federal and non-profit partners to inform the public about the digital television (DTV) transition.<sup>(7)</sup>



**The Federal Communications Commission (FCC) was responsible for ensuring that television stations successfully made the technical digital transition.** The FCC and NTIA worked together to educate consumers about what they needed to do for the transition.

### Off and Running

- **February 8, 2006:** President signs bill to create Coupon Program.
- **July 20, 2006:** NTIA suggests model Program with Notice of Proposed Rule Making.
- **July 31, 2006:** NTIA conducts research with draft Statement of Requirements for contractor.
- **September 25, 2006:** Last day of public comments on proposed Program rule.
- **January 7, 2007:** NTIA informs prospective contractors with Program Pre-solicitation Notice.
- **March 12, 2007:** NTIA issues Final Rule for Program.
- **March 14, 2007:** NTIA issues Request for Proposals to provide services needed to implement the Program.
- **May 7, 2007:** Deadline for potential contractors to submit proposals.
- **August 15, 2007:** Contract awarded for call center, processing, and consumer education.
- **January 1, 2008:** NTIA begins accepting requests for coupons through its [www.DTV2009.gov](http://www.DTV2009.gov) Web site, call center, and by fax and mail.
- **February 17, 2008:** NTIA begins coupon distribution process.



# Challenges

The Program faced several challenges.

## **Challenge #1: No inexpensive digital-to-analog converter box existed in the marketplace.**

In 2007, NTIA noted that affordable converter boxes were not currently available to consumers and that such boxes were still in development. Given the Program's time constraints, manufacturers would have barely 12 months to bring boxes that met NTIA technical specifications to market -- less than the typical 18-month manufacturing cycle.

As described in the section entitled "Case Study: Converter Boxes," NTIA established standards and a simplified certification process that encouraged manufacturers to produce boxes quickly.

## **Challenge #2: The number of households not yet able to receive digital TV was not known.**

The U.S. does not license television sets, so no one knew how many households had only analog, over-the-air television. In June 2005, the Consumer Electronics Association (CEA) estimated that approximately 11 million households were unprepared for the digital transition.<sup>(8)</sup>

The U.S. Government Accountability Office (GAO) suggested that the number was closer to 21 million.<sup>(9)</sup>

NTIA, therefore, designed the coupon request, distribution, and payment system to be scalable to meet the unknown demand.

## **How Many Households Need a Converter Box?**

The GAO noted in May 2005 that eligibility criteria would pose challenges to the administration of a DTV subsidy program.<sup>(10)</sup> The GAO stated that the identification of households relying only on over-the-air television signals would be difficult because no list of such households existed.

Originally, NTIA proposed to give coupons only to households that watched TV using antenna-only television sets. This excluded those that subscribed to a pay TV service. However, households using a cable or satellite service might need to receive over-the-air TV stations in times of emergency, such as severe weather. Also, households with pay TV service might have one or more antenna-only TVs. More important, verifying which specific households relied completely on over-the-air broadcasts was impossible.

Therefore, NTIA decided to permit all U.S. households to request coupons. To provide a balance among the uncertainty of demand, funding limitations, and the ability to prioritize households that depend on over-the-air TV service, NTIA established two funding categories. All households could apply on a first-come, first-served basis until coupons valuing \$890 million were redeemed and issued but not expired. After that, \$450 million was available for households certifying that they did not subscribe to a cable, satellite, or other pay television service.

**Challenge #3: The converter boxes had to be available throughout the time period of the Coupon Program.** To avoid widespread shortages of converter boxes throughout the Program, NTIA worked with manufacturers to establish a smooth and efficient technical certification process.



### What is a Household?

Congress specifically used the term “household” rather than residence or address. In its rule, NTIA defined what is meant by “household” by using the U.S. Census Bureau definition: “A household is all persons who currently occupy a house, apartment, mobile home, group of rooms, or single room that is occupied as a separate U.S. postal address.”

The Census Bureau definition adds that a household is a separate living quarter in which occupants do not live and eat with any other persons and there is direct access from the outside or through a common hall.

The U.S. Postal Service maintains a large database of residential household addresses. NTIA used the Postal Service database to validate applicant addresses as eligible households. Community groups and some Members of Congress were concerned that the Postal Service’s list of households did not include everyone who needed coupons. NTIA responded in September 2008 by providing a waiver for residents of nursing homes, intermediate care facilities, and other assisted living facilities that were licensed by a State.

NTIA could identify these facilities because they were on a list of state-licensed facilities. Licensure also reduced the risk of fraud in applying for coupons.

NTIA also worked to ensure that many different types of stores would carry the boxes. Retailers were encouraged to offer converter boxes in stores, over the telephone, and online.

This would provide consumers with many choices of where and how to purchase converter boxes. NTIA also required retailers to use commercially reasonable methods to maintain converter box inventory. NTIA, therefore, provided weekly coupon request and redemption data to assist retailers and manufacturers in maintaining an adequate supply of boxes.

### Challenge #4: The U.S. Congress placed very specific conditions on the Program in 2005 in order to safeguard funding:

- no more than \$160 million could be spent on administrative expenses;
- no more than \$5 million of administrative funds were for consumer education;
- the value of each coupon was \$40;
- each requesting household would receive no more than two coupons;
- coupons were required be delivered via the U.S. Postal Service;
- only one coupon could be used toward the purchase of each converter box;
- consumers could only request coupons from January 1, 2008, to March 31, 2009;
- all coupons expired three months after issuance;
- coupons could only be used to purchase a “digital-to-analog converter box,” defined as “a stand-alone device that does not contain features or functions except those necessary to enable a consumer to convert any digital TV channel into a format that can be displayed on analog TV sets.” Converter box purchases could also include a remote control.



NTIA met some of these challenges as described in “Case Studies: Coupon Program Design” and others were addressed by Congress as described in “Case Study: Flexibility.”

**Challenge #5: NTIA had very little time to meet these challenges and create a working program.**

The President signed the bill that created the Coupon Program on February 8, 2006. This gave the Coupon Program less than two years before it had to start accepting requests, on January 1, 2008. In order to meet this challenge, NTIA:

- hired federal staff and created a new program office within the agency;
- created the technical standards for a new consumer electronics product before manufacturing could begin;
- proposed guidelines, systems, and controls for the Program;
- followed the required federal process of public comment to adopt rules for the Program;
- developed a contractor selection plan that complied with the formal federal process;
- developed a Request for Proposal for a contractor to provide services;
- evaluated bids and negotiated the final contract for services;
- encouraged multiple manufacturers to design, manufacture, and market a new product quickly;
- identified a financial system to support coupon distribution to households;
- worked with the U.S. Treasury to design a financial system that would reimburse retailers for the value of the coupon;<sup>23</sup>

**Proving a Need**

Congress was clear that a “household” may request coupons. Congress did not specify any other eligibility requirement, such as income level.

The GAO recognized the difficulty in trying to set a “means test” (based on economic or other need) as an eligibility requirement. The GAO noted that efforts to confirm eligibility would likely delay reasonable and timely distribution of coupons.<sup>(11)</sup>

Ongoing federal programs such as the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program) could justify using such a system for proving household income, but the short-term Coupon Program could not.

Therefore, NTIA did not require that households prove a need for converter box coupons based on household income.

- recruited and certified retailers to modify their systems to redeem coupons and sell certified converter boxes;
- monitored contractor performance; and
- managed the Program to minimize waste, fraud, and abuse.

