

# Rural Broadband in Scotland – Challenges for Scotland and Lessons for Other Countries

Ewan Sutherland & Jason Whalley

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# Outline



- Institutional context: UK and Scotland
- Why broadband?
- Broadband trends
- Government initiatives
- Encouraging availability
- Next steps
- Lessons for other countries

# One country, four nations (1)



One country:

- The United Kingdom of Great Britain and Northern Ireland

Four nations:

- England, Northern Ireland, Scotland & Wales

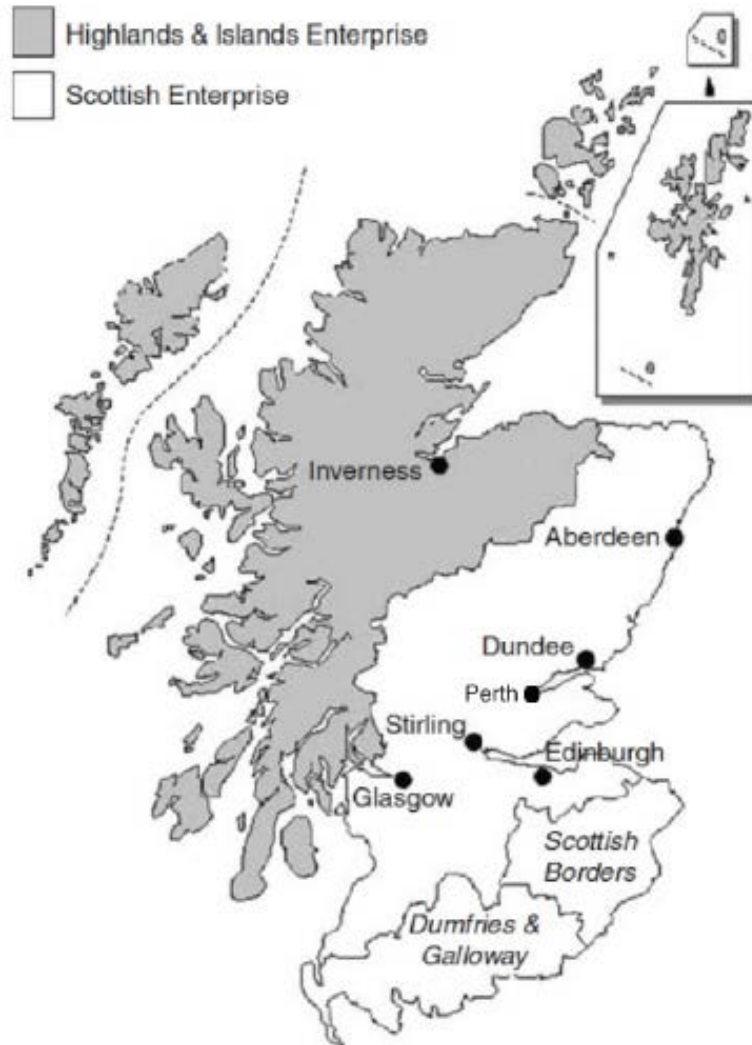
# One country, four nations (2)

Unequal nations within the UK

	GVA	Population mid-2010	Size, km <sup>2</sup>	Capital city
UK	£1,217bn	62.3m	243,610	London
England	£1,046bn	52.23m	130,395	London
<b>Scotland</b>	<b>£99bn</b>	<b>5.22m</b>	<b>78,387</b>	<b>Edinburgh</b>
Wales	£44bn	3m	20,779	Cardiff
N Ireland	£28bn	1.8m	13,843	Belfast



# Scotland



- Population: 5.2m

Population densities vary, from 3290/km<sup>2</sup> in Glasgow to 8/km<sup>2</sup> in Highlands

- Separate legal & administrative system
- Act of Union with England in 1707
- Scottish Government (formerly Executive) is the devolved administration.
- Different electoral system cf. Westminster.
- SNP currently has a majority of seats. Alec Salmond is First Minister
- UK Single Market issues, Defence & Foreign Affairs remain in London
- Telecoms is a UK Single Market issue

# Why the interest in broadband?



Socio-economic benefits, such as:

