

# Trends en ontwikkelingen in de ether WTC Rotterdam, June 6, 2007

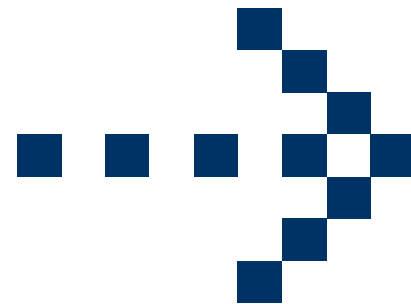
## Policy changes in the UK and lessons for the Netherlands



Chris Doyle

Warwick Business School, UK

[chris.doyle@cdoyle.com](mailto:chris.doyle@cdoyle.com)



# Key UK Milestones

- ❑ Spectrum reform blueprint accepted by UK Government in 2003 following Cave Review of 2002
- ❑ Creation of Ofcom as integrated telecoms/broadcasting/spectrum regulator and competition authority in 2003
- ❑ Development by Ofcom of comprehensive spectrum strategy framework in 2004
- ❑ Spectrum trading possible from December 2004
- ❑ New approach to public sector spectrum adopted by UK Spectrum Strategy Committee in 2005
- ❑ Implementation of new regime by Ofcom 2005-07
- ❑ Major new awards, including 3G expansion band and broadcasting digital dividend spectrum, made or under discussion, 2006-08

# Ofcom's Spectrum Framework Review (SFR) 2004-05

## Four key recommendations

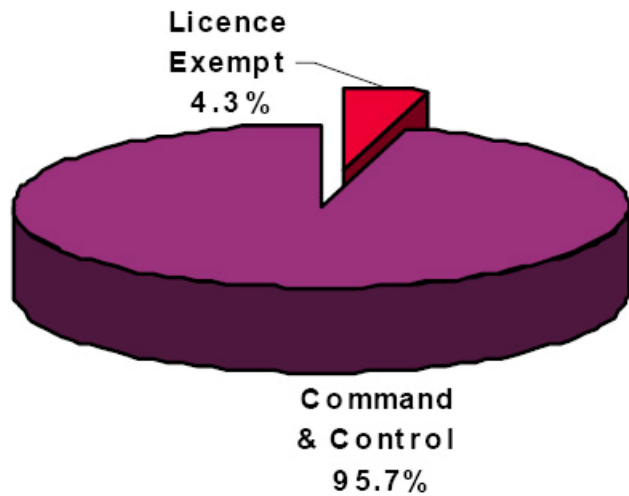
- Allow the market to decide the best use for new spectrum allocations
- Allow licence holders to trade spectrum in an open market and change the use made of spectrum rights (known as liberalisation)
- Clearly define rights of spectrum users
- Increase the amount of licence-exempt spectrum

# Ofcom's Spectrum Vision from SFR

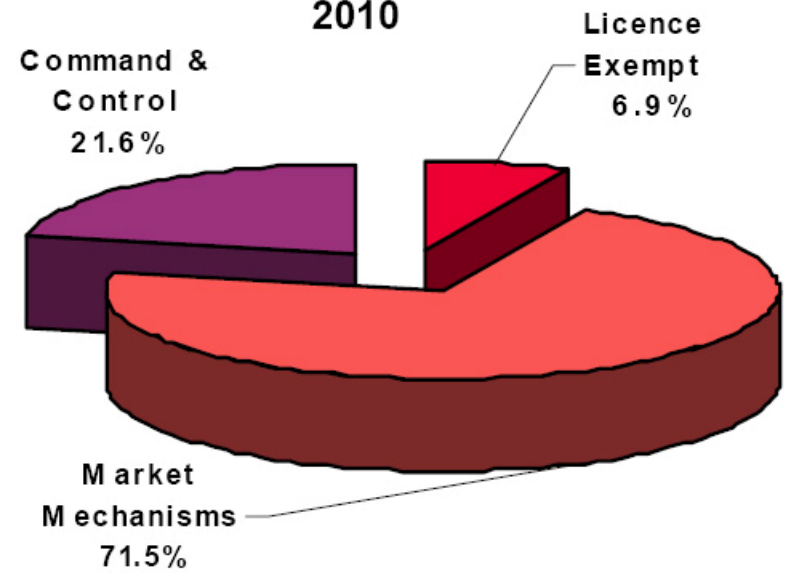
- ❑ Spectrum should be free of technology and usage constraints as far as possible. Policy constraints should only be used where they can be justified.
- ❑ It should be simple and transparent for licence holders to change ownership and use of spectrum.
- ❑ Rights of spectrum users should be clearly defined and users should feel comfortable that they will not be changed without good cause.