NTIA moved immediately to prioritize tasks and develop an implementation plan that included the use of a contractor, industry, and consumer groups. The process for federal contracting was on a tight schedule. NTIA also quickly began working with broadcasters, manufacturers, retailers, and community service groups on key elements of the Program, as detailed in these case studies.

# Case Study: Coupon Design and Delivery

**In creating the Coupon Program, NTIA asked for advice** from broadcasters, consumer electronics manufacturers and retailers, public interest groups, and the American public.

The agency first presented its draft program rules in the Federal Register in July 2006. The public submitted comments over a two-month period. NTIA analyzed these wide-ranging comments and issued the Final Rule in March of 2007.<sup>(12)</sup>



**Coupons were plastic cards that included both a magnetic strip and a unique number.** Plastic cards with magnetic strips were familiar both to consumers and to store sales clerks.

Therefore, stores required few changes and little additional training to accept the coupons. This helped speed processing in the stores. Imprinting a unique number on the card also allowed online and telephone retailers to sell certified converter boxes. Unlike gift cards, the coupons did not carry any “stored value” and could be used only once.

The amount of \$40 was clearly marked on every card. The coupon numbers were matched to a central database. This ensured that the cards were valid and had not been used, and it enabled electronic tracking of every transaction. As a result, opportunities for fraud were greatly reduced.

**Coupons were mailed to household addresses via the U.S. Postal Service, as required by Congress.** NTIA received some

comments about the need for household delivery in rural America. At first, NTIA allowed for delivery to Post Office Boxes only for Indian Reservations,

Alaskan Native Villages, and other rural areas. Later, consumers asked NTIA to permit delivery to Post Office Boxes generally. NTIA responded by changing its rules to allow delivery to Post Office Boxes. In order to reduce fraud, however, NTIA still required applicants to identify their physical household addresses.



“We highly valued the comments, suggestions, and confidence [the] stakeholders provided in helping us develop the Program. In fact, one of the most important comments we received in our rulemaking was the joint filing of MSTV (Maximum Service Television), NAB (National Association of Broadcasters), and CEA (Consumer Electronics Association) recommending several technical specifications for coupon-eligible converter boxes.”<sup>(13)</sup>



– **Former Acting Assistant Secretary of Commerce Meredith A. Baker**

**Consumers were required to provide only basic information to request coupons.** This made the process simple and addressed concerns about the federal government’s protection of individual privacy. Applicants only provided their names, household addresses, the number of coupons requested, and whether they subscribed to a pay TV service, such as cable or satellite.



## Case Study: Converter Boxes

**The Coupon Program helped create a market for affordable devices that previously did not exist.**

NTIA adopted technical standards for a basic digital-to-analog converter box based on the requirements set by Congress. These standards provided American consumers with a wide selection of affordable converter boxes with state-of-the-art technology. Manufacturers were free to develop other converters with additional features, but those would not be eligible for purchase with the coupon.

**The Coupon Program fostered an extraordinary collaboration between American broadcasters and the consumer electronics industry.**

Generally speaking, these groups maintain various positions and interests on regulatory and technical issues. However, they had a common interest in the successful transition to all-digital television broadcasting. NTIA based much of its converter box technical standards and certification process on the advice received from members of this community in their “Joint Industry Comments.”<sup>(14)</sup>

**NTIA’s technical certification process was based on a well-established FCC equipment approval process.**

Manufacturers were responsible for conducting technical testing at their own facilities. Manufacturers then provided sample boxes along with their detailed test results to NTIA. NTIA reviewed the results and sent the test results and boxes to the FCC technical laboratories for additional testing.<sup>25</sup>

The FCC ensured that the boxes met the NTIA-published performance standards.

### Converter Box Features

NTIA determined that the converter boxes should both be economical and include state-of-the-art technology already available in the marketplace.

The converter boxes that NTIA certified met minimum performance specifications and included specific features. Although other functions were permitted, some features would disqualify a converter box from being certified.

**Required features** included:

- digital reception,
- tuning to all TV channels,
- radio Frequency (RF) sensitivity,
- interference rejection,
- program-related material (Program and System Information Protocol or PSIP),
- closed captioning,
- parental controls,
- emergency alert system functions, and
- energy conservation.

**Permitted features** included:

- analog signal pass-through,
- smart antenna interface,
- battery-power operation, and
- advanced program guide.

**Disqualifying features** included:

- hard drives,
- DVD or other playback, and
- digital interfaces.



NTIA made the final determination of whether the boxes met its technical standards and should be certified. Later in the Coupon Program, NTIA directed the FCC to test a sample of converter boxes purchased from local stores. This ensured that mass production did not change the quality of the boxes.



Usually electronic devices are more expensive when first introduced. Prices then gradually decline as more devices are produced.

NTIA's specifications, however, required the devices to include only the most basic features or functions. Therefore, these converter boxes were priced between \$40 and \$70. This was far below the price of previously marketed devices.

**The NTIA technical standards were state-of-the-art for reception of digital television signals.** The FCC's Laboratory Division in the Office of Engineering and Technology (FCC Labs) performed approximately 300 tests on each of the converter box models submitted.

The FCC Labs noted that this was the largest single collection of performance measurements of modern consumer digital television receiver products in existence.<sup>(17)</sup>

“[We are] pleased that the NTIA's rules help ensure that the performance quality of the converter boxes eligible for the coupons remains at a high level consistent with the needs and expectations of consumers. By adopting minimum performance requirements, NTIA significantly enhances the likelihood of success for the overall program by helping to assure that the devices eligible under the Coupon Program perform to the satisfaction of American consumers.”<sup>(15)</sup>

**– Converter Box Manufacturer**

**NTIA certified more than 190 converter boxes.** NTIA encouraged broad participation by manufacturers by making the certification process open to all foreign and domestic manufacturers and by not charging an application fee. NTIA also carefully guided manufacturers through the certification process.

**Manufacturers were able to bring affordable converter boxes to market quickly.** The time to market for consumer electronics manufacturers is usually 15 to 18 months from the start of product design.<sup>(16)</sup> NTIA certified the first converter box in mid-September 2007, just six months after issuing technical specifications. The first wave of converter boxes arrived on store shelves only five months later, in mid-February 2008.





## Case Study: Retail Participation

### The Coupon Program was a unique federal program.

No other U.S. federal government-sponsored program had ever involved consumer electronics retailers quite like the Coupon Program.

The NTIA coupon cards held no dollar value themselves and were single-use cards. Participating retailers were reimbursed after accepting a valid coupon for the purchase of a certified coupon-eligible converter box.

NTIA linked the use of the coupon to certain Uniform Product Codes for specific models of converter boxes and authorized payment only to participating retailers. This helped NTIA control waste, fraud, and abuse.

“Retailers played an integral role in the subsidy program by selling the converter boxes and helping to inform their customers about the DTV transition and the program. GAO visited 132 randomly selected retail stores in 12 U.S. cities. At a majority of the retail locations that GAO visited, store representatives were able to correctly state [when] the DTV transition would occur and could explain how to apply for a converter box coupon.”<sup>(18)</sup>



– **United States  
Government  
Accountability  
Office**

### The Program depended on converter boxes being widely available at retail stores.

Retailers recognized the limited duration of the Coupon Program and they wanted to avoid having excess inventory after the Program ended, however.

Retailers also did not know how many converter boxes consumers would purchase. New systems and processes required by the Program could entail implementation costs to retailers.

NTIA responded to the concerns of both large and small retailers in designing the retailer aspects of the Coupon Program.