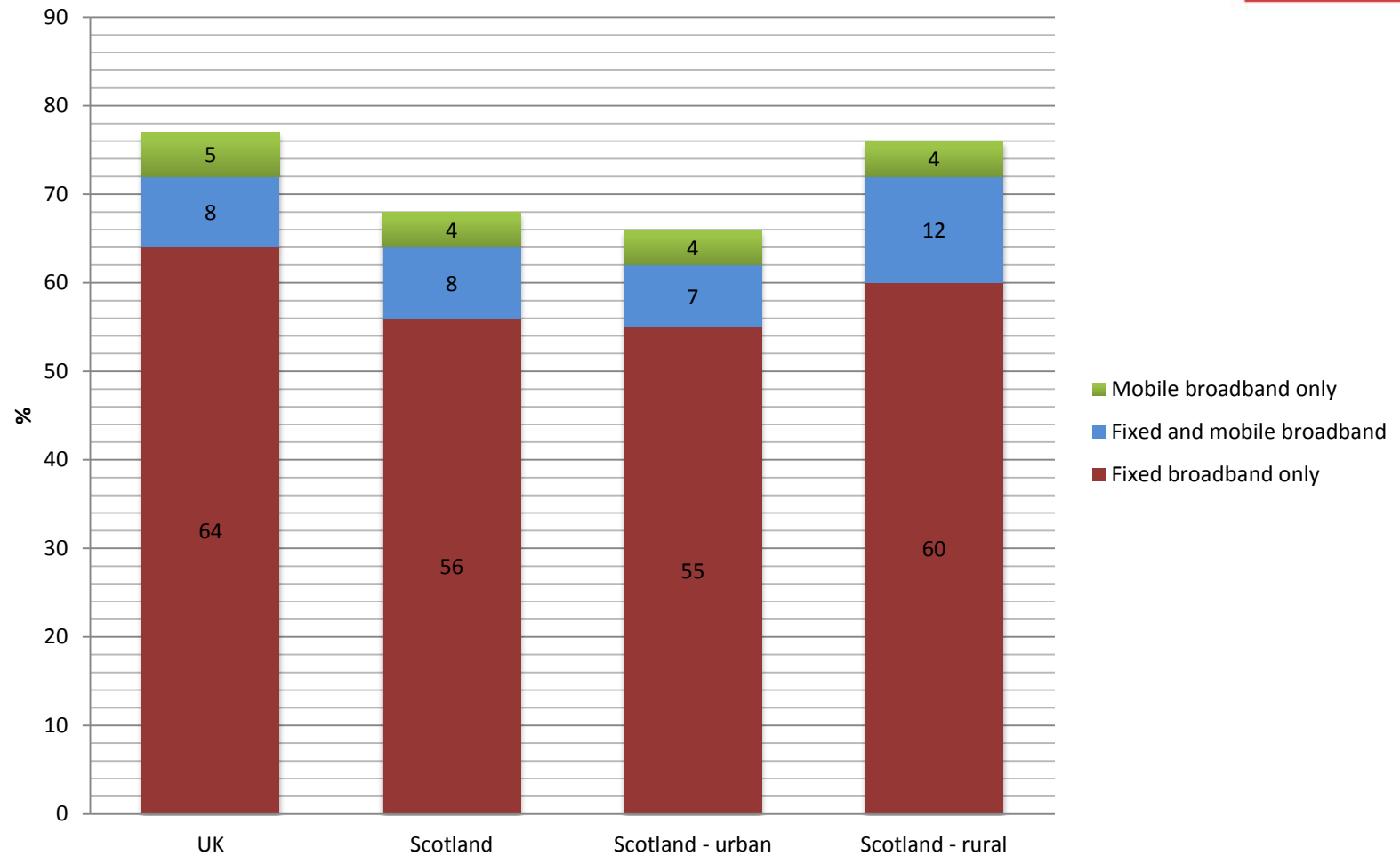
- Generate economic activity; accessing new markets and creating online content
- Reduced costs; digital goods and online buying
- To help maintain rural populations, and improve access to and the viability of services
- E-government