# Ofcom's 2004 vision

2000



2010



# How is Ofcom to achieve its vision?

- ❑❑❑ November 2004: By allowing market forces to prevail wherever possible principally through:
  - ❑❑❑ Trading
  - ❑❑❑ Liberalisation
    - ❑❑❑ (SFR)
- ❑❑❑ January 2007: A more dynamic and market-oriented approach through inter-related projects of spectrum pricing, spectrum trading and liberalisation
  - ❑❑❑ (Modifications to Spectrum pricing consultation document)

# Policy on Trading

- ⌘ Trading with no change of use permitted in certain bands from December 2004
- ⌘ There have been delays in extending to bands where flexibility of use is permitted, and it requires approval by regulator
- ⌘ Most trades have not been for spectrum licences per se, but have involved transfers in relation to wider transfers
- ⌘ Fixed wireless access, point to point and business radio licences have been traded to date

# Amount of trading has been very disappointing

	2004-05	2005-06	2006-07	2007-08 up to June 4 2007
Number of WTA Licences	54,614	54,220	54,000+	54,000+
Tradable licences	c900	c900	c900	000s
Number of completed trades	None	None	16	2

Source: TNR, Ofcom 5 June 2007

# New assignments – auctions where possible

- ❑ Ofcom has completed three auctions and has five groups of auctions in preparation
- ❑ Ofcom's approach is to facilitate technology and service neutrality
- ❑ Nevertheless, constraints posed by other licensed users taken into account
- ❑ Outcomes of auctions influenced by packaging spectrum – hence a regulatory influence is present
- ❑ Ofcom has become much more bolder and pioneering in its auction design

# Auctions completed as of June 2007

	Frequency	Auction format	Number of bidders	Winners
20 April 2006	1781.7-1785, 1876.7-1880	Six options	14	12
5 October 2006	412-414, 422-424	Combinatorial	6	1
9 May 2007	1785-1805 (NI, unpaired)	Second price sealed bid	2	1

# Auctions in preparation

	Frequency	Auction format
2008	470-854 (128 MHz total) DDR spectrum	Simultaneous Multiple Round Auction, Clock proxy?
2007?	872-876, 917-921 (2x4MHz)	Second price sealed bid, anonymous
2007 Autumn	1452-1492 (L-band)	Combinatorial clock
Late 2007	3G Expansion bands	Single-round sealed bid, second-price and clock auction
2007-08	10GHz, 28GHz, 32GHz and 40GHz	Simultaneous Multiple Round combinatorial clock auction