*Consumer Electronics Association (CEA) demonstration of analog and digital TV broadcasting at NTIA-sponsored DTV Expo in Washington, D.C.*

## Retailers wanted to be paid quickly and electronically.

Because retailers were concerned that coupon redemption payments could take up to 30 days, NTIA used an established financial payment system already used by most retail stores to enable electronic fund transfers from the U.S. Treasury. This system allowed the U.S. government to pay retailers within a matter of days.

## NTIA simplified required retailer staff training by using familiar redemption procedures.

Store clerks frequently used discount coupons and processed debit, credit, and gift cards. This meant that the retailers only needed to provide very targeted training to staff on how to process coupons. NTIA, therefore, provided training materials to all participating stores.

## Thousands of retailers voluntarily sold converter boxes because NTIA responded to their concerns.

NTIA designed the retail program to make it easy and attractive for stores to participate. As a result, more than 2,300 retailers with more than 34,000 locations voluntarily joined the Coupon Program.

The largest consumer electronics retailers participated, including Best Buy, Kmart, Sears, RadioShack, Target, and WalMart. Hundreds of regional chain stores and smaller retailers also sold converter boxes. In addition, consumers could choose from among 25 online retailers and 10 telephone retailers.





## Case Study: Partnerships

The partnership with the broadcasting and electronics industries, community organizations, and other federal agencies to educate consumers was key to the success of the Program.

### **Broadcasters and related trade associations contributed over \$1.4 billion in public service announcements.**

The National Association of Broadcasters (NAB) and the National Cable & Telecommunications Association (NCTA) produced these “PSAs,” and hundreds of NAB and NCTA members broadcast the PSAs nationwide. In addition, the Consumer Electronics Association and Consumer Electronics Retail Coalition created online resources. Many local TV stations also produced TV programs and news updates. These included stations of the Spanish-language networks Telemundo and Univision.

NAB also coordinated the Digital Television Transition Coalition that involved more than 120 business associations and community groups.



*National Association of Broadcasters’  
“DTV Trekker”*

“This expansive consumer outreach effort could not have been done by the federal government alone. Our nationwide network of nonprofit, corporate, and government partners were essential to getting the word out about the Coupon Program. As a result of these partnerships, we were able to reach those most vulnerable to losing a vital means of emergency and community affairs information.”



**– U.S. Department  
of Commerce  
Secretary  
Gary Locke**

### **Many federal agencies provided direct contact with vulnerable and often hard-to-reach groups of people.**

These agencies included:

- Federal Communications Commission,
- Internal Revenue Service,
- Department of Agriculture Food Stamp and Extension Programs,
- Social Security Administration,
- Department of Veterans Affairs,
- White House Office of Faith-Based and Community Initiatives,
- General Services Administration,
- Environmental Protection Agency,
- Administration on Aging, and
- Department of Health and Human Services' Administration for Children and Families and Centers for Medicare and Medicaid Services.

**Hundreds of community organizations reached vulnerable Americans across the country.** NTIA worked with over 300 non-profit organization partners with ties to the senior citizen, rural, and minority communities, and people with disabilities. These groups were critical in establishing trust with thousands of Americans. They created effective tools to inform the people who were most likely to rely on broadcast television.

These partners also developed their own programs that were tailored to the needs of their communities and helped many people apply for coupons. In addition, religious, social service, and health agencies branched out beyond their usual areas of expertise to assist with technology issues.

**To reach minority and rural communities,** for example, NTIA worked closely with groups including the U.S. Hispanic Chamber of Commerce, National Black Chamber of Commerce, Southeast Asia Resource Action Center, Koahnic Broadcast Corporation, Native Voice One, and Appalachian Regional Commission.

**NTIA provided coordination and support for the partners.** For example, NTIA hosted regular telephone conference calls and online “webinars” to keep partners up-to-date on the Coupon Program. NTIA also distributed regularly an electronic newsletter (e-newsletter). The Program Web site offered a variety of materials, such as fact sheets, sample flyers, articles, brochures, radio scripts, and inserts.

NTIA’s primary government partner for consumer education activities was the FCC, with each agency focusing efforts on its respective areas of expertise. For example, NTIA was the main source of information about obtaining converter box coupons, while the FCC was

the source of information on technical issues, such as improving TV reception.

NTIA also funded various FCC consumer education activities. Both agencies engaged in general outreach about the need to prepare for the DTV transition, however, the agencies coordinated their activities closely to ensure they were complementary.

**Community groups were very helpful in advising NTIA.** They provided valuable suggestions for changing aspects of the Program. For example, NTIA learned about problems with coupon eligibility for nursing homes residents from these partners.

The community groups also advised NTIA that some people may need assistance in connecting their converter box. They also provided useful suggestions about consumer education. NTIA responded by revising its program regulations and by adapting its public service messages to serve these needs.



*Members of Family, Career and Community Leaders of America (FCCLA) at a NTIA-sponsored DTV Expo in Washington, D.C.*



# Case Study: Consumer Education

**NTIA leveraged a \$5 million consumer education budget into over \$1.4 billion in free advertising.**

Television broadcasters and cable companies aired messages about the need for the general public to prepare for the digital transition. NTIA also worked with its contractor to encourage news stories on the digital transition by national and local TV stations, radio stations and newspapers.

**NTIA targeted the least-prepared groups and cities.** In particular, NTIA focused on five population groups that relied greatly on antenna-only TV sets: seniors and older Americans; low-income Americans; rural residents; people with disabilities; and minorities. NTIA also identified 45 areas of the country as high-risk based on specific factors.



*National Association of Area Agencies on Aging (n4a) assisted consumers with choices for the digital TV transition.*

These included areas with more than 150,000 households relying on over-the-air broadcasts; areas with more than 20 percent of all households relying on over-the-air broadcasts; or cities with the largest target groups noted above.

**NTIA led consumer education efforts on how to request coupons and conducted them in many languages.**

People could call a toll-free number, go online to a Web site, mail in a request or application, or send a request by facsimile (fax) machine.

Outreach materials included both English and Spanish versions. NTIA also provided coupon applications in Chinese (Mandarin), Korean, Vietnamese, Tagalog, and other languages. The call-in center also provided assistance in over 20 languages.

**Guía del consumidor  
Programa de Cupones  
Para Caja Convertidora  
de Televisor**

Si usted depende de una antena de techo o una antena fijada para ver su televisor, la caja convertidora es una opción para que siga funcionando su televisor analógico. El gobierno federal les está ofreciendo a todos los hogares estadounidenses hasta dos cupones de \$40, como ayuda para comprar la caja convertidora. Pedidos de hogares elegibles serán llenados por orden de llegada. Los cupones se ofrecen en cantidades limitadas. Si los fondos no están disponibles, los consumidores serán puestos en una lista de espera.

**SOLICITE** Solicite su cupón, que le ayudará a comprar una caja convertidora certificada por el gobierno. Para solicitarlos, visite [www.DTV2009.gov](http://www.DTV2009.gov), llame al 1-888-DTV-2009 (1-888-388-2009), envíe a PO Box 2000, Portland, OR 97208 o por fax al 1-877-DTV-4IME2 (1-877-388-4632). Las personas con problemas de audición pueden llamar al número 1-866-495-1161 (TTY).

**COMPRE** Compre una caja convertidora con o sin un cupón del gobierno. Los CUPONES SE VENCEN a los 90 días después de haber sido enviados por correo postal. En el mismo sobre de los cupones, le enviaremos una relación de los establecimientos donde podrá adquirir la caja convertidora.