# Scotland cf. to the rest of the UK

	UK	Scotland	Urban Scotland	Rural Scotland
Broadband take-up	76	68	67	<b>76</b>
Mobile broadband take-up	13	12	11	<b>17</b>
Mobile phone take-up	92	85	84	<b>89</b>
Use mobile to access Internet	39	31	30	32
Smartphone take-up	39	32	33	32
Fixed landline take-up	84	82	81	<b>87</b>
Household taking bundles	57	47	45	<b>57</b>
Tablet take-up	11	11	11	10
E-reader take-up (personal use)	10	8	8	<b>11</b>

*Source: Ofcom (2012) The Communications Market Review – Scotland, Ofcom, London.*

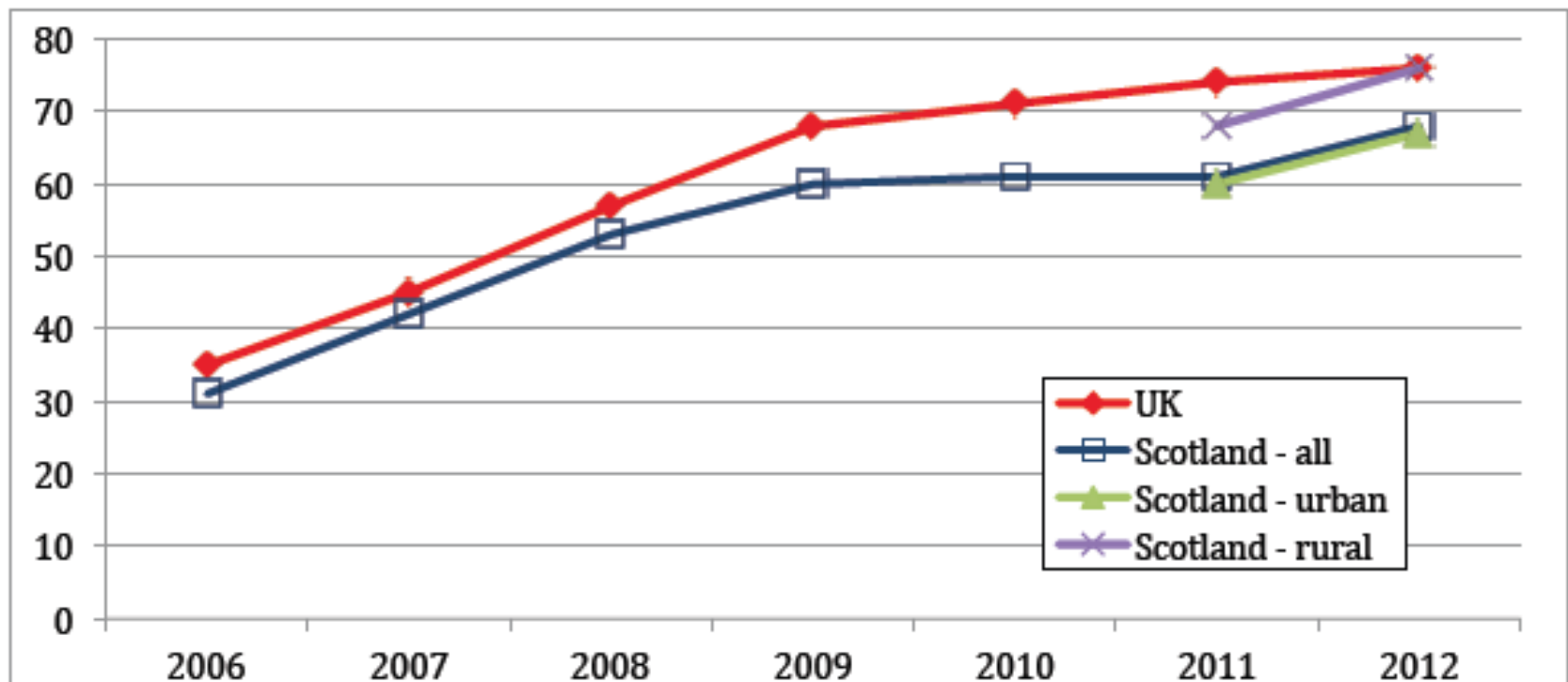
# Broadband take-up at home



Source: Ofcom (2012) *The Communications Market Review – Scotland*, Ofcom, London.