# Administered Incentive Pricing (AIP)

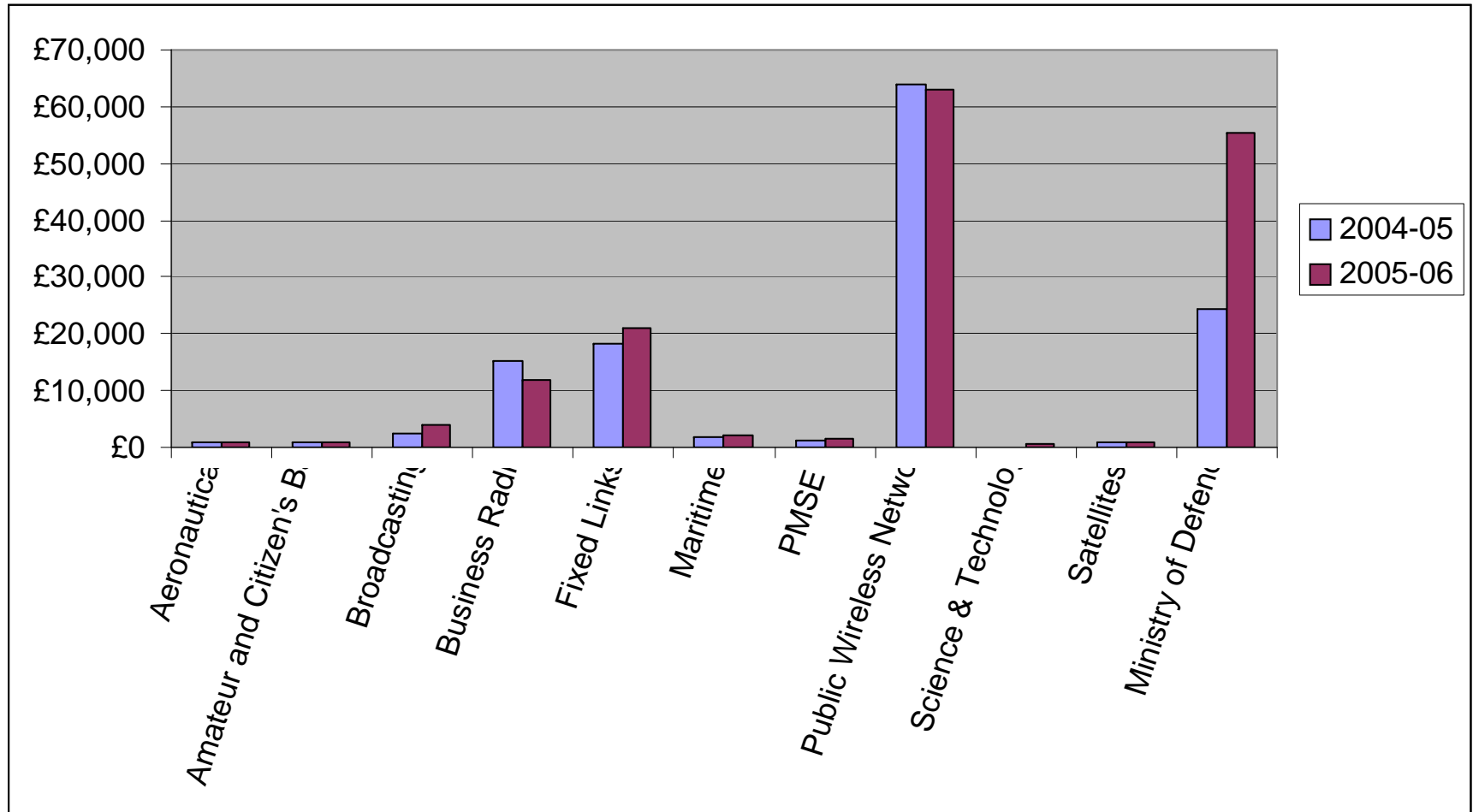
- ⌘ AIP complement other measures and are a long-term transition to market based methods
- ⌘ AIP based on the principle of opportunity costs
- ⌘ AIP have been extended considerably
- ⌘ Rates are relatively low, based on technical calculations, though have been revised upwards
- ⌘ Revenues exceed spectrum management costs

# AIP revenue and spectrum management costs

	AIP revenue £m	Spectrum Management costs £m
2004-05	129.7	68.2
2005-06	162.1	69.3

Source: Ofcom Annual report and Accounts

# AIP revenues across sector



Source: Ofcom, 2007

# Public Sector use of Spectrum

## ❑❑❑ Radical new policy consisting of:

- ❑❑❑ Conversion of Crown spectrum into tradable form (known as recognised spectrum access)
- ❑❑❑ Agreement for public sector users to lease/share/sell spectrum
- ❑❑❑ Requirement for public sector users to go into the market to meet additional needs
- ❑❑❑ Implementation has been slightly behind schedule, and users may still be in denial

# Partial overview of the Ofcom approach

- ❑ Ofcom has taken an ‘incremental’ rather than ‘transformational’ approach; no big (or medium–sized, or little) bang
- ❑ Careful groundwork e.g., digital dividend spectrum
- ❑ Willingness to innovate on auction design
- ❑ Implementation a slog – technical issues complex and operators’ vested interests create continual threat of legal problems, especially over refarming
- ❑ Little emphasis on new technologies such as SDR (about which Ofcom is sceptical) which permit new spectrum management techniques, such as dynamic spectrum access

# Lessons for the Netherlands

- ⌘ Significant technical effort required to move from legacy command and control
- ⌘ To achieve effects of market-based mechanisms in the near future, a big-bang approach is more likely to succeed
  - ⌘ However no real experience of this worldwide
- ⌘ Coordination at a European level is likely to generate higher payoffs