**PRUEBE** Pruebe la caja convertidora en cuanto llegue a su hogar. Conecte la caja convertidora para disfrutar de la televisión digital o para solucionar cualquier problema potencial. En el folleto de instrucciones de la caja convertidora podrá encontrar un número telefónico gratuito donde podrán ayudarlo con la conexión. Si la recepción es deficiente, póngase en contacto con su canal de televisión local. Para obtener información general acerca de la transición a la televisión digital, visite [www.dtv.gov](http://www.dtv.gov) o llame al 1-888-CALL-FCC (voz) o 1-888-TELL-FCC (TTY).

Producido por el Departamento de Comercio de los Estados Unidos. 3 2009

*Consumer education materials included both English and Spanish versions.*

**NTIA developed a simple yet effective promotional campaign to encourage consumers to act early.**

NTIA heard from its partners that people were waiting until the end of the digital transition to request their coupons. They did not know that digital television stations were already providing clear pictures and more channels. Therefore, NTIA created the promotional campaign called “Apply, Buy, and Try.”



Viewers were encouraged to apply for coupons early, buy converter boxes, and try the digital TV channels. This campaign was very successful: over 6.6 million households requested over 12.2 million coupons in the months of November and December 2008 alone.

**NTIA gave grants to organizations to educate and assist vulnerable groups.**

Congress allowed NTIA to devote some funds for additional consumer education. NTIA then awarded grants to two groups: the National Association of Area Agencies on Aging (n4a) and the Leadership Conference on Civil Rights Education Fund (LCCREF). These organizations helped consumers apply for coupons, purchase converter boxes, and install the boxes in their homes. They assisted more than 350,000 consumers in more than 180 cities. They also ran coupon donation programs in more than 30 cities.

“With extensive outreach in communities across the country, the Keeping Seniors Connected organizations will reinforce the efforts of the NTIA and their contractors by directly disseminating customized, targeted information about the transition to these vulnerable populations. Most importantly, n4a will then offer seniors the direct, one-on-one assistance that most will need in order to make a smooth transition to DTV.”<sup>(19)</sup>



– **Sandy Markwood, CEO, National Association of Area Agencies on Aging**

“The Leadership Conference on Civil Rights Education Fund is pleased to be working with NTIA. We also look forward to working with our local partners on the ground to set up assistance centers and provide vulnerable communities with direct hands-on assistance. Access to free over-the-air television is an important lifeline for millions of Americans.”<sup>(20)</sup>



– **Karen McGill Conference on Civil Rights Education Fund**



*National Association of Area Agencies on Aging (n4a) assisted consumers with choices for the digital TV transition.*



## Case Study: Accountability & Transparency

NTIA carefully managed its public funds and made program transparency a priority.

**Consumers could use coupons only under specific conditions.** For example, the coupon had to be valid and not expired or already redeemed, the retailer had to be authorized by NTIA to redeem the coupon, and only devices certified by NTIA could be purchased with a coupon.

**NTIA monitored stores to make sure they followed procedures and accounted for the funds.** Retailers agreed to provide customers with accurate information about the Coupon Program, to process coupons correctly, and to account for every purchase. To oversee this, NTIA hired “secret shoppers” who made approximately 1,700 visits nationwide. These and other monitoring processes helped to limit waste, fraud, and abuse in the Program. NTIA also decertified some retailers that did not follow the rules.

**NTIA monitored illegal sales of coupons.** NTIA alerted consumers that it was illegal for an individual to sell a coupon. NTIA also worked with many online services, such as eBay and Craigslist, to identify and remove illegal offers to sell converter box coupons.

**NTIA bought converter boxes from stores and tested them to verify compliance with the established standards.** All boxes tested passed the technical tests. The agency was very pleased with the high level of consumer satisfaction with certified converter boxes and received a relatively small number of complaints.

**NTIA used special software to check coupon requests and redemptions.**

The agency ran regular computer waste, fraud, and abuse checks against all coupon

“NTIA is effectively implementing the converter box subsidy program.”<sup>(21)</sup>



– **United States  
Government  
Accountability Office**

requests received. This process helped to identify duplicate and fraudulent requests. The Program ran similar checks against coupon redemption activity at retailers to discover unusual patterns. NTIA then investigated questionable or suspicious activities to uncover potential fraud.

**NTIA met regularly with its prime contractor and subcontractors to monitor all aspects of the Program.** Management meetings covered everything from coupon requests to retailer payments. An online data “dashboard” provided daily oversight and trend information to NTIA managers.

**Transparency was a hallmark of the Program.** NTIA made virtually all aspects of the Program available to the public. For example, NTIA posted on its Web site all public comments and official documents. These included:

- the proposed and final program rules and modified rules;
- notices of all public meetings;
- public comments and meeting notes;
- waivers;
- requests for contractor proposals;
- final contract and all modifications;
- detailed consumer education plan;
- notifications of grant awards; and
- weekly status reports on coupon requests, redemptions, converter box and retailer certifications, and funds availability.<sup>(22)</sup>

# Case Study: Flexibility

**NTIA built flexibility into the Coupon Program to respond to evolving circumstances and adapt to lessons learned.** This flexibility allowed NTIA to make adjustments, which were crucial to the overall success of the Program. It also minimized the number of households that were unprepared for the final conversion.

**NTIA issued coupons only when NTIA-certified converter boxes were available in stores.** For example, NTIA certified the first converter box in September 2007 and manufacturers quickly produced and distributed the converter boxes to retail stores by mid-February 2008. However, Congress required NTIA to accept coupon requests beginning on January 1, 2008.



Congress also required that each coupon expire within three months (90 days) of issuance. Therefore, NTIA waited until February 17, 2008, to mail the first coupons. Because the expiration date was established on the date the coupon was mailed, this prevented consumers from being frustrated by the lack of coupon-eligible converter boxes in stores.



*NTIA adjusted the promotional campaign to include bus cards announcing “The Last Minute is Here” in the spring of 2008.*

“The DTV Delay Act is good for the American people. It acknowledges the need for more time so we can give the American consumers the assistance they need to acquire coupons and the importance of giving the public safety community access to additional spectrum to improve communications. If NTIA receives additional budget authority for the TV Converter Box Coupon Program, our first priority will be to provide coupons for those households currently on the waiting list, as well as maximize further distribution of coupons.”<sup>(23)</sup>



– **Anna M. Gomez**  
**Deputy Administrator,**  
**National Telecommunications and Information Administration**

## **NTIA created waivers for residents of nursing homes and Post Office Boxes based on advice from community partners.**

As previously noted, NTIA initially limited eligibility for coupons to households with a residential postal address. Members of Congress and community groups advised NTIA about problems encountered by seniors in nursing homes and assisted living facilities in obtaining coupons. They also counseled the agency about people who prefer to use Post Office Boxes. NTIA responded to these concerns quickly. Within five months, NTIA changed its rules to permit nursing home residents to receive coupons and to allow for persons using Post Office Boxes to receive coupons.



**NTIA adapted its promotional campaign to address changing circumstances.** The first campaign theme was “Experience the Benefits.” This was created because few people knew that TV stations were already broadcasting in digital with clearer pictures and more channels.

NTIA subsequently heard from its partners that people were waiting until the end of the digital transition to request their coupons. Also, some bought converters using coupons but did not hook up the boxes. NTIA, therefore, created the promotional campaign called “Apply, Buy, and Try.” Then in the last few months of the Coupon Program, the slogans “The Last Minute is Here” and “Get DTV Ready Now!” stressed urgency to motivate consumers to act.