# Broadband trends: UK compared to Scotland



*Source:* successive Communication Market Reviews published by Ofcom, available online at [www.ofcom.gov.uk](http://www.ofcom.gov.uk)

# Government initiatives

Year	Initiative	Aim
2001	'Connecting Scotland – Our broadband future'	Affordable and pervasive broadband
2005	LLU of remaining unbundled exchanges	Broadband availability of speeds of at least 512 kbps
2006	'Digitally inclusive Scotland'	Guaranteed access for disabled and elderly
2010	Digital Ambition	Next generation to everyone by 2020; broadband on par with UK average by 2013 and above UK by 2015
2012	'Scotland's Digital Future'	World-class, future proofed infrastructure delivering digital connectivity across the whole of Scotland by 2020

# Other contributions to the debate



## Royal Society of Edinburgh

- 'Digital Scotland' (2010)
- Uncosted demand and supply side recommendations
- Includes comparisons with several countries – Sweden, Finland, NZ etc – but these are highly selective in character.

## Reform Scotland

- 'Digital Power' (2010)
- Suggested a 'Digital Champion' within government is needed

# A mixed picture



- Rural broadband uptake is better than in urban Scotland
- Roll out of LLU subsidised by Scottish Government – universal service? Was this cost effective?
- ‘Not-spots’ remain, with no clear plan how to tackle them

# 'Not Spots' in the UK

## Mobile Infrastructure Project Broadband Delivery UK

Fig. 1: Premises in 200m<sup>2</sup> "Complete Not Spots" at -86dBm

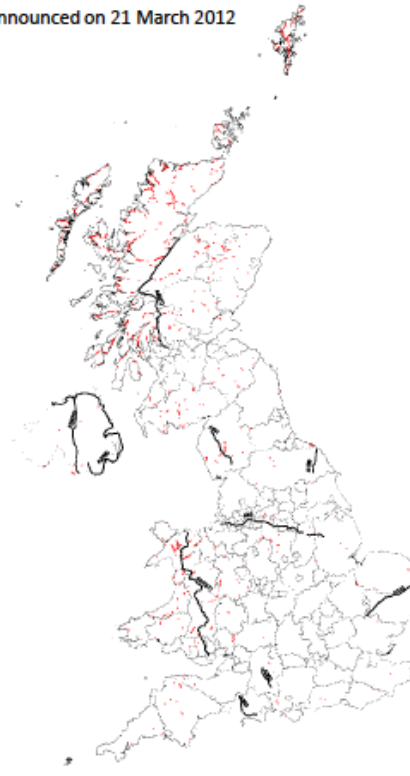
Source: Ofcom



Fig. 2: Initial Ten Roads as announced on 21 March 2012

Nation	Road
Northern Ireland	A2
Northern Ireland	A29
England	A591
England	A169
England	A57
Wales	A470(T)
Scotland	A82(T)
England	A360
England	A143
England	A352

NB Red dots are 100m lengths of "not spot". Roads are after premises coverage taken into account and subject to planning permission



Source: BDUK (2012) Mobile infrastructure project, May, BDUK

# Provision through multiple initiatives

## Broadband Delivery UK (BDUK)

- £530 million for rural broadband
- Matching funds expected
- ‘Transferred’ some funds to Scottish Government to allocate; in England local authorities bid



# BDUK funding allocations

Date	Sum £m	Geographical area	Details
May 2011	50	Wiltshire, Norfolk, Devon & Somerset	Rural pilot projects
July 2011	56.9	Wales	Matching funds sought to expand coverage
August 2011	4.4	Northern Ireland	Everyone using broadband at least 2 Mbps
August 2011	294.8	England	Broadband to 90% households and businesses, everyone using broadband at least 2 Mbps
August 2011	68.8	Scotland	Broadband to 90% households and businesses; matching funds provided
July 2012	32.2	Scotland	Supplementary funding

Source: press releases of Department Culture, Media & Sports, available at [www.online.gov.uk](http://www.online.gov.uk)

# Collaborative ventures between local authorities

Project	Funding	Objective(s)
Highlands & Islands Broadband Project	£20 million	Delivery of broadband to c50 towns by 2015; everyone to have broadband of at least 2 Mbps; 100 coverage by 2020 of next generation
South of Scotland Alliance	£21 million	Next generation to 90% of region by 2015, remainder to have at least 2 Mbps; next generation to all by 2020
Aberdeen City & Shire Economic Future	£20 million	Create open access fibre network around west of Aberdeen; develop and implement a rural strategy; develop wireless in Aberdeen wireless

Source: Scottish Government (2012) *Scotland's Digital Future*, Scottish Government, Edinburgh



# Next steps (1)

## 4G or Long term evolution

- In 2011, the Scottish Government argued for a 98% coverage obligation on one of the 4G operators
- But at what cost? Unclear in official sources, but a guesstimate is between £72 and £105 million

So far only EE has launched 4G services in the UK...