*Commerce Secretary Gary Locke, at podium, urges consumers to “Get DTV Ready Now” at a NTIA DTV rally.*

**Congress extended the length of the Program.** In January 2009, the Nielsen Company reported that approximately 6.5 million television households still were not ready for the end of analog television. Acting out of concern for the millions of unprepared Americans, President Obama successfully encouraged Congress to pass the DTV Delay Act. This Act delayed the analog shut off date by four months, to June 12, 2009.<sup>35</sup>

**Quý vị đã để lỡ dịp bắt DTV vào ngày 12 tháng Sáu?**

Quý vị vẫn có nhiều lựa chọn. Nếu quý vị đăng ký chậm nhất là ngày 31 tháng Bảy hoặc nguồn cung vẫn còn thì quý vị vẫn có thể nhận **phiếu giảm giá \$40** giúp tiết kiệm cho hộp chuyển đổi tín hiệu TV.

**Hãy gọi 1-888-DTV-2009 hoặc truy cập vào [www.DTV2009.gov](http://www.DTV2009.gov).**

*NTIA distributed consumer education materials in multiple languages such as Vietnamese.*

The law also gave consumers four additional months to request coupons, through July 31, 2009, and allowed NTIA to replace coupons that had expired without being redeemed.

**The American Recovery and Reinvestment Act (Recovery Act) provided additional funding for coupons.** The success of NTIA’s “Apply, Buy and Try” campaign contributed to a surge in coupon requests. This resulted in the Coupon Program reaching a crucial funding limit earlier than planned. To help ensure Americans did not lose access to broadcasts upon which they relied, President Obama successfully requested Congress to provide the Coupon Program with an additional \$650 million. These funds enabled NTIA to eliminate a backlog of requests for more than four million coupons and to upgrade its coupon delivery from standard-class mail to first-class mail, ensuring faster delivery to consumers.





*NTIA's "Mobile Assistance Center" campaign was among its most successful promotions.*

effectively reach vulnerable groups in the last months of the Program.<sup>(24)</sup>

NTIA's "Mobile Assistance Center" campaign was among its most successful promotions. These "DTV clinics on wheels" travelled to more than 200 events and helped almost 38,000 consumers apply for coupons and learn how to connect boxes.

NTIA also purchased advertisements in approximately 700 minority-focused media outlets nationwide to encourage consumers to act.

In addition, NTIA purchased ads in transit shelters located in target cities. These ads reached an estimated 59.6 million riders to ensure consumers were aware of the transition and prepared for it.



**Cabinet-level assistance raised awareness after the DTV Delay Act.**

Commerce Secretary Gary Locke was instrumental in raising awareness in the final months of the DTV transition, especially in the most unprepared communities. Secretary Locke participated in events with lawmakers, and conducted dozens of national and local television and radio interviews – including outreach to Hispanic and African-American outlets – urging millions of Americans to get ready for the digital conversion.

Secretary Locke also expressed appreciation to Congress for giving NTIA the flexibility to make vital changes in the Coupon Program. "Because of the DTV Delay Act and additional funding from the American Recovery and Reinvestment Act, millions more households were prepared for the transition," Secretary Locke said.

**Recovery Act funds also allowed NTIA to expand consumer outreach and education.**

NTIA conducted focus groups to help determine why certain households were still unprepared for the end of the DTV transition. NTIA used this information to develop new methods and messages to more



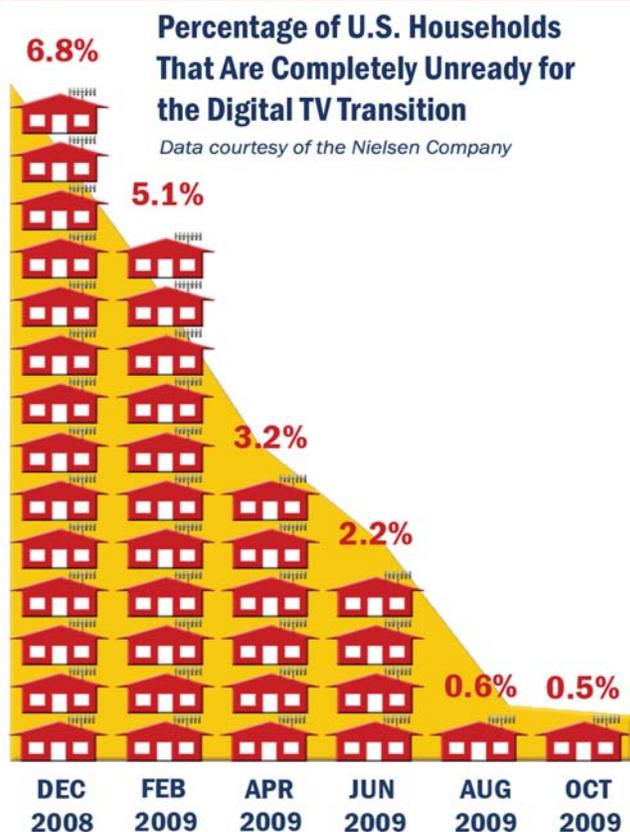
*"DTV clinics on wheels" travelled to more than 200 events.*



## Impact

**From December 2008 to October 2009, unready TV households dropped from 6.8 percent to 0.5 percent.**

The Coupon Program helped to decrease dramatically the number of households that could not view digital TV. These were called “unready” households since they were not ready for the end of analog broadcasting. The Nielsen Company, a private research company that measures television usage, tracked how many American TV households were ready for the end of analog broadcasting.



“NTIA's effective implementation of the DTV transition's converter box coupon program is a true testament to the dedicated public servants of the Department of Commerce. CEA's post-transition consumer survey found that 78% of consumers who used the NTIA coupon program rated it as excellent or good, a phenomenally high satisfaction rating. In the year leading up to the transition date, more than 35 million Americans took action based on information they received about the transition (purchasing a converter box or digital television or subscribing to a multichannel video provider).

More importantly, 92% of antenna-only households took some action to prepare for the transition before June 12. And today, the DTV transition stands as a success story that will be held up as a model of government/ private sector partnerships. The DTV transition will provide enormous benefits to the American people for years to come.”

– **Jason Oxman**  
**Senior VP,**  
**Industry Affairs,**  
**Consumer**  
**Electronics**  
**Association**



The readiness data are based on sets and households in its National People Meter panel, which is projectable to U.S. television households, and its local metered panels, which are projectable to their respective television household populations.

**This dramatic decrease in unready households was a direct result of getting TV converter box coupons into the hands of TV viewers and encouraging them to purchase converter boxes.**

By the end of the Program, NTIA approved more than 34.8 million applications from American households for over 64.1 million coupons. Of those coupons, consumers redeemed almost 35 million to purchase converter boxes. This was a redemption rate of more than 54.4 percent -- higher than any other known commercial coupon redemption rate.

“The DTV transition has been an outstanding success, a true partnership between federal agencies, retailers, product suppliers, broadcasters, and others working together to educate and serve millions of Americans.

CERC members were the core participants in the NTIA Coupon Program. Participation required revising their point of sale sales systems for all products, and meeting strict certification and audit criteria.

The fact that the Coupon Program ended quietly and with almost no public notice speaks to the hard work and effort so many people poured into the process.”

**– Chris McLean, Executive Director  
Consumer Electronics Retailers  
Coalition**



**Supporting this distribution was a massive customer service effort.**

NTIA received more than 51.7 million calls to its toll-free telephone service and more than

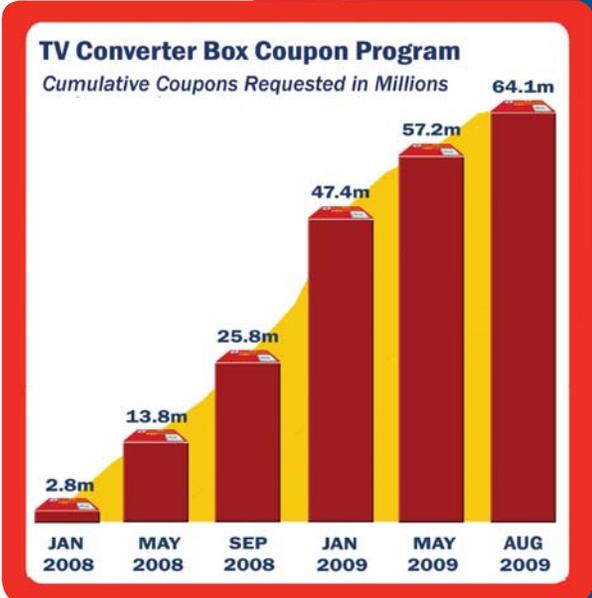
211.7 million visits to its Coupon Program Web site. Of the phone calls, 7.5 million were handled by live agents and 14.1 million requested Spanish language assistance. The 34.8 million approved applications were received by:

Fax . . . . .	137,009
Mail . . . . .	1,089,428
Phone . . . . .	13,070,075
Web site . . . . .	20,504,268

**The end result was a relatively smooth conclusion to analog TV broadcasting in the United States.**

The day analog signals ended, more than 112 million of the 114.5 million TV households were prepared. Still, NTIA received more than 380,000 calls, a record, on that day.

In the article “Changeover to Digital TV Off to a Smooth Start” on June 13, 2009, the New York Times reported: “Across the country, television stations set up help lines and community organizations held events to aid confused viewers. Most stations didn’t receive the flood of calls they had expected, a sign that the transition was smoother than many had predicted.”<sup>(25)</sup>





## Resources

- (1) Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in sections of 47 U.S.C.), [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=104\\_cong\\_public\\_laws&docid=f:publ104.104](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=104_cong_public_laws&docid=f:publ104.104)
- (2) Bill McConnell, Barton Targets DTV Bill for Spring, BROADCASTING & CABLE, Mar. 15, 2005, [http://www.broadcastingcable.com/article/156484-Barton\\_Targets\\_DTV\\_Bill\\_for\\_Spring.php](http://www.broadcastingcable.com/article/156484-Barton_Targets_DTV_Bill_for_Spring.php)
- (3) Digital Television Transition and Public Safety Act of 2005, Pub. L. No. 109-171, 120 Stat. 21 (codified at 47 U.S.C. 309 note) (2006), [http://www.ntia.doc.gov/otiahome/dtv/PL\\_109\\_171\\_TitleIII.pdf](http://www.ntia.doc.gov/otiahome/dtv/PL_109_171_TitleIII.pdf)
- (4) Digital-to-Analog Converter Box Coupon Program, 47 C.F.R. § 301 (2007).
- (5) Request for Proposal: Digital-to-Analog Converter Box Coupon Program, Solicitation Number: Reference-Number-PR-NTIA470-7-0296AW, [https://www.fbo.gov/index?s=opportunity&mode=form&id=b277a8285ed7b7f0c8d405084a18c2f7&tab=core&\\_cview=1](https://www.fbo.gov/index?s=opportunity&mode=form&id=b277a8285ed7b7f0c8d405084a18c2f7&tab=core&_cview=1)
- (6) NTIA Contract to Provide Services for the Digital-to-Analog Converter Box Coupon Program, <http://www.ntia.doc.gov/dtvcoupon/IBMcontract.html>
- (7) NTIA TV Converter Box Coupon Program Consumer Education Plan, [http://www.ntia.doc.gov/dtvcoupon/DTV\\_ConsumerEducation\\_120607.pdf](http://www.ntia.doc.gov/dtvcoupon/DTV_ConsumerEducation_120607.pdf)
- (8) Press Release, Consumer Electronics Association, New Data Shows Analog Broadcasting Cut-Off Will Impact Few U.S. TV Sets and Homes (June 8, 2005), [http://www.ce.org/Press/CurrentNews/press\\_release\\_detail.asp?id=10764](http://www.ce.org/Press/CurrentNews/press_release_detail.asp?id=10764)
- (9) Digital Broadcast Television Transition: Estimated Cost of Supporting Set-Top Boxes to Help Advance the DTV Transition: Testimony Before the H. Comm. on Energy and Commerce, Subcomm. on Telecommunications and the Internet, 109th Cong. (2005) (statement of Mark L. Goldstein, Director, Physical Infrastructure Issues, U.S. Government Accountability Office), <http://www.gao.gov/new.items/d05258t.pdf>
- (10) Digital Broadcast Television Transition: Several Challenges Could Arise in Administering a Subsidy Program for DTV Equipment: Testimony Before the H. Comm. on Energy and Commerce, Subcomm. on Telecommunications and the Internet, 109th Cong. (2005) (statement of Mark L. Goldstein, Director, Physical Infrastructure Issues, U.S. Government Accountability Office), <http://www.gao.gov/new.items/d05623t.pdf>
- (11) *id.*
- (12) See *supra* Note (4)
- (13) Meredith Attwell Baker, Former Acting Assistant Secretary, NTIA, Keynote speech at the Maximum Service Television (MSTV) 22nd Annual Fall Television Conference (Sept. 22, 2008), [http://www.ntia.doc.gov/speeches/2008/Baker\\_MSTV\\_080922.html](http://www.ntia.doc.gov/speeches/2008/Baker_MSTV_080922.html)

(14) Joint Industry Comments: The Association for Maximum Service Television, Inc. (MSTV), the Consumer Electronics Association (CEA) and the National Association of Broadcasters (NAB) (Nov. 16, 2006),

[http://www.ntia.doc.gov/otiahome/dtv/comments/dtvcoupon\\_exparte08.pdf](http://www.ntia.doc.gov/otiahome/dtv/comments/dtvcoupon_exparte08.pdf)

(15) LG Electronics Press Release, Commerce Department's Digital Television Rules Bring Transition into Focus, Set Stage For Final Steps (Mar. 12, 2007).

(16) KPMG, Consumer Electronics Association, & Global Semiconductor Alliance, The Consumer Electronics Boom: How Semiconductor And Consumer Electronics Companies Can Improve Cost, Time-To-Market, And Product Quality (August 2008), available at <http://www.ce.org/PDF/ConsumerElectronicsSemiconductorStudy061308.pdf>

(17) Federal Communications Commission, Office of Engineering And Technology, DTV Converter Box Test Program—Results And Lessons Learned (Oct. 2009).