...and their coverage is urban focused, and experienced 'teething troubles' as it his rolled out

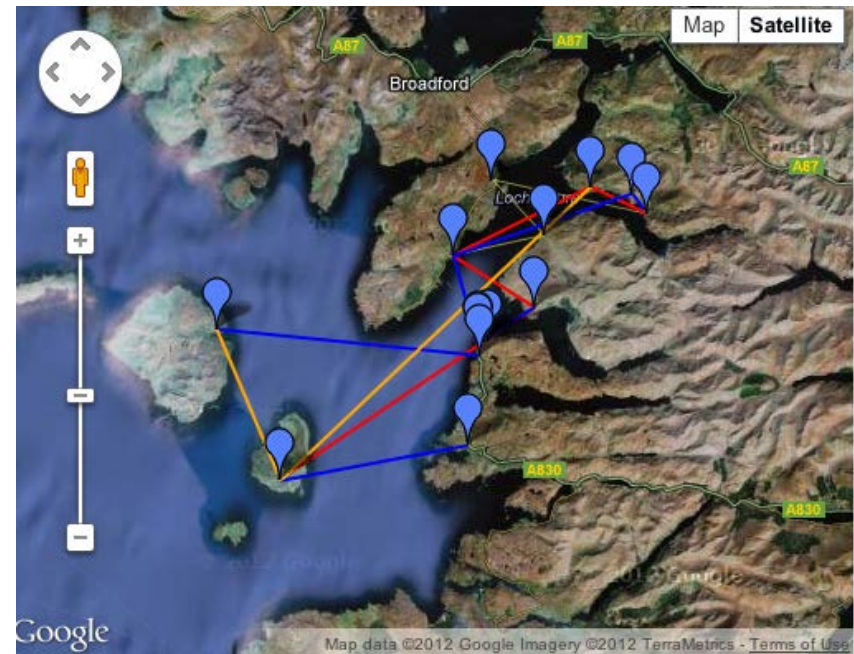
# Next steps (2)

## More local initiatives

- Small scale DIY projects
- But what is their (economic) sustainability?

Fixed vs. wireless vs. satellite – how to decide which is best?

## Tegola Broadband Project



# Next steps (3)

## Community Broadband Scotland

- £5 million to spend over three years (2012-2015)
- To fund dedicated support to 6 'pioneer projects' and advisor training
- Scottish Government has yet to apply for EU state aid approval

## Ka band satellite service



- UK coverage
- Claims better speeds than rural ADSL 'up to' 20/24 Mbits subscribers
- Monthly costs range from £25 to £65

# Lessons for other countries

- How (not) to combine initiatives at different political levels
- Unclear and limited funding inevitably results in trade-offs and disagreements
- Availability is all very well, but households and businesses need to *use* broadband

# Conclusions



- The level of take-up demonstrates the willingness to adopt basic broadband services in rural areas
- Future challenges in rural areas different from those of the past: networks need to be upgraded, and Gaelic speaking/elderly users supported
- For the UK as a whole, there appears to be a substantial funding shortfall to support the delivery of next generation broadband in rural areas

# Contact details



Ewan Sutherland

CRIDS, University of Namur,  
Belgium

*and*

LINK Centre, University of the  
Witwatersrand, South Africa

*T* - +44 (0) 141 649 4040

*E* – 3wan@3wan.net

Dr Jason Whalley

Department of Management  
Science

Graham Hills Building

40 George St, Glasgow  
Scotland, UK

*T* - +44 (0) 141 548 4546

*E* - jason.whalley@strath.ac.uk



University of  
**Strathclyde**  
**Glasgow**