(18) U.S. Government Accountability Office, Digital Television Transition: Implementation of the Converter Box Subsidy Program Is Under Way, But Preparedness To Manage An Increase In Subsidy Demand Is Unclear, GAO-08-1040 (Sept. 2008),

<http://www.gao.gov/new.items/d081040.pdf>

(19) Press Release, National Telecommunications and Information Administration, Commerce's NTIA Awards \$2.7 Million to National Association of Area Agencies on Aging to Help Seniors Transition to Digital TV (Nov. 18, 2008),

[http://www.ntia.doc.gov/press/2008/DTV\\_N4Agrant\\_081118.html](http://www.ntia.doc.gov/press/2008/DTV_N4Agrant_081118.html)

(20) Press Release, U.S. Department of Commerce Commerce's NTIA Awards \$1.65 Million to Leadership Conference on Civil Rights Education Fund to Help Vulnerable Groups Transition to Digital TV (Nov. 21, 2008),

[http://www.ntia.doc.gov/press/2008/DTV\\_LCCRaward\\_081121.pdf](http://www.ntia.doc.gov/press/2008/DTV_LCCRaward_081121.pdf)

(21) U.S. Government Accountability Office, Digital Television Transition: Implementation Of The Converter Box Subsidy Program Is Under Way, But Preparedness To Manage An Increase In Subsidy Demand Is Unclear, GAO-08-1040 (Sept. 2008),

<http://www.gao.gov/new.items/d081040.pdf>

(22) TV Converter Box Coupon Program: Weekly Status Update Reports,

<http://www.ntia.doc.gov/dtvcoupon/reports.html>

(23) Press Release, National Telecommunications and Information Administration, Commerce's NTIA Welcomes Congressional Action on DTV Delay as Opportunity for More Americans to Prepare for the End of the Digital TV Transition (Feb. 5, 2009),

[http://www.ntia.doc.gov/press/2009/DTV\\_Delay\\_090205.htm](http://www.ntia.doc.gov/press/2009/DTV_Delay_090205.htm)

(24) NTIA TV Converter Box Coupon Program Consumer Education Addendum,

[http://www.ntia.doc.gov/dtvcoupon/IBM\\_NTIA\\_DTVConsumerEd\\_Addendum\\_090423.pdf](http://www.ntia.doc.gov/dtvcoupon/IBM_NTIA_DTVConsumerEd_Addendum_090423.pdf)

(25) Changeover to Digital TV Off to a Smooth Start, New York Times, June 14, 2009

[http://www.nytimes.com/2009/06/14/business/media/14digital.html?\\_r=1&emc=tnt&tntemail0=y](http://www.nytimes.com/2009/06/14/business/media/14digital.html?_r=1&emc=tnt&tntemail0=y)







**U.S. Federal Communications Commission  
International Visitors Program**

**Briefing Agenda**

**For**

**Dr. Chang, Shi-Chung  
Commissioner**

**National Communications Commission of Taiwan**

**Ms. Lin, Pao-Yu  
Senior Executive Officer**

**Taipei Economic and Cultural Representative Office in the United States**

**Country: Taiwan  
Region: Asia**

**Thursday  
March 17, 2011  
2:00 pm—4:30 pm**

**U.S. Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554**

**Conference Room:  
8-B516 (8 South)**

**Hosted by:  
The International Visitors Program (IVP)**

**2:00 pm—3:30 pm DTV Transition**  
Jonathan Levy, Deputy Chief Economist  
Federal Communications Commission

Eloise Gore, Associate Chief  
Media Bureau

William Freedman, Associate Chief  
Consumer & Governmental Affairs Bureau

*FCC IVP Contact:  
Robert Somers (202) 418-1483 Office, (703) 624-5644 Mobile, OfficeWeb site:  
[www.fcc.gov/ib/ivp](http://www.fcc.gov/ib/ivp)*

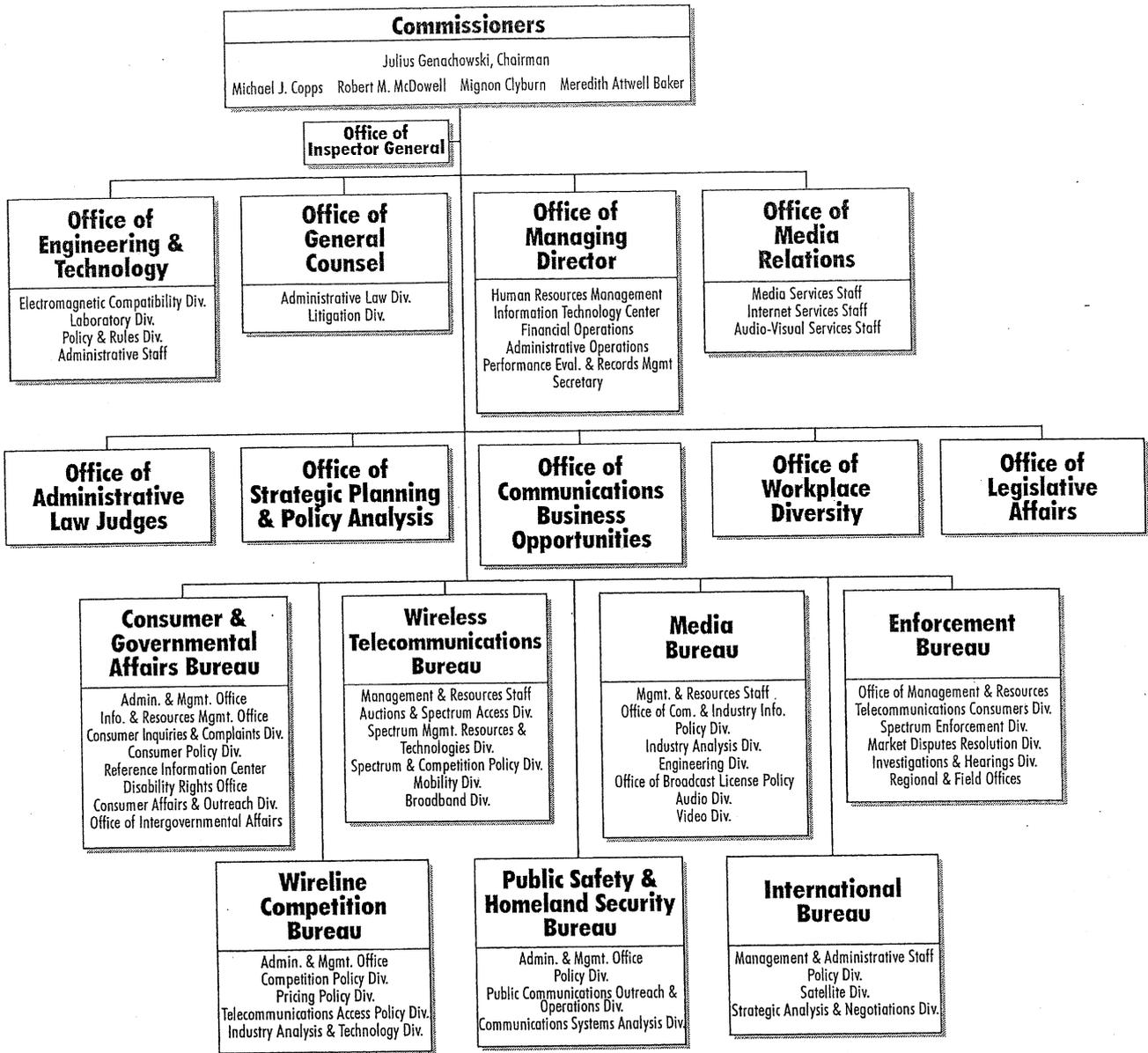
**3:30 pm—4:00 pm Further Discussion**  
Douglas Sicker, Chief Technologist  
Federal Communications Commission

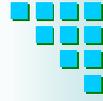
• Evan Kwerel, Senior Economist  
Office of Strategic Plans and Policy

**4:00 pm—4:30 pm Meeting with Commissioner Baker**  
Meredith Attwell Baker, Commissioner  
Federal Communications Commission

Charles Mathias, Senior Legal Advisor  
Wireless, International, and Public Safety Issues  
Office of Commissioner Baker

*FCC IVP Contact:*  
*Robert Somers (202) 418-1483 Office, (703) 624-5644 Mobile, Office Web site:*  
[www.fcc.gov/ib/ivp](http://www.fcc.gov/ib/ivp)





# 2011年3月 FCC參訪相關資料彙整報告

參訪日期：2011.03.17.  
張時中



## Federal Communications Commission



- ◆ FCC網頁：  
<http://www.fcc.gov/>  
FCC組織架構圖  
張委員參訪流程

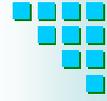


- ◆ 非法電台相關網頁：  
<http://www.fcc.gov/eb/tpsd/ulo.html>





## Digital TV Transition



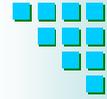
◆ 無線電視數位轉換相關網站：

<http://www.dtv.gov/>

- 天線與機上盒安裝教學
- 訊號涵蓋率查詢網站

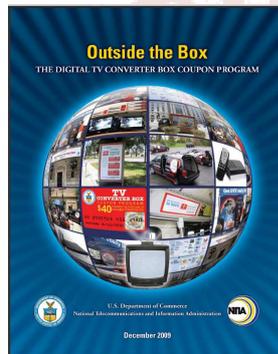


## NTIA



◆ TV Converter Box Coupon Program

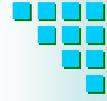
- Outside the Box



- 更多訊息連結網站

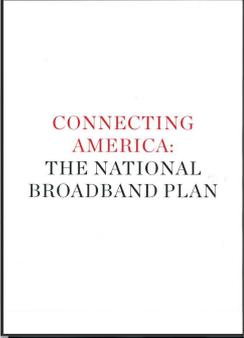


## The National Broadband Plan



### ◆ 國家寬頻計畫(The National Broadband Plan)

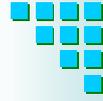
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CONNECTING  
AMERICA:  
THE NATIONAL  
BROADBAND PLAN

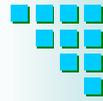
- [網站連結](#)
- [寬頻與健康照護](#)





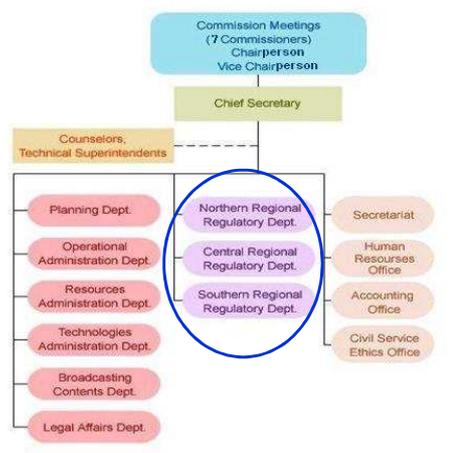
# NCC Roles in Digital TV Acceleration

Presented by  
**Dr. Shi-Chung Chang, Commissioner**  
 NCC, Taiwan, ROC



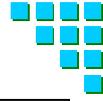
## NCC Organization

- ◆ Established on February 22, 2006
- ◆ 7 Commissioners
  - Currently all on-leave from universities
  - Backgrounds in media and communications, engineering, law and economics
- ◆ 550 Staff Members

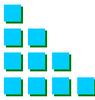




## Taiwan Profile



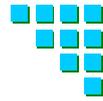
<b>Population</b>		<b>23 million</b>
<b>No. of Households</b>		<b>7.81 million</b>
<b>Geographic Size</b>		<b>36,191 km<sup>2</sup></b>
<b>GNP Per Capita</b>		<b>(f) US\$16,914</b>
<b>Mobile Phone</b>	No. of Subscribers	<b>27.4 million</b>
	Penetration	<b>118.5% (P.P.)</b>
<b>CATV</b>	Penetration	<b>64% (H.H)</b>
<b>Broadband</b>	No. of Subscribers	<b>7.97 million</b>
	Major Service Bandwidth	<b>2 &amp; 10 Mbps</b>



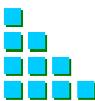
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## Major Goals of Digital Convergence Project



Items	Targets in 2015
Fixed line Broadband (100Mbps)	80% of Total Households
Optical Fiber Network (FTTx)	6 Million Subscribers
Wireless Broadband	2 Million Subscribers
Cable TV Digitization	50% of Total Households
Emerging Video Service	50% Nationwide Coverage

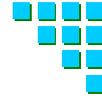


3





## Terrestrial TV Digital Switchover in Taiwan



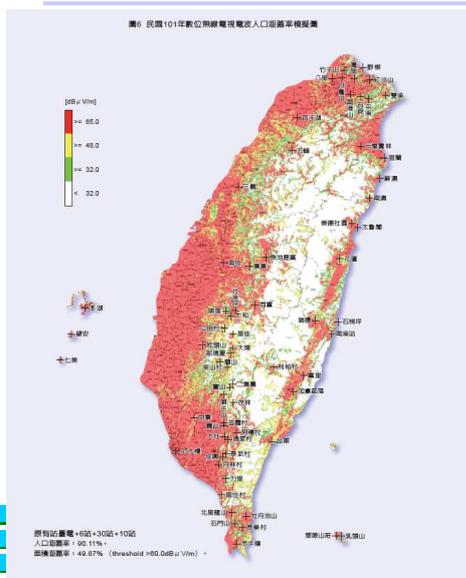
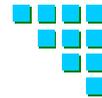
- ◆ Digital TV broadcast established since its trial run in 1998
- ◆ Officially launched operations in September, 2007
- ◆ 5 stations - 15 SD channels - 1 HD channel
- ◆ Goal: complete transition by December, 2012
- ◆ Set-top box subsidy schemes
- ◆ Improve public awareness and use radio frequency efficiently



6



## Digital TV Signal Coverage



NCC: Gapfiller and Booster Construction in 2010-2012  
Goal: > 90% coverage of population at switchover

7

## **NTIA Visit Agenda**

10-noon, 3/17/2011

Prepared by Shi-Chung Chang, Commissioner,  
National Communications Commission

### **I. Introduction of NCC (20 mins)**

with emphases on

- Overview of NCC's mission in digital convergence
- Terrestrial TV switchover project
  - Current status
  - Challenges

### **II. Suggested topics of discussions with NTIA**

#### II.1 On terrestrial TV switchover

- Inter-agency coordination mechanism with FCC
- Collaborate mechanism with other agencies on
  - ◆ switchover promotion
  - ◆ coupon distribution
- Lessons learned
- Any follow-up actions after the switchover?

#### II.2 Coordination mechanism of spectrum allocation between NTIA and FCC

## **FCC Visit Agenda**

13:45-15:30, 3/17/2011

Prepared by Shi-Chung Chang, Commissioner,  
National Communications Commission

### **I. Introduction of NCC (15mins)**

with emphases on

- Overview of NCC's mission in digital convergence
- Digital TV in Taiwan –developments after our visit of Sept., 2009
  - Terrestrial TV switchover project
  - Cable TV and IPTV

### **II. Suggested topics of discussions with FCC**

#### II.1 On terrestrial TV switchover

- Switchover service center: design, operation and lessons learned
- Inter-organization collaboration with NTIA

#### II.2 Spectrum reuse from switchover: status and lessons learned

#### II.3 Trends and regulation among various digital TV services: broadcasting TV, IPTV and web TV

#### II.4 Trends and regulation of mobile broadband access (if time allows)

- Congestion caused by flat tariff, all-you-can-eat package
- Service tariffs and quality of service

#### II.5 Status and handling of pirate radio station operations (if time allows)